Meeting Of Minds

Charles Ker photo

Second-year students Shannon Price, left, from the School of Human Kinetics, and Shannon Deacon, from the Faculty of Arts, take a break between classes and two libraries. The remaining humanities and social sciences collections, government publications and the Data Library are scheduled to be transferred to the Walter C. Koerner Library from the Main Library over the Christmas break. Renovations to Sedgewick Library are slated for completion by late October.

Green named Trekker

Community activist Jim Green is this year's recipient of the Great Trekker Award, given by the students of UBC to a graduate who has achieved eminence in his or her field of endeavor.
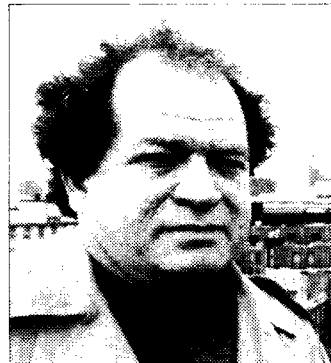
Winners are cited for their worthy contributions to the community, their keen interest in UBC and outstanding service to UBC students.

Green — who has worked as an instructor at Vancouver Community College, a taxi driver, a dock worker and a union organizer — is best known for his work on behalf of the poor in Vancouver's Downtown Eastside.

Born in Alabama in 1943, the son of an army sergeant and a florist, Green became active in the civil rights movement and moved to Canada in 1968 at the height of the Vietnam War. He became a Canadian citizen in 1973.

Green studied anthropology at UBC,

Green

Few students carry condoms, study says

by Stephen Forgacs

Staff writer

Despite numerous national and international campaigns promoting safe sex and warning of the risk of HIV infection, very few university students actually carry condoms with them when they head out for a night on the town, a recent UBC study shows.

The study is one of two condom-related studies conducted by Faculty of Commerce and Business Administration marketing professors Gerald Gorn and Charles Weinberg with doctoral student Darren Dahl. A second study found that embarrassment plays a significant role in influencing students' buying habits for condoms, a product referred to as a "desirable unmentionable" by marketers.

The condom carrying study found that of 346 students surveyed while waiting to get into the Pit Pub on campus, fewer than 10 per cent of men, and no women, had condoms with them.

"We asked students to show us their condoms and found that very few were actually carrying them. This differs significantly from what students indicated in the self-reported written survey," says Weinberg.

In the written survey of 376 UBC students, about one-third said they would be

very or somewhat likely to take a condom with them if they were going to a bar.

Previous research relying on self-reports to assess condom carrying has also shown reported carrying rates ranging from 22 per cent to 51 per cent for males, and seven per cent to 51 per cent for females.

"This discrepancy between actual and self-reported condom carrying suggests a danger in over-reliance on self-report measurements," the UBC study states. "The low carrying rate to a bar where meeting potential sex partners is a real possibility is worrisome and underscores the risky behaviour of this population."

The study also draws attention to the differences between male and female attitudes toward carrying condoms and suggests there is a need for a more gender-specific approach to encourage condom carrying.

In the second study, Dahl, Gorn, and Weinberg investigated the embarrassment associated with the purchase of condoms by looking at frequency of purchase and the number of condoms purchased on each occasion.

The researchers found that, of people who had experience in buying condoms, 66 per cent of males and 59 per cent of females experienced at least some embar-

Choi building hosts first conference on Asia

The mounting political and economic might of Asia comes under the collective scrutiny of prominent scholars from Asia and North America next month at the inaugural conference of the C.K. Choi Building for the Institute of Asian Research (IAR).

Institute Director Terry McGee says that by the year 2000, Asia (comprising the East Asian states of Japan, the two Koreas, China and Taiwan, the South Asian continent and Southeast Asia) will support almost three billion people and generate about a third of the globe's gross national product. McGee adds that Asia's emergence in the new world order

is fueling intense debate about the role of Asian values and the need to establish cultural understanding and respect between Western countries and Asia.

"This gathering promises to be a milestone in the reassessment of Asia's role in the emerging global system," says McGee.

Harvard University Prof. Tu Weiming, a renowned international scholar on Confucian thought, delivers the keynote address for the two-day conference running Oct. 8-9. Prof. Weiming, director of the Harvard-Yenching Institute, will speak on Confucian ethics as a spiritual resource for the emerging global community.

Inside

Letters

Discrimination policy does make grade

Editor:

In his letter to *UBC Reports* of Sept. 5, 1996, Dr. Campbell Clark argues that UBC's Policy on Discrimination and Harassment fails "to abide by the commonly held precepts of justice in the Canadian judicial systems." I disagree.

Dr. Clark says that UBC's policy does not recognize respondents as innocent until proven guilty, and furthermore, that the policy is not concerned with matters of proof. Dr. Clark is wrong on both counts.

UBC's policy conforms both to Canadian human rights statutes, in particular the British Columbia Human Rights Act, and to normative practices in Canadian law. The policy ensures the rights of respondents to natural justice; that is, the rights to be heard, and then, to be judged innocent or guilty by unbiased parties. Specifically, the policy directs a three-person panel to recommend "whether on the balance of probabilities, and with the onus of proof being on the complainant, there has been a violation of the policy" (paragraph 32). The balance of probabilities is the common standard of proof in non-criminal cases.

Dr. Clark also complains that the policy does not recognize "mutual consent between two adults as the underlying premise for normal sexual relationships." Again, he is wrong. UBC's policy is not concerned with sexual relationships between consenting adults where there is no conflict of interest. Rather, the policy addresses sexual relationships in which one party exercises professional power over the other. UBC's Policy on Conflict of Interest requires individuals who engage in intimate relationships with those in subordinate positions to disclose such relationships to their administrative heads to ensure that those in subordinate positions may be supervised fairly and evaluated accurately.

Sharon E. Kahn, PhD
Associate vice-president, Equity

UBC's traffic culture—it's yours

Editor:

This is to inform the UBC driving community of ongoing enhancements to traffic flow and convenience in the heart of campus.

As many drivers know, two years ago Campus Planning & Development (C-P&D) put a stop to cars illegally speeding along East Mall. They made it legal. Then, it put in crosswalks so that pedestrians would feel perfectly safe, and also installed thousands of dollars worth of tiny nubbles and brightly-painted speed bumps along the road.

Fortunately, however, the nubbles-and-bumps actually heighten driving enjoyment. At 50 km/h they create a pleasant tingly sensation on the back of one's thighs. Alternatively, as many drivers already do, you can enjoy swerving back and forth so as to miss the bumps altogether. Incidentally, I use 50 km/h merely as a nice round figure. On East Mall no speed limit at all is enforced.

As for other areas of central campus, C-P&D has installed yellow plastic posts to create the impression that cars and trucks can't just roar around at will in "pedestrian zones." Look more closely, however, and you will notice that none of these "barriers" is ever complete. So like the nubbles-and-bumps, the posts are mainly there for comic effect.

Also, if you wish to drive from East Mall to Student Union Boulevard, don't miss the new short-cut provided for your convenience. Behind Main Library, veer sharply east across the "pedestrian zone" that leads past the north end of the SUB. UBC has installed a nice ramp over the curb so that you don't hurt your tires. The only problem you'll run into is all those cars and trucks allowed to park anywhere they like along the SUB's north and west sides. Although you will encounter hundreds of pedestrians along this route, that's no problem if you have mastered the swerving manoeuvre I described earlier.

Anyway, now that university planners have shown in so many practical ways that "it's yours," it's up to drivers to nurture UBC's traffic culture as creatively as possible. This is a place where research is valued, so feel free to experiment. And finally, please share your research results with CP&D.

Dennis Danielson
Professor, Dept. of English

Condom

rassment when making a condom purchase and that people were most embarrassed in front of the cashier (49 per cent of males and 52 per cent of females).

Also, single people and people in relationships appear to be equally embarrassed about purchasing condoms.

"The result of this embarrassment is that students tend to buy condoms less often and when they do, they buy smaller package sizes," says Weinberg.

The study also showed that students who experience the highest levels of embarrassment purchase condoms less frequently, have purchased condoms less recently, and are slightly more likely to purchase condoms from a vending machine than from drugstores, supermarkets, or other retail outlets.

Asia

Other speakers and topics appearing under the conference banner, The Empowerment of Asia: Research and Policy Priorities for the 21st Century, include: Economics Prof. Kwame Jomo, University of Malaya, "The Southeast Asian Economic Miracle"; Prof. Edward Seidensticker, Columbia University, "Is Japan Becoming a Normal Country?"; UBC Prof. Alexander Woodside, "The Empowerment of Asia and the Weakness of Global Theory"; Paul Evans, Director at the University of Toronto-York University Joint Centre for Asia Pacific Studies, "The Age of the Pacific: Why Growth and Democratization are Not Enough."

The conference is preceded on Monday, Oct. 7 by the official opening of the IAR's new home in the C.K. Choi Building on West Mall. An opening ceremony beginning at 2:30 p.m. kicks off a week-long Open House featuring cultural, academic and technological presentations.

Free daily concerts and cultural performances are planned from 1 p.m.-2 p.m. Daily lunch menus and cultural performances throughout Asia Week will highlight different countries. Graduate students will show how new technology is applied to research in the institute's Asia Multimedia Resource Centre.

Apart from its conference rooms and offices for visiting scholars, the building houses the institute's five centres: the Centre for Chinese Research, the Centre for India and South Asia Research, the Centre for Japanese Research, the Centre for Korean Research and the Centre for Southeast Asia Research.

Winner of the 1996 Building Owners and Managers Association's Earth Award, the C.K. Choi Building features recycled bricks and structural beams as well as composting toilets.

Tours of the building will be conducted by Campus Planning and Development daily at 10 a.m. and 2:30 p.m. For more information on Asia Week call 822-2468.

Women Students' Office celebrates long tradition

by Connie Bagshaw

Staff writer

In 1921, Agnes McPhail took her seat as the first woman elected to Parliament and Mary Bollert became UBC's first Adviser of Women.

It's 75 years later, and one of the oldest student services established at the university is celebrating its long tradition of serving the needs of women students and welcoming them to the campus community.

The office, known today as the Women Students' Office (WSO), has undergone name changes since its inception, and the scope of its responsibilities has grown dramatically. But one thing remains the same: its commitment to creating a safe and equitable environment for all women at UBC.

Originally limited to counselling women students, the WSO now offers individual advocacy, feminist counselling, the Mentoring Program for Women of Colour, the Safer Campus Workshops, the Clothesline Project and practicum and volunteer placements.

In 1975, which was International Women's Year, only 24 per cent of the total undergraduate student body at UBC was female.

Today, more than half of UBC's undergraduate students and graduate students enrolled in master's programs are women. Women also comprise approximately 50 per cent of the enrolment in the faculties of medicine, science and pharmaceutical sciences.

Also celebrating milestones this year are the Women's Studies Program, established 25 years ago, and the Centre for Research in Women's Studies and Gender Relations, marking its fifth birthday.

Announced with little fanfare as a

Free Spirit — Susan Point artwork

three-paragraph item in the Sept. 7, 1971 issue of *UBC Reports*, women's studies began as a 20-lecture series, funded by a federal government grant. Called, The Canadian Woman: Our Story, the non-credit, interdisciplinary series featured students, UBC faculty and community experts delivering lectures followed by small group discussions. The fee for the complete series was $2.

Exactly 20 years later, UBC students could earn a BA majoring in Women's Studies.

The creation of the Centre for Research in Women's Studies and Gender Relations was front page news in *UBC Reports* on July 18, 1991.

Under the direction of Veronica Strong-Boag, the centre strives to strengthen and increase scholarship in the areas of women's studies and gender relations, promotes interdisciplinary research in graduate education and serves as a community resource.

To celebrate its fifth anniversary, the centre will host a one-day conference focusing on the special concerns of children around the world, particularly female children.

Stephen Lewis, the deputy director of external relations for UNICEF, will deliver the keynote address titled *Our World's Children: The Meaning of Gender* on Fri. Oct. 18 at 7:30 p.m. in the George Curtis Building, Room 101, Faculty of Law. The public is invited to attend. For more information, call 822-9171.

Festivities are also being planned by the WSO and Women's Studies Program during UBC's Homecoming Week, Oct. 17 - 20. A limited edition of t-shirts, coffee mugs and book bags featuring Coast Salish artist Susan Point's *Free Spirit* are currently on sale at the UBC Bookstore to commemorate the anniversaries. Call the WSO at 822-2415 for details.

Clinton Hussey photo

Mother Nature is exacting a cost from the Museum of Anthropology's unique outdoor collection of free-standing totem poles.

Deteriorating totems to be saved by funds

by Gavin Wilson

Staff writer

Weathering and natural decay have taken a toll on the Totem Village on the grounds of the Museum of Anthropology, but the museum hopes to save these cultural treasures by raising funds to repair and enhance them.

In 1993, the museum commissioned an engineering consultant and a wood scientist to examine the two Haida houses and the 10 poles that make up the village.

They found signs of rot, insect infestation and decay, and said the structures would likely not survive an earthquake.

Widely regarded as the finest collection of outdoor sculptures of its kind in the world, the village features work by Northwest Coast First Nations artists such as Bill Reid, Doug Cranmer, Norman Tait, Walter Harris, Jim Hart and the late Mungo Martin.

More than a million visitors have seen the houses and poles since they were installed in 1961.

Reid conceived the Totem Village as a gathering place for the celebration of the achievements of First Nations people. Many ceremonies, carving workshops, and public and educational programs have been held there. The village has also been an inspiration to other First Nations artists.

A campaign to raise $600,000 to repair and enhance the village has begun with a $125,000 gift from the Royal Bank.

The donation includes commissioning a welcome figure by Musqueam artist Susan Point and a new frontal pole by Haida artist Don Yeomans. The new poles will be erected in March 1997 as part of Royal Bank's celebration of its 100th anniversary in B.C.

Point is one of B.C.'s foremost First Nations artists and her work can be found in private and corporate collections in more than 20 countries. Yeomans is a prominent Haida artist who has worked with Reid on several projects including the sculpture, The Spirit of Haida Gwaii.

The original frontal poles on the Haida houses were carved by Reid and are too fragile to remain outdoors. They will be brought into the museum where they will be on permanent display, adding to the museum's comprehensive collection of Reid art.

The village's eight free-standing poles show the coast's range of artistic styles. To prevent further deterioration and damage from seismic shock each will be treated and remounted.

The Haida houses will also be repaired. Their roof beams will be replaced by beams pressure-treated to resist fungus and rot.

Improved landscaping, outdoor lighting and new paths will improve access, particularly for persons with disabilities.

Matching funds from UBC's President's Fund will go to a new First Nations Studies Endowment at UBC, to enhance the teaching of First Nations issues and eventually enable students to pursue a degree major in First Nations Studies.

Offbeat

by staff writers
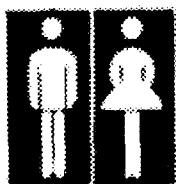
The C.K. Choi Building's composting toilets would give Singapore citizens fits.

A two-month toilet training drive has been launched in Singapore in an effort to turn the population into "A Gracious Society." Those who fail to flush a public lavatory after use are fined $145 for a first offence, $485 for a second non-flush and as much as $970 for failing to flush three or more times.

Of all the many environmental features of the C.K. Choi Building, the Swedish-designed/U.S.-made Clivus Multrum composting toilet has attracted the most attention. It looks remarkably like a normal toilet except that, without water, it's flushless. So, those who get used to it run the risk of forgetting to flush elsewhere.

During the last six months, visitors have left the following comments about their encounter with the Clivus Multrum.

Engineer: I came just to see your toilet. I've heard so much about it.

Professor: What you have here is an inside outhouse.

Architect: I didn't feel flush.

Custodian: The urinals, at least, should have water for flushing.

Professor: Don't drop your wallet in there; your dough will become fertilizer.

Professor: The toilet doesn't allow you to sit and read the papers. It is too drafty.

Professor: I was underwhelmed.

(Courtesy: *Asia Pacific Report*)

Federal conference held east and west

The experience of other countries may hold the key to problems within Canadian federalism, say organizers of a conference co-hosted by UBC.

The university is one of two sites for a conference on federalist states that is being funded by the Dept. of Foreign Affairs. It will be held Sept. 30-Oct. 3.

Called Identities, Involvement, Living Together in Federal States: International Aspects of Federalism, the conference opens Sept. 30-Oct. 1 at Laval University in Quebec City before moving to UBC.

It will bring together scholars and others from Europe, Canada and the United States to look at issues such as history and identity, self-determination, regional alienation, national identity in multicultural societies, and ethnic and class differences.

"Unlike other recent conferences that focused on special issues in Canadian

federalism, this will take a broader approach," said David Elkins, a political science professor and organizer of the UBC sessions of the conference.

Some of the speakers at UBC include Guy Laforest, a Laval political scientist and prominent separatist, and Peter Schmidhuber, president of Germany's Deutsch Bank. UBC scholars taking part include political scientists Alan Cairns, Phil Resnick and Barbara Arniel.

The conference is open to the public and there is no registration fee.

Elkins said he hopes students take advantage of the opportunity to listen to some European scholars who are seldom heard in North America.

The UBC end of the conference opens with a session at the First Nations Longhouse at 1 p.m., Wednesday, Oct. 2. The next day it moves to Cecil Green Park House, with sessions from 8:30 a.m. to 4 p.m.

Stephen Forgacs photo

Museum clinics geared at preserving home treasures

Heat, humidity, insects and dirt are the age-old enemies in the battle to prevent valued objects from decaying.

Now the Museum of Anthropology is holding a series of clinics and talks that will look at how principles of preventive conservation are applied to managing museum collections and to caring for objects in the home.

All talks and clinics in the series, called Caring for Objects: A Series on Prevention Conservation, are free to the public.

- **MOA Conservation Clinic** Tuesday, Sept. 24 at 7 p.m.: an overview of museum conservation methods including a tour through the galleries and demonstrations of techniques for dealing with environmental and physical hazards to objects in the home.
- **Art, Archaeology and the Analytical Laboratory**, Tuesday, Oct. 8, 7:30 p.m.: Ian Wainwright of the Canadian Conservation Institute discusses how different physical and chemical methods are used to study objects from museums, art galleries and archaeological sites.
- **Identification Clinic**, Tuesday, Oct. 22, 7 p.m.: professional staff will help members of the public to identify their objects and provide conservation advice.
- **Taking Care of Photographs and Works on Paper**, Tuesday, Nov. 19, 7 p.m.
- **Care of Textiles**. Tuesday, Dec. 3, 7 p.m.

Call 822-5087 in advance if you wish to bring an object to the clinic for conservation advice.

Trekker

receiving his master's degree in 1980.

In the 1980s he became associated with the Downtown Eastside Residents Association (DERA) and helped shape it into a major force in civic affairs.

Through DERA, which he headed for more than a decade, Green worked to improve housing available to low-income city residents with projects such as the construction of 500 new units of housing. Green was also the driving force behind the senior citizens housing project known as Pendera.

In the run-up to Expo '86, Green led opposition to the eviction of low-income hotel tenants. That year he also published the book *Against the Tide: The Story of the Canadian Seamen's Union*.

Since leaving DERA, Green has been a community development co-ordinator for the provincial ministries of Finance and Housing. He has been responsible for the BladeRunners project, which provided apprenticeship training for teenagers on welfare in trades like carpentry during construction of GM Place.

Earlier this year, he helped establish Four Corners Community Savings, a bank at Main and Hastings intended to serve low-income people in the area who have little or no access to regular banking services.

As well, Green has stood for office, running strong campaigns for mayor of Vancouver and, in this year's provincial election, against Liberal leader Gordon Campbell in Vancouver-Point Grey, a race he lost by just 1,500 votes.

Green will receive his award Oct. 16 in a reception in the Student Union Building party room at 5:30 p.m.

Changing faces: new faculty

Amidst the throng of new faces on campus each fall are those of new faculty.

Roughly 40 per cent of the university's 1,830 full-time faculty members have been appointed in the past 10 years. This pace of faculty renewal has been made possible through a program of early retirement in effect since 1986 and government funding for increased enrolment which has been in place for five years.

Fifty new faculty have been appointed this term in 10 faculties. Since 1987, there have been 751 new tenure track appointments—504 men and 245 women.

Here are some of the latest faculty appointments.

Faculty facts
■ Faculty members receive more than $120 million in research grants and contracts annually, mainly in open competition from outside BC

■ UBC faculties: Agricultural Sciences, Applied Science, Arts, Commerce and Business Administration, Dentistry, Education, Forestry, Graduate Studies, Law, Medicine, Pharmacerutical Sciences, Science

Lori Kennedy
Faculty of Science
Position: Assistant Professor, Dept. of Earth and Ocean Sciences
Education: PhD, Geology (1996), Texas A&M
Courses taught: structural geology
Previous positions: Research Assistant, Dept. of Geology, University of New Brunswick (1988-90); Teaching Assistant, Centre for Tectonophysics, Texas A&M (1991-92); Research Assistant, Texas A&M (1993-95)
Recent publication: *The Role of Veining and Dissolution in the Formation of Fine-Grained Mylonites: The McConnell Thrust*
Teaching/Research objectives: "How are fault zones (and at greater depths, shear zones) developed and what controls the onset of earthquakes? My research concentrates on the evolution of continent-scale fault zones, with emphasis placed on the physical processes (mechanisms) responsible for their formation."

Robert Orr
Faculty of Science
Position: Professor, Dept. of Physics and Astronomy, Warren Chair in Subatomic Physics
Education: PhD (1972), Imperial College, University of London
Courses taught: introduction to subatomic physics, nuclear and particle physics, fundamental physics laboratory
Previous positions: Staff Physicist, CERN (1977-81); Research Scientist, Institute of Particle Physics (1983-95); Professor, Dept. of Physics, University of Toronto (1981-95)
Recent publication: *Extraction of the Gluon Density of the Proton at Small x*
Teaching/Research objectives: "I am convinced that the connection between the known forces—gravity, electromagnetism, and the weak and strong nuclear forces—is the most important question in particle physics and probably holds the solution to the problem of where mass comes from."

Sylvie Langlois
Faculty of Medicine
Position: Assistant Professor, Dept. of Medical Genetics
Education: MD, University of Sherbrooke (1981); Speciality in Pediatrics and Molecular Genetics, UBC (1985, 1989-91)
Courses taught: clinical genetics, molecular genetics of single gene disorders
Previous positions: Director, DNA Diagnostic Laboratory, Shaughnessy Hospital (1989-present); Acting Clinical Director, Provincial Medical Genetics Programme (1994-present)
Recent publication: *Linkage Analysis of Two Canadian Families Segregating for X-linked Spondylepiphyseal Dysplasia*
Teaching/Research objectives: "I am currently analysing the correlation between different changes in a specific gene and the signs and symptoms of the disease (e.g. Marfan's Syndrome). I am also engaged in family studies involving DNA mapping of genes. These studies provide a starting point to identifying the exact location of the gene responsible for the disease in the family."

Peter Darke
Faculty of Commerce and Business Administration
Position: Assistant Professor, Marketing
Education: PhD, Experimental Social Psychology (1993), University of Toronto
Courses taught: introduction to social psychology, interpersonal behaviour, psychology of social behaviour
Previous positions: Assistant Professor, Dept. of Psychology, U of T (1995-96)
Recent publication: *Lucky Events and Beliefs in Luck: Paradoxical Effects on Confidence and Risk-Taking*
Teaching/Research objectives: "Behavioural research has developed to a point at which we can offer reasonably sophisticated ideas about what factors are important in determining perceptions, judgment and behavior. Contemporary theories appreciate that behavior is driven by a range of motives, not always rational. My research aims to understand how factors work together to produce rational and irrational behaviour. Answers to this question have the potential to significantly improve decisions that individuals make and help them adapt to an ever changing world of choice."
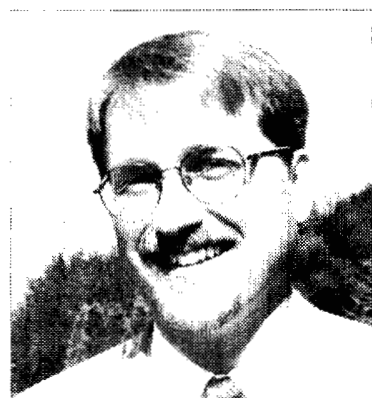
Kevin McNeilly
Faculty of Arts
Position: Assistant Professor, Dept. of English
Education: PhD, Modern Literature in English (1991), Queen's University
Courses taught: major authors survey, introduction to Canadian literature, comparative literature, fictions of cultural difference, Canadian literature and multiculturalism
Previous positions: Teaching Assistant, Queen's University (1989-90); Sessional Lecturer, University of Western Ontario (1991-92); Part-time Sessional Lecturer, UBC (1992-94, as part of Isaak Walton Killam Postdoctoral Fellowship); Graduate Instructor, UBC (1994); Sessional Lecturer, UBC (1994-1996)
Recent publication: *Ugly Beauty: John Zorn and the Politics of Postmodern Music*
Teaching/Research objectives: "The polyphony that variously constitutes Canadian culture — the proliferation of stances, positions, voices and texts emerging within the Canadian context — offers us an opportunity to engage in a fundamental self-questioning and to re-think many of our assumptions about identity and difference, about nationality and otherness, and about culture itself."

Gail Murphy
Faculty of Science
Position: Assistant Professor, Dept. of Computer Science
Education: PhD, Computer Science (1996), University of Washington
Courses taught: computer evolution
Previous positions: Research Assistant, Dept. of Computer Science, University of Alberta (1986); Software Designer, B.C.-based MPR Teltech Ltd. (1987-93); Research Assistant, Dept. of Computer Science and Engineering, University of Washington (1992-96)
Recent publication: *Assisting an Experimental Re-engineering of Excel with Reflexion Models*
Teaching/Research objectives: "Software systems are sometimes referred to as the most complex artifacts ever created by humans. My teaching objectives include providing students with the knowledge and skills necessary to tackle the building of these systems. My research interests focus on the investigation and development of tools and techniques enabling software engineers to more cost effectively modify and extend the usefulness of existing systems."

Gary Relyea
School of Music
Position: Assistant Professor, Voice and Opera
Education: Voice Performance Program, Faculty of Music, University of Toronto (1967-70); Opera School Program, Faculty of Music, University of Toronto (1970-71)
Courses taught: vocal instructor, Faculty of Music, University of Toronto (1978-95)
Previous positions: Appeared as soloist with North American symphony orchestras in Britten's *War Requiem*, Handel's *Messiah*, Mahler's *Eighth Symphony*, Beethoven's *Ninth Symphony* and Verdi's *Requiem*. Operatic roles in Donizetti's *Lucia di Lammermoor*, Britten's *Noah's Flood*, Mozart's *Marriage of Figaro* and *Magic Flute* and Rossini's *Barber of Seville*
Teaching/Research objectives: "I will guide young singers in developing a vocal technique which will facilitate the expression of their unique personalities when singing in several languages and in different styles."

Linda Siegel
Faculty of Education
Position: Professor, Dept. of Educational Psychology and Special Education, Dorothy C. Lam Chair in Special Education
Education: PhD, Psychology (1966), Yale
Courses taught: developmental psychology, language development, research methods, learning disabilities, psychoeducational assessment
Previous positions: Assistant Professor, University of Missouri (1966-68); Professor, Dept. of Psychiatry, McMaster University Medical Centre (1968-84); Professor, Depts. of Instruction and Special Education/ Applied Psychology, Ontario Institute for Studies in Education (OISE, 1984-95); Executive Head, Graduate Studies, OISE (1987-91)
Recent publication: *Learning Disabilities and Suicide: A Causal Connection*
Teaching/Research objectives: "My interests lie in the area of learning disabilities, such as dyslexia and other learning problems. I have been studying the best way to predict which children will have learning disabilities so they can be provided with help from the educational system before the problems become too severe."

Calendar

September 22 through October 5

Sunday, Sept. 22

Green College Performing Arts Group
International Music Night With Colleen Subasic. Green College, 8pm. Call 822-6067.

Concert
Yiorgo & Yanni: Instrumental Sounds From Greece. George Yioldassis and John Mavrogeorge. MOA, 2:30pm. Call 822-5087.

Monday, Sept. 23

Mechanical Engineering Seminar
Finding Engineering Information Electronically. Joy Kirchner, Library. CEME 1202, 3:30-4:30pm. Refreshments. Call 822-6671.

Exhibition
Ted Colyer Painting Exhibition. Continues to October 14. Asian Centre auditorium, 11am-5pm daily. Call 822-0810.

Tuesday, Sept. 24

Biotechnology Lab Seminar
Cellulose Binding Domain Modulates Plant Cell Elongation. Prof. Oded Shoseyov, Agriculture, Hebrew U. Wesbrook 201, 12:30pm. Refreshments. Call 822-2260.

Statistics Seminar
Residuals In Generalized Linear Models. Bent Jorgensen. Statistics. CSCI 301, 6356 Agricultural Rd., 4-5:30pm. Refreshments. Call 822-0570.

Faculty Development Seminar
Time Management. Merle Ace, Commerce. David Lam basement, Faculty Development seminar room (use outside entrance behind Trekkers), 10am-noon. Call 822-9149.

Botany Department Seminar
Harvesting The Sun: A Story Of Two Gene Families. Beverly Green, Botany. BioSciences 2000, 12:30-1:30pm. Call 822-2133.

GreenCollege Speaker Series
Mortal Dread And Immortal Reason: Socrates On The Fear Of Dying. Prof. Paul Gooch, Philosophy, U of Toronto. Green College, 5:30pm. Reception in Graham House 4:45-5:30pm. Call 822-6067.

Graduate and Faculty Christian Forum Seminar
Brave New Genes: Recent Research Results And Their Ethical Question. Prof. John Medina, Medicine, U of Washington. Buchanan penthouse, 4:15pm. Refreshments at 4pm. Call 822-3112.

Lectures in Modern Chemistry
Accurate Calculations Of Core-Electron Binding Energies. Prof. Delano Chong, Chemistry. Chemistry 250 (south wing) 1pm. Refreshments 12:40pm. Call 822-3266.

Conservation Clinic
Clinic On Caring For Objects In Museum And Within The Home. MOA, 7-8:30pm. Please call 822-5087 in advance if you wish to bring objects for conservation advice.

Reading and Lecture
A Reading From Her Works by Barbara Frischmuth (Austrian Writer). Introduced by Karl Wagner, U of Vienna. Buchanan B-321, 12:30-2pm. Call 822-6403.

System and Network Administrators Group (formerly UUG)
Hennings 318, 1:30-3pm. Call 822-5871.

Wednesday, Sept. 25

Ecology & Biodiversity Research Seminar
Assessing Interaction Strength For Members Of A Guild Of Marine Mesograzers: Does One Big Gulp Equal Many Bites? Jennifer Ruesnick, post doctoral student. Family/Nutritional Sciences 60, 4:30pm. Refreshments Hut B-8 coffee room, 4:10pm. Call 822-3957.

Respiratory Research Seminar Series
Oxygen Consumption By Peripheral Tissues. Dr. Keith Walley, Medicine. St. Paul's Hospital, Gourlay conference room, 5-6pm. Call 875-5653.

Asian Research / International Relations Brown Bag Seminar
Development In Taiwan. Hugh Stevens, Canadian Trade Office in Taipei. CK Choi 120, 12:30-2pm. Call 822-2629.

Microbiology & Immunology Seminar Series
Microbial Degradation Of High Molecular Weight Polyaromatic Hydrocarbons: From Pure Cultures To Reality. Margo Moore, Biological Sciences, SFU. Wesbrook 201, 12-1pm. Call 822-3308.

President's Lecture
An Unprincipled Morality. Prof. Jonathan Dancy, Philosophy, U of Reading. Buchanan D-238, 12:30pm. Call 822-3967.

19th Century Interdisciplinary Studies
Victorians And The Landscape. Victorians And Their Attitude To The Environment: Prof. Emeritus James Winter, History; Claiming The High Ground - Morality And Landscape In 19th Century Britain: Prof. Rory Wallace, Emily Carr. Green College, 8pm. Call 822-6067.

Applied Mathematics Colloquium
Equations Of Motions For Interacting Pulses. Prof. Shin-Ichiro Ei. CSCI 301, 3:30pm. Call 822-4584.

Surgery Grand Rounds Lecture
Surgery For Parkinson's Disease. Dr. Ian Turnbull, Neurosurgery. GF Strong auditorium, 7am. Call 875-4136.

Orthopaedics Grand Rounds
Oncology. Dr. B.A. Masri, Reconstructive Orthopaedics, Chair, Dr. C.P. Duncan. Eye Care Centre auditorium, 2550 Willow, 7am. Call 875-4646.

Noon Hour Concert
David Branter, soprano saxophone; Tony Sheppard, alto saxophone; Julia Nolan, tenor saxophone; Colin MacDonald, baritone saxophone. Music recital hall, 12:30pm. $3 at the door. Call 822-5574.

Thursday, Sept. 26

Philosophy Colloquium
A Particularist's Progress. Jonathan Dancy, U. of Reading. Buchanan D-202, 1-2:30pm. Call 822-3292.

Issues in Post-Secondary Education
New Realities, New Directions. New Institutions - The Changing Higher Education System In British Columbia. Bernhard Sheehan, Technical U of BC. Green College, 4:30pm. Call 822-6067.

Pacific Institute for the Mathematical Sciences Colloquium
Statistics and Public Policy. Prof. Emeritus Donald Ludwig, Mathematics and Zoology. Media Services room 112, 2:30-3:30pm.

Friday, Sept. 27

Weekly Seminar
Chaos In Bubble Column And 3-D Fluidized Bed. Chengyu Shen, Grad. Student. ChemEng 206, 3:30pm. Call 822-3238.

Faculty Development Seminar
Understanding The Policies And Protocol Of Graduate Student Supervision: University-Wide Policies And Regulations. Graham Kelsey, Educational Studies. David Lam basement, Faculty Development seminar room (use outside entrance behind Trekkers), 8-9am. Refreshments. Call 822-9149.

Faculty Development Seminar
Feminist Pedagogies: Praxis And Problems. Moderator: Shauna Butterwick, Women's Studies. Panel Members: Yvonne Brown, Education; Dawn Currie, Women's Studies; Marina Morrow, Women's Studies; Becki Ross, Women's Studies. David Lam basement, Faculty Development seminar room (use outside entrance behind Trekkers), 3-5pm. Call 822-9149.

Pharmaceutical Sciences Seminar
Setting Up A Web-Server. Colin Tilcock, IRC#3, 12:30-1:30pm. Call 822-4645.

Occupational Hygiene Program Seminar
Workplace Exposures And Amyotrophic Lateral Sclerosis: A Population-Based Case-Control Study. Valerie McGuire, U of Washington. Koerner Lecture Theatre G-279, 12:30-1:30pm. Call 822-9595.

Mathematics Colloquium
The Role Of Analytical Methods In The Recent Developments Of Symplectic Geometry, Of 4-Dimensional Topology And Of Hamiltonian Systems. F. Lalonde, U of Quebec at Montreal. Mathematics 104, 3:40pm. Refreshments in Math Annex 1115, 3:15pm. Call 822-2666.

Pediatrics Grand Rounds
Of Practice Pie And Clinical Clues: Making The Science Of Crying Relevant To The Practice Of Colic. Dr. Ron Barr, Pediatrics and Psychiatry, McGill U. GF Strong auditorium, 9am. Call 875-2307.

Saturday, Sept. 28

The Vancouver Institute
Peacekeeping: Soldiers And Aid Workers - Partners Apart. Major-General Guy Tousignant, Canadian Forces Headquarters, Ottawa. IRC#2, 8:15pm. Call 822-3131.

Sunday, Sept. 29

Green College Performing Arts Group
West Coast Impressions. Organized by Gina Buonaguro. Green College, 8pm. Call 822-6067.

Monday, Sept. 30

Statistics Seminar
Reference Priors In Non-Normal Location Problems. Carmen Fernández, Econometrics, Tilburg U. CSCI 301, 6356 Agricultural Rd., 12:30-2pm. Bring your lunch. Call 822-0570.

Institute of Applied Mathematics Colloquium
The Advantages And Disadvantages Of Genetic Recombination. Prof. Sally Otto, Zoology. CSCI 301, 3:30pm. Call 822-4584.

Tuesday, Oct. 1

Faculty Development Seminar
How Can The "Learning Outcomes" Approach Benefit Your Teaching? Gary Bauslaugh, director, and Bo Hansen, special advisor, Centre for Curriculum and Professional Development. David Lam basement, Faculty Development seminar room (use entrance behind Trekkers), 3-5pm. Call 822-9149.

Botany Seminar
Development Of A "Gene Machine" In Arabidopsis: Insertional Mutagenesis As A Tool To Study Gene Function. Ellen Wisman, Max-Planck Institute. BioSciences 2000, 12:30-1:30pm. Call 822-2133.

Statistics Seminar
On Bayesian Modelling Of Fat Tails And Skewness. Mark F.J. Steel, Econometrics, Tilburg U. CSCI 301, 4-5:30pm. Refreshments. Call 822-0570.

Biotechnology Seminar
Revolutionizing Vaccination Through Biotechnology. Prof. Lorne A. Babiuk, Veterinary Infectious Disease Organization, Saskatchewan. Wesbrook 201, 12:30pm. Refreshments. Call Dr. D. Kilburn at 822-4182.

Lectures in Modern Chemistry
Structural And Mechanistic Studies Of Cellulose-Binding Domains By Heteronuclear NMR Spectroscopy. Prof. Lawrence McIntosh, Chemistry and Biochemistry. Chemistry 250, south wing, 1pm. Refreshments from 12:40pm. Call 822-3266.

Green College Speaker Series
Expert Witnesses At Obscenity Trials: Dilemmas Both Dastardly And Damning. Becki Ross, Anthropology and Sociology. Green College, 5:30pm. Reception in Graham House 4:45-5:30pm. Call 822-6067.

Continuing Studies Seminar Series

Book Talk - Starting A Book Club. Angela Deery, teacher, screenplay editor, founding member of a book club. Continues Oct. 8, 15, Nov. 5, Dec. 3. Vancouver Public Library, Library Square, 350 W. Georgia, 7-9pm. $70, seniors $55. Call 822-1450.

Wednesday, Oct. 2

Continuing Studies Seminar Series
Creative Writing (Square One). Paul Belserene, writer, director and producer. IRC room G41/42, 7:30-10pm. $210. Enrolment limited. Call 822-1450.

Interdisciplinary Studies Seminar
Finding Your Place In Interdisciplinary Studies. Ernie Hamm, Arts One and Alan Richardson, Philosophy. Green College, 5pm. Call 822-6067.

Faculty Development Seminar
How To Search The World Wide Web: An Introduction. Larry Campbell, Sedgewick/Koerner Library and Kathryn Hornby, Woodward Biomedical Library. David Lam basement, Continuing Studies Computer lab A (use outside entrance behind Trekkers), 1-4pm. Call 822-9149.

Your UBC Forum 2
Transportation And Parking. Moderator: Maria Klawe, VP, Student and Academic Services. A series of forums designed to hear your thoughts and address your concerns. We want your feedback. Come out and join us. SUB Conversation Pit, 12:30-2pm. Call 822-6799.

Microbiology & Immunology Seminar Series
Structure-Function Studies Of The Pseudomonas Aeruginosa Porin Opr P. Anand Sukhan, Microbiology and Immunology. Wesbrook 201, 12-1pm. Call 822-3308.

Ecology & Biodiversity Research Seminar
Modelling Hypotheses About The 10-Year Lynx/Snowshoe Hare Cycle. David Choquenot, Post doctoral fellow, Zoology. Family/Nutritional Sciences 60, 4:30pm. Refreshments Hut B-8, 4:10pm. Call 822-3957.

Respiratory Research Seminar Series
How Should You Treat Obstructive Sleep Apnea In 1997? Dr. John Fleetham, Medicine. St. Paul's Hospital. Gourlay conference room, 5-6pm. Call 875-5653.

UBC REPORTS

CALENDAR POLICY AND DEADLINES

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

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

Deadline for the October 3 issue of UBC Reports — which covers the period October 6 to October 19 — is noon, September 24.

Calendar

September 22 through October 5

Orthopaedics Grand Rounds
Knee Bracing: Functional And Prophylaxis Update 1996. Dr. J.P. McConkey, Athletic Injuries and Arthroscopic Surgery. Chair, Dr. C.P. Duncan. Eye Care Centre auditorium, 2550 Willow, 7am. Call 875-4646.

Noon Hour Concert
Les Voix Humaines. Susie Napper, viola da gamba; Margaret Little, viola da gamba. Music recital hall, 12:30pm. $3 at the door. Call 822-5574.

Thursday, Oct. 3

Environmental Engineering Seminar
Who Should Pay For Garbage? Helen Spiegelman, Recycling Council of BC. CEME 1215, 3:30-4:30pm. Refreshments. Call 822-3885.

Faculty Development Seminar
Hands-On Introduction To Power Point: A Three-Part Series. Lyle Courtney, Geography/Faculty Development. Continues Oct. 10 and 17. David Lam basement, Continuing Studies Computer Lab A (use outside entrance behind Trekkers), 9am-noon. Call 822-9149.

Philosophy Department Colloquium
Natural Kinds And Causation. John Collier, U of Newcastle. Buchanan D-202, 1-2:30pm. Call 822-3292.

Science First Lecture Series
The Fuzzy Edge Of Discovery - Cryptozoology And Other Examples. Prof. Paul LeBlond. IRC #6, 1-2pm. Time will be available after lecture for additional discussion. Call 822-5552.

Research Grant Briefing
Hampton Research Funds And SSHRC Futures. Lynn Penrod, president, SSHRC; Bernard Bressler, VP Research; Tony Dorcey, chair, Hampton Research Fund Committee. Green College great hall, 1-4:30pm. Call 822-5159.

Green College & Department of English
The Pox And The Prostitute: Opera, Disease and Social Anxieties. Michael Hutcheon and Linda Hutcheon, U of Toronto. Green College, 5:30pm. Call 822-6067.

Concert
UBC Symphonic Wind Ensemble. Martin Berinbaum, director. Old auditorium, 12:30pm. Call 822-3113.

Friday, Oct. 4

Biotechnology Lab. Seminar
Computational Studies On Glucoamylase Structure And Selectivity. Pedro Coutinho, Chemical Engineering, Iowa State U. Wesbrook 201, 12:30pm. Refreshments. Call 822-4182.

Chemical Engineering Weekly Seminar
Development Of An Alternative Biofilter System For Odor Treatment. Dal Hoon Lee, graduate student. ChemEng 206, 3:30pm. Call 822-3238.

Occupational Hygiene Program
Injury Management And Avoidance Strategies For Heavy Industry. David Coates, physical therapist/consultant, ErgoRisk Management Inc. Koerner Lecture Theatre G-279, 12:30-1:30pm. Call 822-9595.

Pediatrics Grand Rounds
The Magnetic Resonance Assessment Of Cardiovascular Function. Dr. J.G. Culham, Pediatric Radiologist BCCH. GF Strong auditorium, 9am. Call 875-2307.

Mass Spectrometer Manufacturers Symposium
Eight International Manufacturers Will Present Their Latest Developments In Instrumentation And Analytical Techniques With Applications In Synthetic, Biotechnological, Environmental And Industrial Areas. SUB, 8:30am-5pm. To register (no charge) contact Guenter Eigendorf by Sept. 30, 822-3235, fax: 822-2847, e-mail: eigen@chem.ubc.ca.

Concert
UBC Symphonic Wind Ensemble. Martin Berinbaum, director. Old Auditorium, 8pm. Call 822-3113.

Saturday, Oct. 5

The Vancouver Institute
Universities After A Millenium: Whither Or Wither? Prof. Pat Marchak, Anthropology and Sociology. IRC #2, 8:15pm. Call 822-3131.

Notices

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

Morris and Helen Belkin Art Gallery Exhibition
August 30-Sept. 28: Recent Acquisitions. August 30-Sept. 28.: Colour Research. Tuesday - Friday; 10am-5pm; Saturday, 12-5pm. 1825 Main Mall. Call 822-2759.

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

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

Studies in Hearing and Communication
Senior (65 years or older) and Junior (20-30 years) volunteers needed. Participants will attend up to three one-hour appointments at UBC. Experiments will examine different aspects of hearing and communication abilities. Honorarium for some studies. Please call The Hearing Lab, 822-9474.

Clinical Research Support Group
The Clinical Research Support Group which operates under the auspices of the Dept. of Health Care and Epidemiology provides methodological, biostatistical, computational and analytical support for health researchers. For an appointment please call Laurel Slaney at 822-4530.

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

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

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

Herpes Zoster (Shingles) Study
Participants required to take part in clinical dermatology trial at Division of Dermatology, 855 West 10 Avenue. Requirements, 50 years of age and older, within 72 hours of onset of first skin rash. Maximum 13 visits over 24 week period. Free medication and honorarium given. For further information call 875-5296.

Diabetes 1997 Conference
The Young Diabetic. Interprofessional Continuing Education Conference will take place Friday, April 4 and Saturday, April 5, 1997, in Vancouver, for all health professionals interested and involved in diabetic care. For further information call 822-2626.

Centering Pregnancy Drop-in
The Centering Pregnancy Drop-in, run by UBC Nursing Faculty and students in collaboration with West-Main Health Unit, offers support and information about pregnancy and birth to women who are pregnant or contemplating pregnancy. Wednesdays, 10-11:30am, Acadia Fairview Commons Block. For information call 822-7470.

Boomerang Family Research
The Counselling Psychology Department is looking for adults who have returned home to live. They and their parents are invited to participate in a study focusing on the experience, inter-personal relations and responses to this change in the family. Involves confidential interviews. Please call 432-1915 for more information.

UBC Zen Society
Meditation sessions will be held each Monday (except holidays) during term, in the Tea Gallery of the Asian Centre from 1:30-2:20pm. All welcome. Please be punctual. Call 228-8955.

Science First! Seminar Series
This is for you. A new seminar series focusing on science in research, in education, and in our daily lives. Plan to join, bring your lunch, your curiosity and your open mind. Ask questions and talk to the scientists in person after the seminars. Watch the UBC Calendar and fliers for announcements.

Volunteer Fair
Representatives from 60 non-profit organizations with information on how students can volunteer. Monday, Sept. 30-Wednesday, Oct. 2, SUB Concourse, 10am-3pm. Call 822-9268.
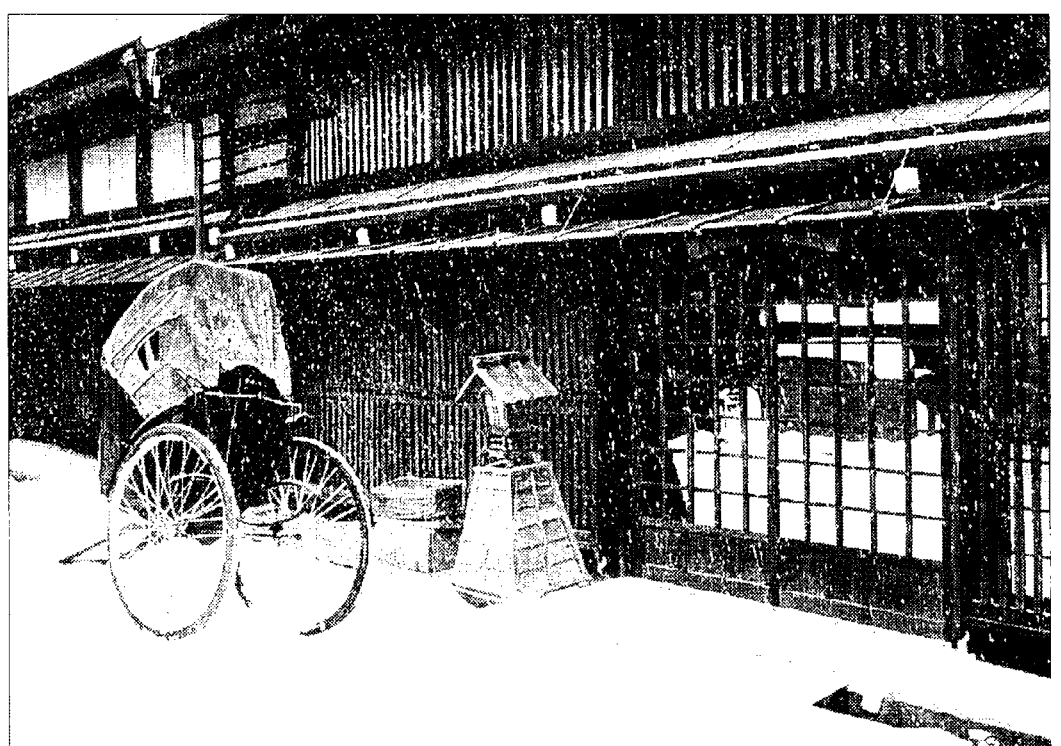
Scenes From Japan

Tea Break is one of the paintings by Ted Colyer that will be on display at the Asian Centre from Sept. 23-Oct. 14. Nova Scotia-born Colyer received a BA from UBC in 1967 and has also studied at the Banff School of Fine Arts, Mount Allison University and in Japan. Colyer lived in Japan for 16 years before returning to B.C. in 1988. Exhibitions of his work have previously appeared in galleries in Canada, Japan and the United States.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW FINANCIAL SERVICES—JULY 1996

THE UNIVERSITY OF BRITISH COLUMBIA

To: Terry Sumner, Vice-President, Administration & Finance
From: Edwin Yen, Chair, Financial Services Review Committee
Date: August 2, 1996
Subject: Financial Services Review Committee - Final Report

I am pleased to enclose the Report of Financial Service Review Committee as requested by your office. I hope that you will find it useful.

I am grateful to the various members of the Financial Services Department and other members of the University Community who took the time to provide input into this report. I want to also thank the other members of the Committee who spent many hours in attending meetings, listening to contributors, reading material provided and assisting in developing and proofreading the various stages and drafts of this report.

I. INTRODUCTION

In January of 1996, Mr. Terry Sumner, Vice-President Administration and Finance appointed a committee to review the Financial Services Department. Committee members were:

- Mr. Harvey Burian (Vice-Chair), Department of Human Resources, UBC
- Mr. Michael Hartwick, Director, Internal Audit, UBC
- Mr. Michael McAdam, Associate Vice-President Finance, University of Calgary
- Ms. Irene Rodway, Director of Administration, Department of Chemistry, UBC
- Ms. Ann Turner, Financial and Budget Manager, Library, UBC
- Dr. Donald Wehrung, Professor, Faculty of Commerce and Business Admin., UBC
- Dr. William Webber, Associate Vice-President Academic, UBC
- Dr. Edwin Yen (Chair), Dean, Faculty of Dentistry, UBC

The Review Committee's terms of reference included the following mandates:

1. To review the mandate, strategic plan, structure, operations, staffing and budget of the Department.
2. To evaluate the overall level of effectiveness and accountability of the Department.
3. To identify the opportunities for improved service, process improvement and relationships with campus consumers and with other service departments.

Because the Committee immediately recognized that much of the function of the Financial Services department reflected administrative policies and directions determined at much higher levels, it was decided to take a larger perspective which would identify the role of university-wide institutional strategic planning on this department.

The Committee received a self-study document prepared by the Financial Services Department in February, 1996. All Deans, Directors and Heads were asked to submit their views on the operations of the Department.

The Committee met in March to identify key individuals who would be able to reflect the concerns of specific user groups. The Committee interviewed these individuals during the week of April 23-26. Appendix A lists all individuals interviewed, those who provided written submissions, and other documents provided to the Committee. The Committee was given a tour of the department's facilities and met with interested staff on site.

We wish to acknowledge the cooperation and assistance of Ms. Jacquie Rice, Director of Financial Services and her staff, who provided documentation and information in a timely and helpful manner. We also thank Christina Leung and Jennifer Brisebois for their excellent support services.

II. OVERVIEW

The Committee became aware immediately of two overriding issues:

1. Recent efforts by the department to improve dialogue with campus and external customers in order to improve efficiency of processing systems, correct reporting errors and clarify budget data.

Individuals repeatedly acknowledged the many improvements in accessibility and response from various sections of the department when assistance was needed by campus customers. Departmental attempts to assign specific staff to specific campus units markedly enhanced a sense of personal service and greater familiarity with the unique needs of each customer. This improved communication and permitted the prevention of future problems by building on the solutions preserved by this collective experience. Indeed, the department has embarked upon a proactive training and orientation program for all campus members utilizing financial services in an attempt to minimize repeated problems. Financial Services has many able and dedicated staff who are endeavouring to provide excellent service in spite of serious systems limitations.

In addition the department has embarked upon the development of electronic input with initial design of electronic forms. The use of the internet has also been explored to provide access for off campus and other non-connected users.

Nevertheless, many of the inefficiencies and frustrations stem not only from incorrect use of the current inadequate computer system but from procedures and policies that result in processing steps that are not value-added and often create additional inefficiencies. Because of the large number of users of the financial services and the need to maintain an infrastructure for continuous feedback in order to identify and thus improve the human processes, much of this review will concentrate on the need to further consult and respond to the needs of the campus customers. Above all, this feedback infrastructure must be sufficiently transparent to ensure a sense of confidence in end-users that their frustrations are being addressed. The benefit to the department will be a better educated customer group which will be more conversant with the subtleties of the current system, more patient with progress toward the much-needed changes in the hardware and software systems, and more active participants in shaping the systems that will that will replace them.

2. Recent efforts to procure (a) new computer system(s) in order to overcome the inadequacy of current central hardware and software systems to provide an accessible, integrated, accurate and current database.

Discussion with Dr. John Chase (Budget and Planning) who is chairing a group that is defining the criteria for a new Financial Information Management System helped to identify the need to migrate to new computer systems while attempting to link the various legacy software programs that are used in various sectors (Human Resources, Student Information System, Development Office, Financial Services). Mr. Gary Barnes, Controller, described recent innovations using the World Wide Web that would permit access to the current system from any desktop connected by modem, and electronic forms that would reduce paperwork.

However, few of the campus end-users were even aware of the impending changes in the central computer system and many were keen to contribute ideas to improve functions that would benefit individual units and the central system. While an initial Request for Proposal (RFP) has already been issued in order to identify possible vendors, the Committee recognized the need to develop a consultation process to ensure maximum benefit to the end-users who will also feel ownership of an improved if not perfect system.

The lack of a central strategic planning process limits the ability of the department to improve the quality of its service and frustrates the efforts of end-users to significantly increase efficiency of their unit functions.

These two issues serve as background to a series of more detailed concerns. These concerns are addressed to the department as a whole while recognizing that the various sections will treat them differently. In keeping with the perspective of this review, some of the recommendations must be addressed at a higher administrative level because of their campus-wide impact in terms of vision and policy development.

III. AREAS OF CONCERN

The Committee consolidated its review into the following areas of concern. Recommendations and background rationale are provided for each area.

A. LEADERSHIP AND ORGANIZATIONAL ISSUES

Leadership and Strategic Planning for Financial Information Management

1. The President should establish a University-wide Steering Committee to develop a comprehensive strategy for financial management within the University community at both the central and local levels. The Committee should report directly to the Vice-President Administration and Finance.

In its many interviews with personnel within the Department of Financial Services as well as with users of financial management information systems in both central and local administrative units, the committee saw many symptoms which highlighted the lack of coordination in financial strategic planning at UBC.

For example, within the Department of Financial Services the following problems were identified:

- Over 400 projects are on a "to-do" list with little sense of priorities.
- Efforts are not necessarily being directed where users would see benefits.
- There is little sense of where financial systems planning is going within the Department.
- There is a perceived lack of consultation with the user community regarding their needs and priorities, including lack of acknowledgment and feedback when users do contribute

Such a committee would be responsible for balancing the requirements of the University's most senior administrators (i.e. President and Vice-Presidents) who are focused more on revenues, and the requirements of local users who are responsible for ensuring that expenditures do not exceed revenues. This Steering Committee must have the authority to develop the strategic plan for financial management within the University and report to the Vice President Administration and Finance. The Steering Committee should include representatives from senior administrators, end-users, ancillaries, and units with complicated business transactions (e.g., Medicine, Commerce, research centres). The Steering Committee must ensure wide dissemination of the strategic plan.

To address ongoing concerns and develop a visible and important consultation process tool, the Steering Committee should serve as one formal avenue by which input on future directions related to management information systems can be forwarded.

2. The strategic plan must consider cost:benefit analyses for human processing of financial data and training of client-users when prioritizing criteria for a new financial information management system.

Many inefficiencies are derived from policies that drive repeated processing of paper forms which in turn risk human errors and subsequent extra work to resolve these errors. Many of these inefficiencies are described in the Re-engineering section and should be addressed prior to adapting any computer systems to these human processes.

3. The strategic plan must increase integration or interconnectivity to facilitate the coordination and even synchrony of information from current separate systems where beneficial.

Individual end-users are frustrated by their inability to access or coordinate information from one system to information in another system. In many respects, the systems serve the reporting requirements of external constituencies better.

Careful consideration must be given to achieving the "best fit" for the community at-large. Financial matters deemed to be peculiar to the needs of only some end-users should be examined for other remedies in order to reduce the risk of a new system that would be too complicated or sophisticated for the majority.

Organizational Structure and Process

4. All central financial service units should be aligned as a service-focused group under the mandate of the Vice-President Administration and Finance.

The potential benefits of a truly integrated financial information system demand that a coordinated approach be made at the highest levels to develop a strategy that clearly states the mission and goals of Financial Services, outlines the priorities and implementation mechanics, and develops periodic outcomes assessments to ensure that the financial planning and reporting needs are met for all parts of the University.

Financial service units (e.g. Financial Services, Budget and Planning and Research Services) within separate portfolios of each of the Vice-Presidents and the President have led to varying levels of interconnectivity of different financial information systems

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW FINANCIAL SERVICES—JULY 1996

between portfolios. Examples of how separate systems utilization has developed are as follows:

President	Budgeting system
VP Administration & Finance	Financial records system (FRS)
	Human resources system (IHRIS)
VP External Affairs	Alumni donor system (ADVANCE)
VP Student and Academic Services	Student information system (SIS)
VP Research:	Office of research services and industrial liaison system (ORSIL)
VP Academic & Provost	Human resources system (IHRIS)
	Financial records system (FRS)

Consolidation of the responsibility for these various computer systems with the Vice-President Administration and Finance will ensure consistency in production standards and facilitate the development of future improvements in interconnectivity.

5. The Vice-President Administration and Finance should examine the policies currently in place relating to inter-departmental billing, and consider whether such policies are leading to sub-optimal resource allocation and dysfunctional decision-making by departments, especially with regard to University Computing Services.

The Review Committee noted from several submissions and interviews that the University Computing Service group did not perform any coordinating role in the development of the Financial Services Request for Proposal, nor does it appear to have a central mandate to assist in standard setting, prioritization, or coordination of systems development. This was found to be most pronounced in units where financial resources enabled those units to pursue their own areas of interest in systems development, e.g. ancillary units. To some extent the Committee feels this a product of current organizational structure and philosophy vis-à-vis the role of this area. However in addition, the small role of UCS is due in no small part to the accounting system of billing for internal services. This process of managing by interdepartmental billing leads the "selling" and the "buying" units to focus on matters related to budget transfers, rather than key issues related to institutional priorities and need, and often produces within senior management an erroneous assumption that somehow "free market" forces will lead to acceptable allocations of scarce resources. This may not be the case, as is evidenced by the lack of a role for the University's central computing resource in future systems development. There is no organizational structure in place to ensure the systems and procedures developed outside of Financial Services will connect smoothly to the central systems and procedures. As there are specialized systems with financial components in every Vice-President's portfolio, a coordinating structure and mandate supported at that level is necessary to achieve the necessary levels of coordination and communication.

Financing New Systems

6. The financing plan for any new system(s) acquisition or development should be reviewed by the Vice-President Administration and Finance to ensure adequate resources, including appropriate contingency funding, are made available to acquire new systems and ensure successful conversion from the old legacy systems, and to ensure that all of the functionality and benefits expected by the end users are delivered in a timely and effective manner. The Vice-President should consider the need to provide central financing to effect these changes.

A financial management information system is as integral a part of a university's infrastructure as its buildings, equipment and administrative staff. As the complexity of a university's research, teaching, community service, and ancillary activity increases, so does the requirement for an even more complicated and supportive financial management information system. The financing of this system should be planned centrally with due consideration to the need not only for initial major capital expenditures, but also for periodic maintenance and upgrading, i.e. considerable expenditures are likely to be needed on an annual basis to keep its components up-to-date to service internal and external constituencies.

The Review Committee has concerns about the funding of any new systems development. What will be the options explored if no suitable vendor supported financing can be arranged? An appropriate list of funding options for a system development initiative of this importance should include an option to advance the funds from central sources to be repaid over time (probably at rates better than those available through vendor financed acquisition). The method of funding will probably impact the initial cost, as well as potentially leading to sub-optimal decision-making on the choice of systems if adequate funding is not in place.

Finally, University's recent previous experience with the implementation of IHRIS demonstrates the problems associated with insufficient funding. The system has never been able to achieve its full, expected potential. As a result, local end-users are frustrated and lacking confidence in new systems in general.

7. The Vice-President Administration and Finance should review the financial implications of systems development recommendations on local user departments to ensure financial barriers to access and utility are minimal, and where there are significant resource requirements that those requirements are included in the overall financing for the systems development.

B. COMMUNICATION & CONSULTATION

8. The Steering Committee should pursue an open and wide consultation process to assist in the development of a Request for Proposal for any new computer system(s) based on the strategic plan to be developed.

9. Financial Services should publicize a copy of the Request for Proposal for new systems together with the strategic plan to all affected parties.

Most members of the campus community (including staff members of various sections within Financial Services) interviewed by the Committee knew little or nothing about the Request for Proposal and the possible directions of systems development. Those who had heard of the initiative were less than well informed, and those who had provided early advice on possible directions had received little feedback on the final Request for Proposal and were unable to confirm the benefits from their contributions.

10. In the planning of new major administrative systems, such as a new Financial Management Information System, there should be a clear understanding by all stakeholders as to what they will receive from the new system in terms of functionality and other benefits. There should also be a clear understanding of the costs in terms of resources and time to fully implement the system.

The implementation of major new administrative systems at the university is not a new phenomenon. The Integrated Human Resources Information System (IHRIS) was

implemented over the period of 1989 to 1992. Infrastructure connectivity problems delayed widespread initial distributed access to the system. The initial availability of time and resources was such that only Phase 1 of the project was completed. Consequently, users outside the sponsoring units of Financial Services, Human Resources, Budget and Planning and University Computing Services, were left with the impression that the new system lacked the required functionality to meet their needs. It was apparent from the interviews that many departments remain frustrated that they have not experienced the hoped for functionality from IHRIS. Their lack of general access to IHRIS and the perception that, without costly and time-consuming alterations, IHRIS cannot meet their financial payroll needs, appear to have undermined their confidence that future central administrative computing systems will ever meet their needs.

11. Financial Services should continue its practice of regular client surveys and also develop outcomes assessment of specific financial information management tasks.

Financial Services should review its current system of communications and consultations with its various constituents, with a view to assessing the current effectiveness and coverage of that program. This would include a review of internal communication and information sharing as well. Standards should be established for all areas, especially with regards to acceptable levels of pro-active consultation and appropriate feedback to those who have provided advice/information. Financial Services should monitor the success of its information sharing/gathering methods on a regular basis.

C. RE-ENGINEERING

12. The Vice-President Administration and Finance should ensure that all significant work processes under his jurisdiction are examined with a view to making improvements through business process re-engineering BEFORE any new systems development is considered in support of those processes.

A great deal of the Review Committee's inputs and discussions revolved around the new systems acquisition, and what that would mean for the Financial Services area and the end users. Much less time was spent on the examination of existing processes, and where improvements might be possible in the underlying processes that will be supported by any new system. However, clearly the development of any system must come after a thorough review of the processes to be supported by those systems.

Budgets and Reporting

13. The specifications for any replacement of the Financial Records System (FRS) need to include the maintenance of planning data and provision for future financial transactions in the system to support operational planning and decision making.

Financial reporting provides information for planning, decision making, control and reporting to governing bodies. The present financial system appears to be oriented to the control and external reporting functions. The committee heard a significant number of concerns about a lack of management information for planning and decision making. A number of faculties and support units are operating significant business units without adequate information.

14. An integrated document should be developed to show simultaneously budget allocations and statement of expected expenditures.

By far the greatest complaint among users about the FRS was the inability to use the information for local unit budget planning. There is a poor relationship between budget and actual expenditures. The general incompatibility of budget to actual reports significantly reduces the value of financial information because the spending record has no context. Budget data reported on monthly FRS reports is often not up-to-date, shows no audit trail of transaction details and includes inconsistencies between budget entries and salaries paid out, which distorts the financial position of the accounts. Planned future events cannot be included in user reports

A record of allocations should be prepared annually comparable to the present "budget". As these are changed on an ongoing basis they should be recorded for inclusion in the next formal record of allocations. A second set of figures should be prepared which is a statement of expected expenditures, including both legal commitments and estimated future expenditures. These are the working figures against which units can keep track of their expenditures and against which they can assess variances. The allocations portion is a top-down statement of how funds are allocated. The expected expenditures is a bottom-up set of figures taking into account such matters as leave savings which may be available in a given fiscal year and how the unit plans to expend them.

Streamlining Processes

15. Streamlining techniques need to be applied to the appointment process and the payment processes, to minimize delays in financial reporting.

Financial information is not current. Printed reports from FRS and IHRIS are too far behind for management purposes. The current batch reporting system requires a minimum of 14 days after month end for production of paper reports. Timing is a serious problem and can be damaging for users. Delays may result from the necessity of interfacing user-developed systems with the central system, resulting in workforce inefficiencies. There is often a duplication of data between user and central systems, and departments are required to reconcile the two systems. Delays may result from inefficiencies in financial processes, in particular the appointment process, the requisition payment process and the vendor payment process. Moving data between decision points creates delays, as much of this is done manually with paper document flow.

16. Direct on-line data entry by departments should be developed to alleviate transcription errors and errors arising through processing delays.

Errors originate from a variety of sources: difficulty in reading hand-written requisition forms; typos and other errors on requisition forms; keying errors when paper requisitions are transcribed; processing staff's remoteness from the originating department; duplicate entries and payroll charged to the wrong account because of appointment processing delays; and expenditures charged to incorrect grant account numbers on a temporary basis because the correct account was not yet set up at the time work on the grant began. The need for internal requisitions to correct errors in the accounts would be reduced by eliminating the cause of the errors where possible.

Unfortunately, current on-line services will require redesign to correct a number of problems such as the following. There are inconsistencies in the coding of reference numbers on input. For example, there are no reference numbers given for Telecommunications charges and work orders, and Bookstore requisition numbers are embedded in text and are not searchable. Reference fields are very useful, but only if they are coded consistently and are searchable. On-line variance analysis of budget to actual is not available. On-line information

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW FINANCIAL SERVICES—JULY 1996

can be weeks behind. Year-to-date totals are not available. Roll-up reports are not available on-line, and are especially needed at year-end. There is a lack of universal on-line access for grant/other account holders at reasonable cost.

17. Financial Services should work with Research Services to develop procedures that permit more timely set-up of grant accounts.

Delays in setting up or renewing grant accounts often lead to misleading overexpenditure reporting.

18. Any new Financial Management Information System must be capable of multi-year accounting as well as flexible integration of information among key central agencies of the University. Multi-year accounting should be flexible to support accounting and reporting beyond fiscal- and project-year thresholds.

Any comprehensive financial management information system adopted by the University must be capable of assisting both central and local users with multi-year accounting in which the planning period extends beyond the University's current fiscal year, with activity accounting in which local users are able to define the nature of the activity under which expenditures are being accrued (beyond standard categories of expenditures such as personnel or travel), with consolidations of both revenues and expenditures across the University's various fund accounts (e.g., GPOF, research funds, endowment funds, special purpose funds) and at different levels of aggregation.

Paramount among these inadequacies were that these systems were not capable of tracking revenues and/or expenditures across multiple budget periods other than the University's fiscal year; they were not able to integrate data from multiple funding sources (such as GPOF, research funds, endowment funds, special purpose funds, capital funds, etc.); they did not allow local users flexibility in defining the nature of the activities over which expenditures were being accrued; and they were not able to support the preparation of reports at different levels of aggregation.

These features of a financial management information system are required if the system is to support the needs of diverse constituencies such as units with extensive research grants and contracts, research centres having faculty from multiple departments, funding from multiple sources, different year-ends, specialized reporting requirements, specialized planning requirements, and Faculties whose activities are supported by a combination of GPOF, endowment funds, research grants, clinical operations, and continuing studies programs, as well as ancillaries.

Now more than ever there is a need to track the costs of faculty and staff according to their contributions to well-defined activities. Currently costs are thrown into a single pool with little, if any, allocation to activities (especially for Centres). There is now a greater need to cost out individual activities as some University activities emulate activities in the private sector - e.g., student housing, Bookstore, continuing education programs, professional degree programs, and clinical activities. The activities within a number of departments and Faculties are becoming more similar in complexity to ancillaries where there is a need to determine international versus domestic prices for degree programs, market prices for continuing studies programs, and differentiated prices for professional versus academic Masters degrees. Therefore costs have to be differentiated to provide better services to cost sensitive programs.

19. Financial Services and Purchasing should continue to explore opportunities to reduce the need for paper requisitions and cheques for payments to individuals and suppliers, especially for small amounts, provided normal internal controls and reconciliation procedures are followed.

Information provided the committee indicates that approximately 80 percent of the invoices processed by Financial Services are for varying amounts under $500. In many cases it would appear that the cost incurred to effect the payments using current processes are in excess of the value of the transactions processed. The use of cash, credit cards and procurement cards might serve as suitable alternative methods of payment.

20. Future development of the central financial systems should provide a simple self-service report generator for local users to query the central databases, print reports, and download current data for specialized local user systems without requiring intervention from systems staff.

Timely access to the central databases as required would reduce the need for the redundant data maintained by local users. The system should allow users to extract on the basis of a variety of data elements besides account number, e.g. object of expense code, reference numbers. It should be possible to aggregate the detail at various levels, e.g. account range, dept., faculty, grant. There should be provision for on-line variance analysis between budget amounts and actuals at whatever level of detail is required.

Campus Standards

21. Campus-wide standards for electronic interfaces, EDI-electronic data interchange, systems security, and common tables for information such as ID codes, department codes should be developed, possibly through UCS.

Each of the above could be seen as part of the mandate of UCS, should the Vice-Presidents agree. The need for campus wide standards is especially crucial in light of the recent report by the Advisory Committee on Information Technology (ACIT) which proposes to provide resources to assist computer access for each faculty member and each student.

22. A policy on confidentiality and access to financial information and the systems on which they reside should be developed.

This would be integral in designing networked systems which in turn facilitate remote access and "need-to-know" transparency.

Access for Users

23. On-line access for grant/other account holders must be available without expensive one-time connection costs. Universal access with appropriate security (WWW) will assist community members in buildings without cabling or off-campus locations.

It was apparent from review committee discussions and interviews that research needs and financial reporting requirements are likely to grow in the future. Financial Services must be responsive and flexible in meeting the needs of the community, agencies and industry. Requirements may change over time so we should resist becoming locked into an inflexible system. Report-writing to meet agency and other requirements must be user-friendly and all templates should have the same look and feel. If a client has specific needs that cannot be easily met in order to do business with the university then other solutions will have to be explored.

24. On-line systems be developed for user departments to prepare and submit requisitions, hourly payroll sheets, and net-zero budget transfers. Such

facilities should include user-friendly input screens with on-line edits to assist in error-free data entry, automatic calculation of totals, and routing for on-line authorization.

A great deal of redundant departmental effort goes into the preparation of paper requisitions for submission to Financial Services and the Budget Office, where they are re-keyed into the central financial systems. With every transcription there are delays, increased opportunity for errors, redundant proofreading, and continual follow-up and reconciling of systems. Long delays in paying vendors result in poor relationships with suppliers, loss of discounts, delinquent account charges, and refusal of some small vendors to deal with UBC at all except on a cash basis. Payroll "guestimates" and subsequent manual adjustments could be eliminated if payroll data capture could be completed on-line after the pay period ends.

Financial Services has been actively investigating and encouraging the development of electronic forms for data entry, and on-line invoicing from selected suppliers. These efforts should be continued and enhanced with interactive edit and help facilities. The World Wide Web interface that is being tested offers promise. Difficulties to be overcome include: departmental access to the central systems varies, and is especially difficult from off-campus sites; need for and expense of trusted LAN's to assure security of data in transit; handling of attachments; and possible procedural and coding errors.

25. The Vice-President Administration and Finance should convene an ad hoc committee of students and administrative personnel to consider whether a personal, financial account should be set up for each UBC student to handle all of his/her financial transactions with the University while he/she is a student.

These transactions might include (but not be limited to) the payment of tuition, student fees, and library fines; purchases and payments at the Bookstore, Food Services, and student housing; payments to the student for work contributed as teaching assistants, research assistants, markers, or other forms of UBC employment; and payments to the student as scholarships, loans, and bursaries.

26. The Vice-President Administration and Finance should convene an ad hoc committee of UBC staff and faculty and administrative personnel to consider whether a personal financial account should be set up for each UBC employee to handle all of his/her financial transactions with the University while he/she is an employee.

This account would be an extension of the financial account currently used to record payments and expenditures regarding salaries and benefits for each employee as well as expenditures for parking, faculty or union dues, and charitable contributions. Additional transactions might include (but not be limited to) purchases and payments at the Bookstore, Food Services, or other ancillary units, and payments to the employee received beyond normal salary such as research stipends, administrative stipends, awards, salaries for extra-sessional teaching, and honoraria for teaching in continuing studies programs.

There are thousands of financial accounts in a University as large and complex as UBC, but few of them relate to the activities of a single individual. The committee heard several interesting reasons why we should establish individual personal accounts for individual students and UBC employees such as faculty and staff. Having a single personal account with the University to record transactions would be a convenience to many individuals as a record of their revenues from UBC and their expenditures to University units. Similarly, the University as a whole would benefit from having a consolidated record of its financial transactions with individual students and employees, especially when individuals fell behind in meeting their financial obligations to more than a single administrative unit or when individuals left the University with financial obligations remaining.

This recommendation may have to involve negotiation with employee unions and the Faculty Association.

Training

27. Financial Services, in cooperation with other units where appropriate, should develop training modules for all levels of administrative staff at the university targeted to the specific needs of those various levels. Input from those various levels should be sought in the development of these modules. The modules should be delivered on a sufficiently frequent basis to ensure that new members within the various levels are equipped with the required knowledge to effectively perform their functions. Periodic updates to the information/training initially delivered should be provided to the users.

28. The Vice-President Administration and Finance should initiate a study to determine the feasibility of having a coordinated program of financial training among all or some of the sponsoring units responsible for financial management systems information/administration. This might include Financial Services, Research Services, Budget and Planning and the Development Office. The objective of this coordinated training program would be to ensure that all areas of the university receive sufficient knowledge and/or training to be able to carry out their major functions from a financial management perspective.

29. Sufficient resources should be made available to the Financial Services Department to be able to provide appropriate financial management training for all potential users of the central financial management systems to enable these users to perform their designated functions with respect to financial management in their respective units.

30. To encourage users outside of Financial Services to initially and to continue to participate in the financial training programs offered, it is suggested that Financial Services investigate and take appropriate action on the following: advertising the training sessions in the available university publications, holding the sessions in alternative locations and times which might be more convenient for the potential participants, and requiring new appointees to take certain training sessions when they commence employment with the university.

Given the complexity and diversity of the financial management systems which are necessary to service a large institution such as UBC, there is an apparent need for training in financial matters and procedures at various levels within the university, ranging from new vice presidents, deans, department heads dealing with fiscal management on a macro level, to account managers and clerical staff involved with maintaining accounts in departments and units at micro levels. Based on the comments from the interviewees, the nature of the required training varies according to the level at which the person is operating and the amount of detailed involvement he or she has with the central systems. Senior administra-

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW FINANCIAL SERVICES—JULY 1996

tors require a high level overview of how the financial management systems operate, the information provided by them and what they need to do as administrative managers to function within the systems' parameters. Departmental account staff need to have more detailed procedural and administrative training on how to input to the systems and how to obtain the information they require from the systems. Input from the various levels of users is required to develop appropriate training. The new Financial Management Training program piloted last year has provided an excellent introduction to the university's policies and procedures for all users.

There is also an apparent continuing need to provide a coordinated training function among the various financial systems at the university. While it is somewhat unclear as to the necessity, indeed the advisability, of attempting to provide training for individual researchers concerning the intricacies of the university's financial systems, there is an expressed need for all users of the systems to receive sufficient knowledge of how the various systems are tied together to allow them to carry out their major functions with a minimum of financial administrative interruption and annoyance.

Concern was expressed that the user community may end up bearing the cost of providing adequate training to understand and use the university's financial management systems. Opportunity for members of the institution at all levels to receive adequate training in the area of financial management to effectively fulfill the requirements of their positions would seem to be a worthwhile university-wide objective. There appears to be opportunity currently provided by Financial Services for users in units outside the sponsoring department to attend training on certain aspects of the financial systems. It was noted, however, that over a period of time the number of potential participants who avail themselves of the learning opportunities have tended to decrease.

IV. CONCLUSIONS

In summary, the Review Committee felt that a central infrastructure must be developed (Steering Committee) under the jurisdiction of the Vice-President Administration and Finance. This Steering Committee would ensure a broad-based consultation process for developing campus-wide strategy in determining leadership roles, organizational structure, and budget and reporting relationships. These major issues would then set the directions for more specific changes involving human processing of financial data and specific end-user system requirements as outlined in the recommendations in the various areas of concern. Finally, a transparent process must be pursued to finalize the proposal for a new system to connect the various legacy systems, and to improve the services of the department. A constant assessment of outcomes will provide a plan for quality assurance that avoids the natural tendency for Financial Services to become the lightning rod for complaints when the actual factors that may precipitate such complaints lie outside the department. The development of this strategic infrastructure, together with the esprit de corps of the department's staff and their enthusiasm to improve service, provide a tremendous potential for effective and efficient financial services at this University.

APPENDIX A: List of Interviews and Submissions

The Financial Services Review Committee wishes to acknowledge and thank the following individuals who took time to meet with the committee and, in some instances, provide written submissions as well:

Mr. Victor Barwin, Chief Financial Officer, Faculty of Medicine
Dr. Daniel Birch, Vice President, Academic
Mr. Robert Boudreau, Manager-Financial Systems, Financial Services
Ms. Caroline Bruce, Administrator, Biomedical Research Centre
Mr. Ian Burgess, Assistant Controller, Financial Services
Mr. Gary Barnes, Controller, Financial Services
Mr. John Chase, Director, Budget & Planning
Ms. Jill Darling, Assistant Manager-Accounts Payable, Financial Services
Mr. Graeme Dearnley, Assistant Manager-Payroll, Financial Services
Mr. Frank Eastham, Associate Vice President, Human Resources
Dr. Michael Goldberg, Dean, Faculty of Commerce & Business Administration
Mr. Len Goossen, Accountant, Housing & Conferences
Ms. Fay Gorrill, Assistant Manager-Payroll, Financial Services
Ms. Debbie Harvie, Director, UBC Bookstore
Mr. Larry Kemp, Manager Payroll & Acting manager Accounts Payable, Financial Services
Ms. Janice Kennedy, Manager-Research & Trust Accounting, Financial Services
Ms. An Keylock, Supervisor Administration, Economics
Ms. Susan Langland, Director Faculty Affairs & Administration, Faculty of Medicine
Mr. Jack Leigh, Executive Director, Computing & Communications Pro Tem
Ms. Anna Li, Operations Manager, UBC Bookstore
Dr. Keith Mitchell, Professor, Chemistry
Ms. Karen Monot, Government Contracts Officer, Research Services
Ms. Rayleen Nash, Assistant to the Dean, Graduate Studies
Mr. Robert Reid, Manager-Financial Planning, University Computing Services
Ms. Jacquie Rice, Director, Financial Services
Ms. Mary Risebrough, Director, Housing & Conferences
Mr. Steve Ryan, Chief Accountant, Financial Services
Dr. Richard Spratley, Director, Research Services
Ms. Frances Tadman, Administrative Clerk, Financial Services
Dr. Jim Tom, Director, Telecommunications
Ms. Nancy Wiggs, Administrator, Faculty of Law
Ms. Erika Yep, Administrative Clerk, Financial Services

The Committee also wishes to acknowledge and thank the following individuals who provided written submissions either on their own behalf or on behalf of their units:

Ms. Barbara Alivojvodic, Administrator, Faculty of Forestry
Ms. Pat Atherton, Administrator, Continuing Education in the Health Sciences
Ms. Maureen Barfoot, Administrator, Pediatrics
Ms. Bridie Byrne, Administrative Assistant, Zoology
Dr. Marion Crowhurst, Acting Head, Language Education
Ms. Maureen Douglas, Assistant to the Dean, Faculty of Science
Mr. William Dyck, Consultant
Ms. Elaine Dawne, Departmental Secretary, Anaesthesia
Ms. Joyce Friesen, Head-Collections Accounting & Budget, Library
Mr. Patrick Harrison, Administration Manager, Botany
Ms. Lotte Illichmann, Accounting Supervisor-Collections Accounting & Budget, Library
Dr. Michael Isaacson, Professor & Head, Civil Engineering
Ms. Patricia Lackie, Supervisor Administration, English
Ms. Stephanie Maricevic, Departmental Assistant-Finance & Administration, Continuing Studies

Dr. Herbert Rosengarten, Professor & Head, English

The Committee was also provided with the following documents:
Organizational Charts - Financial Services
Organizational Chart - Vice President Administration & Finance
Presentation to Senate Budget Committee - April 20, 1994
Results of Customer Service Questionnaires 1993 and 1995 and Questionnaire
Financial Systems Survey - October 1994
Report to the University Audit Committee - February 1994
Description from 1995-96 Budget Report re Financial Services
Research Accounting Survey - 1994 and 1995
Accounts Payable Vendor Survey - 1993 - 1994
Report to the Committee to Review Financial Services at the University of Calgary
Self-Study of the Department of Financial Services
Financial Statements, The University of British Columbia, March 31, 1995
Summary of Invoices Processed from April to January 1992/93

APPENDIX B: List of Recommendations

A. LEADERSHIP AND ORGANIZATIONAL ISSUES
Leadership and Strategic Planning for Financial Information Management

1. The President should establish a University-wide Steering Committee to develop a comprehensive strategy for financial management within the University community at both the central and local levels. The Committee should report directly to the Vice-President Administration and Finance.

2. The strategic plan must consider cost:benefit analyses for human processing of financial data and training of client-users when prioritizing criteria for a new financial information management system.

3. The strategic plan must increase integration or interconnectivity to facilitate the coordination and even synchrony of information from current separate systems where beneficial.

Organizational Structure and Process

4. All central financial service units should be aligned as a service-focused group under the mandate of the Vice-President Administration and Finance.

5. The Vice-President Administration and Finance should examine the policies currently in place relating to inter-departmental billing, and consider whether such policies are leading to sub-optimal resource allocation and dysfunctional decision-making by departments, especially with regard to University Computing Services.

Financing New Systems

6. The financing plan for any new system(s) acquisition or development should be reviewed by the Vice-President Administration and Finance to ensure adequate resources, including appropriate contingency funding, are made available to acquire new systems and ensure successful conversion from the old legacy systems and to ensure that all of the functionality and benefits expected by the end users are delivered in a timely and effective manner. The Vice-President should consider the need to provide central financing to effect these changes.

7. The Vice-President Administration and Finance should review the financial implications of systems development recommendations on local user departments to ensure financial barriers to access and utility are minimal, and where there are significant resource requirements that those requirements are included in the overall financing for the systems development.

B. COMMUNICATION & CONSULTATION

8. The Steering Committee should pursue an open and wide consultation process to assist in the development of a Request for Proposal for any new computer system(s) based on the strategic plan to be developed.

9. Financial Services should publicize a copy of the Request for Proposal for new systems together with the strategic plan to all affected parties.

10. In the planning of new major administrative systems, such as a new Financial Management Information System, there should be a clear understanding by all stakeholders as to what they will receive from the new system in terms of functionality and other benefits. There should also be a clear understanding of the costs in terms of resources and time to fully implement the system.

11. Financial Services should continue its practice of regular client surveys and also develop outcomes assessment of specific financial information management tasks.

C. RE-ENGINEERING

12. The Vice-President Administration and Finance should ensure that all significant work processes under his jurisdiction are examined with a view to making improvements through business process re-engineering BEFORE any new systems development is considered in support of those processes.

Budgets and Reporting

13. The specifications for any replacement of the Financial Records System (FRS) need to include the maintenance of planning data and provision for future financial transactions in the system to support planning and decision making.

14. An integrated document should be developed to show simultaneously budget allocations and statement of expected expenditures.

Streamlining Processes

15. Streamlining techniques need to be applied to the appointment process and the payment processes, to minimize delays in financial reporting.

16. Direct on-line data entry by departments should be developed to alleviate transcription errors and errors arising through processing delays.

17. Financial Services should work with Research Services to develop procedures that permit more timely set-up of grant accounts.

18. Any new Financial Management Information System must be capable of multi-year accounting as well as flexible integration of information among key central agencies of the University. Multi-year accounting should be flexible to support accounting and reporting beyond fiscal- and project-year thresholds.

19. Financial Services and Purchasing should continue to explore opportunities to reduce the need for paper requisitions and cheques for payments to personnel and suppliers, especially for small amounts provided normal internal controls and

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW FINANCIAL SERVICES—JULY 1996

reconciliation procedures are followed.

20. Future development of the central financial systems should provide a simple self-service report generator for local users to query the central databases, print reports, and download current data for specialized local user systems without requiring intervention from systems staff.

Campus Standards

21. Campus-wide standards for electronic interfaces, EDI-electronic data interchange, systems security, and common tables for information such as ID codes, department codes should be developed, possibly through UCS.

22. A policy on confidentiality and access to financial information and the systems on which they reside should be developed.

Access for Users

23. On-line access for grant/other account holders must be available without expensive one-time connection costs. Universal access with appropriate security (WWW) will assist community members in buildings without cabling or off-campus locations.

24. On-line systems be developed for user departments to prepare and submit requisitions, hourly payroll sheets, and net-zero budget transfers. Such facilities should include user-friendly input screens with on-line edits to assist in error-free data entry, automatic calculation of totals, and routing for on-line authorization.

25. The Vice-President Administration and Finance should convene an ad hoc committee of students and administrative personnel to consider whether a personal, financial account should be set up for each UBC student to handle all of his/her financial transactions with the University while he/she is a student.

26. The Vice-President Administration and Finance should convene an ad hoc committee of UBC staff and faculty and administrative personnel to consider whether a personal financial account should be set up for each UBC employee to handle all of his/her financial transactions with the University while he/she is an employee.

Training

27. Financial Services, in cooperation with other units where appropriate, should develop training modules for all levels of administrative staff at the university targeted to the specific needs of those various levels. Input from those various levels should be sought in the development of these modules. The modules should be delivered on a sufficiently frequent basis to ensure that new members within the various levels are equipped with the required knowledge to effectively perform their functions. Periodic updates to the information/training initially delivered should be provided to the users.

28. The Vice-President Administration and Finance should initiate a study to determine the feasibility of having a coordinated program of financial training among all or some of the sponsoring units responsible for financial management systems information/administration. This might include Financial Services, Research Services, Budget and Planning and the Development Office. The objective of this coordinated training program would be to ensure that all areas of the university receive sufficient knowledge and/or training to be able to carry out their major functions from a financial management perspective.

29. Sufficient resources should be made available to the Financial Services Department to be able to provide appropriate financial management training for all potential users of the central financial management systems to enable these users to perform their designated functions with respect to financial management in their respective units.

30. To encourage users outside of Financial Services to initially and to continue to participate in the financial training programs offered, it is suggested that Financial Services investigate and take appropriate action on the following: advertising the training sessions in the available university publications, holding the sessions in alternative locations and times which might be more convenient for the potential participants, and requiring new appointees to take certain training sessions when they commence employment with the university.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW COMPUTING AND COMMUNICATIONS

THE UNIVERSITY OF BRITISH COLUMBIA

September 19, 1996

I am pleased to provide members of the university community with the Report of the Committee to Review Computing and Communications. The Committee has chosen to focus on the impact of the funding model mandated for C&C rather than going into great detail on the activities of each of the units.

I am appreciative of the work undertaken by Barry McBride and the members of the Committee and would also like to take this opportunity to thank the user community and the C&C staff for their comments and suggestions.

Many of the issues identified in the Report were simultaneously being considered by the Advisory Committee on Information Technology (ACIT) and implementation of a number of initiatives to provide improved access to faculty, staff and students is presently under way.

I welcome your comments.

Sincerely,

Maria M. Klawe
Vice-president, Student and Academic Services

A. Preamble

This review stresses the role Computing and Communications (C&C) should play in serving the research, teaching and administrative objectives of UBC. It does not limit its assessments and recommendations to the internal operations of the units which make up C&C. More particularly it establishes specific goals for the development of information technology and makes recommendations by which C&C can successfully contribute to their achievement.

Information technology (IT) has become an integral part of the academic environment throughout Europe and North America. Initially it was largely limited to manipulating numbers and word-processing. With extraordinary rapidity, it has come to be used to communicate directly with colleagues, access remote knowledge sources, and teach students both on and off campus, as well as record and transfer administrative information. It has become a major and essential academic resource comparable to the Library, an institution which itself uses IT extensively. Connectivity created by multifaceted IT has not only increased dramatically in the recent past; it gives every indication of even more rapid development in the near future.

In our view the position of and the support for IT should reflect its centrality to the University's mission.

During the last decade C&C and its predecessors have become fully cost recoverable units; they have been ancillarized like the Book Store, Food Services and Housing. To implement this requirement, C&C operating funds were transferred to the various academic and administrative units which were then charged for services. The costs of C&C services are set at a level which pays for all overhead including the recently established infrastructure charges. They are expected to act as businesses while abiding by rules and contracting arrangements over which they have no control, but without the options that a small business would have. They must use central administrative services such as Human Resources, Payroll and Financial Services. Because they are obligated to cover all their costs, C&C staff have not effectively engaged in important activities which do not provide revenue. Advice and leadership essential to the realization of University-wide objectives, i.e. the common good, have not been provided to the extent that they should have been.

While a fee-for-service model is appropriate and works well in some areas, it is the view of the Committee that the full cost recovery model coupled with full decentralization is inappropriate. These arrangements make it difficult if not impossible to provide the computer-based research, teaching, and administrative tools which are central to UBC fulfilling its mission.

B. Process followed

The Committee to Review Computing and Communications at UBC was established by Maria Klawe, Vice President, Student and Academic Services in March, 1996. Its members included:

- Barry McBride, Dean, Faculty of Science (Chair)
- Elliott Burnell, Professor, Department of Chemistry
- Sharon Hartung, Graduate Student, Faculty of Commerce and Business Administration
- Ron Johnson, Vice President, Computing and Communications, University of Washington
- Robert Kubicek, Professor, Department of History
- Gerry Miller, Executive Director, Information Service and Technology, University of Manitoba
- Richard Spencer, Registrar and Director of Student Services
- Jean Tsang, Assistant Treasurer, Financial Services
- Byron Hender, Executive Coordinator, Student and Academic Services (Secretary)

The Committee's terms of reference were:

- To review the mandates, strategic plans, structures, operations, staffing and budgets of the four units comprising C&C, and their role in support of the University's mission.
- To review and comment on the role of C&C and, specifically, the impact of decentralization with respect to the University's effective and efficient utilization of Information Technology.
- To evaluate the overall levels of responsiveness, effectiveness and accountability of each unit.
- To identify opportunities and make recommendations for improved service.
- The Committee will take into consideration the Senate Budget Committee's recommendations with respect to the cyclical reviews of centralized service units.

The Committee had at its disposal extensive documentation prepared by C&C and augmented by materials submitted by others.

The UBC members of the Committee met on four occasions in March and April and the full Committee met April 15-17. The Committee published a call for submissions in *UBC Reports* and on the UBC Usenet group and circulated an announcement requesting input from Deans, Heads and Directors. Twelve written submissions were received (see Appendix 2).

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW COMPUTING AND COMMUNICATIONS

The Committee interviewed 29 persons including the Vice President Student and Academic Services, the leadership in Computing and Communications and a number of academic and administrative users. The Committee also interviewed a number of industry representatives from off campus. (See Appendix 3 for a list of persons interviewed.)

C. Summary of recommendations

1. The University should re-evaluate which services within C&C should be funded centrally and which should be charged out.
2. IT policies and standards should be developed by providers in partnership with clients.
3. C&C should provide central support for activities that benefit the University as a whole, including but not limited to:
   - campus-wide network architecture
   - electronic messaging
   - common standards
   - advising services
   - security
   - technology leadership and awareness
   - newsletter
   - site licences
4. The Centre for Educational Technology (CET) should have an operational function funded by the Vice President Academic and Provost.
5. The University needs to develop a single institutional data model for administrative computing.
6. Campus-wide standards should be developed for desktop software that access administrative data.
7. C&C and clients should jointly develop an architecture for administrative computing.
8. C&C should play a leadership role in building and maintaining links between all the computing constituencies, and facilitate resource and information sharing.
9. The institutional responsibility for IT planning should be assigned to a vice president or associate vice president.
10. The individual with responsibility for information technology should place a high priority on reviewing the organizational structure of C&C with the goal of establishing a structure that optimizes the chances of the University realizing its IT vision.
11. The University should make available network facilities to deliver high speed access directly to the desk top of all faculty, staff and graduate students. Based on current standards and commonly available technology, the Committee recommends a minimum speed of 10 Mbps, realizing that the minimum requirements will rise rapidly as the technology advances.
12. The University should move quickly to increase student access to network facilities through establishment of common workstation areas, by increasing dial in facilities and by bringing network access to the residence rooms. These services should be provided at minimal or no cost to the students.
13. The University should start an ongoing program to bring high speed networking capabilities to the major classrooms and laboratories in the University.
14. The University should implement a program for supplying each faculty member with a workstation.
15. The University should integrate and manage the telecommunications infrastructure, including all intra and interbuilding cable and distribution plant, as a single University-wide entity encompassing voice, video and data components.
16. The University should streamline the cable installation process by vesting overall authority in one position .
17. The University should insist that C&C take advantage of every opportunity to cannibalize and extend existing wiring facilities for campus networking.
18. New construction must follow the most recent integrated voice, video and data communications standards. Where possible similar standards should be applied to large scale renovations.
19. In areas where no other options exist the University should use analog voice telephone lines with low cost v32 or v42 modems as an interim step to enable access by faculty, staff and students until they can be provided with ethernet connectivity.
20. The TELEcentre should be a service provider with its priorities dictated by the needs of its clients and CET.
21. The PrintShop should promote document standards and provide consultation and advice to its customers.
22. The roles and functions of Media Services and Biomedical Communications should be re-examined to determine if there are opportunities for alignment.
23. The UBC Press should not be designated an ancillary service expected to recover its full costs and, moreover, should be provided with a modest subsidy to support select publication priorities.
24. As an important intellectual enterprise, the Press should more appropriately report to the Vice President, Student & Academic Services independently of Computing & Communications, as does the Library, or alternatively report to the Vice President, Academic & Provost.
25. The possibility of the Press becoming the university press of B.C. sustained by a consortium of provincial universities should be explored.

D. Computing and Communications units

There are four ancillary units comprising Computing and Communications:

1. *Telecommunication Services* provides the campus with:
   - telecommunications services, including voice, data and video communications;
   - design services associated with enhancement and maintenance of the University's cable plant which serves the needs for voice, data, and video communications;
   - microcomputer and LAN design and consulting, system configuration and administration;
   - maintenance, repair and troubleshooting for computing and networking hardware and software.

   The Committee heard praise from a number of people regarding the technical

expertise of the staff. This was borne out by our own discussions. The unit has responded effectively in a technical sense to the directive to become an ancillary unit. They have set up mechanisms and instituted fee-for-service systems that meet the mandate of covering costs, however, there are problems in the area of meeting clients' needs and offering needed services. Many of the staff were not recruited into a fee-for-service system and they have had a difficult time reconciling "bottom line" concerns with those of providing service to their customers. The service aspect has tended to suffer. (Imposing arbitrary standards is one example; not working with clients to find the most cost effective way of satisfying the clients' needs is another.)

2. *University Computing Services* (UCS) contributes to the support of the broad computing and communication service categories of academic and administrative computing; voice, data, and video networking; printing; and publishing. All services are in support of the distributed, decentralized and heterogeneous computing and communications environment on campus. In particular, UCS:
   - develops and provides services on the campus data network including information access services such as Interchange and Netinfo;
   - develops administrative computer applications;
   - provides operational and technical support for servers and computers used by administrative applications and for servers providing Internet and e-mail services;
   - provides operational support for the campus data network and BCNet;
   - provides general purpose computing services, such as UNIX accounts;
   - coordinates both the campus policy on the appropriate use of information technology and activities relating to computer and network system security.

   The situation described for Telecommunication Services holds for the staff in UCS. Technically very qualified people are struggling to develop the necessary business acumen. The Committee also heard from a number of people that the funding model plus an apparent deficiency in communication within C&C had led to a morale problem. The staff did not have a good grasp of the overall situation and their role in furthering the goals of IT, and in meeting the academic and administrative needs of the University.

3. *Media Services* is concerned primarily with support for educational and administrative applications of communications, media, and technology, particularly the production of electronic and printed media. The department is organized as three service divisions: TELEcentre, PrintShop and Publications, each with different mandates, organizations and financial arrangements.
   - The TELEcentre is a rapidly evolving, state-of-the-art, production and presentation facility for electronic media. It serves to focus the burgeoning interest in the application of electronic educational technologies (EET) to teaching and learning and the emerging role of "new media" which includes the use of desk or laptop multimedia computers and digital telecommunication networks. During the past two years, the centre has been developed to accommodate the activities and staff of the Centre for Educational Technology.
   - The PrintShop is the largest division of Media Services, representing approximately 75% of the department's revenue. Services provided through this area include high volume B/W photocopying and networked printing, University stationery and specialty off-set printing, desktop publishing, photography and digital colour copying and printing. The PrintShop was one of the earliest services on campus to become a fully cost-recovered, fee-for-service ancillary.
   - Publications has been developed to address the need for the technical documentation of services for customers, and to communicate computing and communications issues to a growing and increasingly diverse audience. The division is recognized for the production and distribution of the *Campus Computing & Communications* newsletter, and the creation of printed and electronic information to help the University find and use computing and communication services. The Publications group works with other staff to produce articles about services such as Netinfo and Interchange, and to feature stories on new applications, developments, and technologies. Publications was among the first to take advantage of the information opportunities afforded by the Internet and World Wide Web.

   This is a well-run, creative unit. The fee-for-service model works well . The unit provides good service and is meeting the needs of its customers. The newsletter received high praise from academics and administrators.

4. *UBC Press* currently publishes more than 20 new titles annually, employs 16.5 people and operates on a budget in excess of $2 million. It is housed in distributed space in the Old Auditorium. The Press views itself as a publisher of academic and general-interest books with an emphasis on works on British Columbia, Canada and the Pacific Rim. Its priorities are to meet highly scholarly standards and to operate efficiently. It takes pride in its role of enhancing the status and reputation of the University at home and abroad. It has worked out mutually advantageous distribution arrangements with other presses. Careful forward planning envisages a substantial increase in the number of titles published. Submissions to the Committee from faculty indicate that it is highly valued and that it has made remarkable strides over the past several years in fulfilling its objectives. Further testimony is provided by the large number of distinguished members of faculty who have published with it. The Press is an extremely successful operation which contributes significantly to the University's mandate as both a major research institution and as an important resource to the Province.

   Despite its importance and successes, the Press is in financial difficulty. This difficulty stems from two developments. First, its subsidies have been sharply reduced. The University has stopped an annual subsidy of $200,000, and government support for publication has been sharply reduced. Meanwhile, the Press, as an ancillary service, is expected to recover its costs. Charges under this head involving infrastructure provided by the University have increased. The result is that though it manages to pay for much of its costs from revenues and services, it is facing shortfalls in meeting its expenses. At some point in the near future it will have to move to alternative space as it is our understanding that the Old Auditorium is scheduled for demolition. Other university presses, throughout North America commonly receive substantial subsidies to cover staff salaries and benefits, utilities, accounting service and/or working space. Indeed, the Review Committee saw evidence that the Press has managed to flourish in recent years with subsidies that were less than those received by comparable entities.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW COMPUTING AND COMMUNICATIONS

The burdens imposed by ancillarization coupled with the Press's position in the C&C envelope with other units with quite different activities has led to the suggestion that it be reclassified. The Press deals with the fruits of research, that is with intellectual property, and in this respect, is more akin to the Library than the computing services. It has also been suggested that it might set up as an entity largely independent of UBC or be the centre piece in the creation of a press sustained by all the universities of the Province. [The Committee certainly was convinced of the merits of repositioning the Press within the University's reporting structure, but did not have the opportunity to undertake the necessary study to determine the merits of the other suggestions.]

E. Objectives to be achieved

The Committee posed the question what IT services should be provided to UBC's faculty, staff and students. It also asked itself what arrangements should be in place between providers and users. The following answers emerged from its deliberations:

1. Every faculty and staff member should be linked to the Internet via a connection with a minimum bandwidth of 10 Mbps. Faculty and staff should be able to access information electronically from on and off campus.

2. Students should have:
   (a) access to computing in common areas, libraries, residences, and from off campus;
   (b) access to network facilities and services;
   (c) access to support services, e.g. help desk.

3. Faculty, staff and students must have the opportunity to use the latest electronic educational technologies in support of teaching, learning and research. This will include properly equipped classrooms, specialized facilities such as the TELEcentre and accessibility as defined in 1 & 2 above.

4. There need to be:
   (a) clearly articulated campus information technology standards to enable planning and collaboration; and
   (b) standard and consistent procedures to provide a secure computing and network environment.

5. A cooperative partnership needs to be developed between C&C staff, faculty and students to ensure that academic concerns are reflected in IT policies and decisions.

6. A structure is needed that responds effectively to changes in the rapidly evolving IT world.

F. Strategic initiatives

Strategic initiatives or resources required to achieve the objectives set out in the previous section and are elaborated below:

1. Dynamic Vice President level leadership in the information technologies.
2. Extensive plans to improve access for users..
3. Sustainable, scaleable, high performance network infrastructure.
4. Broad based inclusive advisory structure. (The Advisory Committee for Information Technology (ACIT) and the Centre for Educational Technology (CET) are a good start and should be supported).
5. Restructure C&C to cope with the increased importance of communication/ networking and the distributed nature of computing.
6. Financial plans that support the vision, not "be" the vision.
7. Financial plans that provide for substantial central funding.
8. A centrally funded core of technical expertise to facilitate IT planning and delivery of service.
9. Administrative computing architecture that ensures
   (a) a single institutional data model;
   (b) a single consistent point of access to administrative data; and,
   (c) direct user access to the data for analyzing, recording and reporting.
10. Effective partnerships among IT providers and users.
11. Fostering of technological innovation and leadership in IT.
12. University funds for an information centre to coordinate development of educational technology (currently done by the Centre for Educational Technology).

G. Recommendations

1. The University should re-evaluate which services within C&C should be funded centrally and which should be charged out.

Activities which are highly peripheral to the University's educational and research missions are often characterized as "ancillary" enterprises. Typically operations such as parking, food services, and bookstore are designated as ancillary services. Such ancillaries are often burdened with full overhead rates and treated as businesses. For very good reasons it is extremely rare for a university to consider campus-wide information technology units to be similar to ancillaries, and it is nearly unprecedented to globally treat basic information technology as ancillary to the university's educational and research missions.

Indeed in nearly all major universities, campus information technology support and services activities are considered (like those of the libraries) as central to a research university's mission. For this reason the wholesale designation of C&C as an ancillary is inappropriate. Such treatment has caused significant misdirection of C&C efforts. The result has been a considerable and unfortunate dislocation of resources and attention diverted from crucial efforts to ensure effective campus information technology leadership, planning, support and innovation. In addition, ancillarization has delayed the development of infrastructure and services which further the common good.

There are many places where various and suitable fee-for-service approaches are appropriate and can help a university more efficiently use and allocate resources to achieve its mission. However, in most cases, "fully burdened" costing is not appropriate treatment for maintaining and evolving campus information technology resources which stand in complex and important supporting relationships to core university goals and objectives. In sum UBC's current approach of treating C&C as an ancillary is seriously impeding its efforts to establish itself and its faculty, staff, and students as significant participants in the electronic communities of higher education.

The review team concluded that UBC should not treat C&C as an ancillary. UBC

should carefully consider which sorts of activities in C&C should be placed on a fee-for-service basis (e.g., printing activities) and then selectively craft approaches for each situation. The plan should determine the appropriate level (if any) of cost recovery in that context, consider 'pricing' philosophy, and do so in a manner that fully appreciates the long term consequences on the overall imposition of such charging schemes.

2. IT policies and standards should be developed by providers in partnership with clients.

The Committee has commented on the need for institution-wide policies and standards for information technology in a number of areas. We heard of several instances where policies, in areas where they were clearly needed, were viewed as arbitrary and unreasonable by people who were affected by them. One such policy was the requirement that departmental LANs be certified as "trusted" before they can be used to access administrative systems. Another was the refusal to allow staff other than those employed by C&C to have access to communications closets, even when these closets were (or could have been) used by the local department to house their equipment. Without commenting on the merits of these particular policies, we will say that they were clearly seen by those on whom they impacted as arbitrary and inappropriate. If C&C units are to play their proper role in the development of institutional policies and standards they must do so in partnership with those affected. This requires not just consultation but the full participation of all those affected (or their representatives). Although it will not always be possible to get the agreement of everyone involved, this should be the goal. When agreement cannot be reached the issue should be resolved by an appropriate policy making body.

3. C&C should provide central support for activities that benefit the University as a whole, including but not limited to:
- **campus-wide network architecture**
- **electronic messaging**
- **common standards**
- **advising services**
- **security**
- **technology leadership and awareness**
- **newsletter**
- **site licences**

Some aspects of the academic nature of a university involve services, facilities and human resources such as the library that should be considered to be for the common good. These should be funded centrally. It makes no sense to cost recover services, such as the library, that are central to the academic community as a whole. In the information technology area, some such services include, but are not necessarily limited to, the following:

(a) Campus-wide network architecture: The network is the basis of modern communication. It is central to both the teaching and research aspects of the University.

(b) Electronic messaging: The sending of messages by e-mail is rapidly replacing the use of paper because it is immediate, more efficient, cheap, and environmentally friendly. It might even be said that this service is more important than the telephone. It is essential that every University member, be they student, faculty or staff, have the ability to communicate via e-mail. This is an essential central service.

(c) Common standards: In the absence of sensible standards, every individual or department is tempted to find the easiest and/or cheapest route to attain some goal. A problem can occur at a later date when that solution has to be incorporated into a larger system. It makes sense that there be clearly defined, well publicized standards pertaining to hardware, software and networking decisions. Central efforts in this area could save millions of dollars in the long run.

(d) Advising services: There exists much expert information around the campus. An invaluable resource is the group of staff that make up C&C. The provision of advice on a host of matters represents a key role for this organization. The service should include advice on: difficulties experienced with IT usage; purchase of both software and hardware; system management; and help with software and hardware problems. Such service when provided by a short phone call or a brief e-mail instruction to an individual or user group should not require billing. Site visits, training sessions and other substantial forms of assistance will need a charging mechanism.

(e) Security: Security against unauthorized alteration or use of digital information, damage, failure, and theft must be a major objective. Security of the campus network, its equipment, programs and data is a campus-wide issue, in the same way and for the same reasons that building security is a campus issue. A weak link in the network jeopardizes the whole system.

(f) Technology leadership and awareness: This University has prided itself in the past as one of the world leaders in information technology. Historically, much of the effort was a joint endeavor between UCS and the Department of Computer Science. The spin-offs to the rest of the University were monumental. It would be difficult to recover costs from these R&D efforts that placed UBC at the forefront of technology. Efforts to reestablish and maintain world leadership should be strongly encouraged and supported centrally. They are for the common good of the campus as a whole.

(g) Newsletter: *Campus Computing* received rave reviews from many of the persons that the Committee interviewed. This newsletter is a valuable way of informing the UBC community about advances and uses of IT, and we recommend that the University support it centrally.

(h) Site licences: UCS has been very successful in obtaining substantial savings for users by arranging for site licences of software. This service should continue as a service to the University community.

4. The Centre for Educational Technology (CET) should have an operational function funded by the Vice President Academic and Provost.

UBC has been slow to incorporate electronic educational technologies (EET) into its teaching and learning programs. The situation began to change in 1995 with the awarding of the Innovation Fund grants. The enthusiasm, creativity and effort generated across the full spectrum of the University's educational activities indicated that there was widespread support for incorporating EET into our teaching programs. It is critical that the University build on the momentum of the

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW COMPUTING AND COMMUNICATIONS

last two years if it is to offer its students the benefits that the new teaching modalities can provide. The initiative and leadership shown by CET should be subsumed to a large extent by the Faculties. They should take ownership in developing and adapting course material for their needs. Notwithstanding the desirability of decentralization, there is a need for a small University-supported activity that coordinates the use of tools, publicizes proven solutions to avoid reinventing the wheel and helps set standards, etc. We suggest that CET should have this central coordinating role; financial support should come from the Vice President Academic and Provost.

5. The University needs to develop a single institutional data model for administrative computing.

It is necessary that a single institutional data model for administrative services be developed to support the strategy of having an efficient and effective administrative computing environment. It will ensure that common user issues such as accessibility, and a consistent point of access to administrative data are realized and maintained. It will also ensure that issues such as data redundancy, data integrity and security are addressed. For example, common data elements such as name and address should be recorded once in a common area and subsequently used as keys to access or update data in other administrative applications such as the financial information system or student records. This model will facilitate system and application development, support user community efforts, and will eliminate frustrations associated with inconsistent and redundant data models while providing a framework for responding to technological change.

6. Campus-wide standards should be developed for desktop software that access administrative data.

Standards for desktop software are required to support the strategies of having a single consistent point of access to administrative data and direct user access to the data for analyzing, recording and reporting. Desktop software standards facilitate the transmission of information and reduce user frustration in accessing and using data. Standardization facilitates the vision and future development of a totally electronic environment. It provides the basis for the migration towards a 'paperless' environment, as more and more users move in a common and interoperable direction. Adoption of standards also optimizes the use of staff resources throughout the University.

7. C&C and clients should jointly develop an architecture for administrative computing.

A computing architecture defines the rules and standards for inter-system communication, data sharing and storage, interoperability of systems, and definition of common elements used in different systems. Such an architecture is necessary for administrative systems at the University, and one needs to be developed. The development of an architecture for administrative computing systems will require the joint collaboration of C&C personnel and the client community to ensure that the architecture is consistent with client needs, is developed with cost efficiencies in mind, and adequately provides support for the core IT requirement.

8. C&C should play a leadership role in building and maintaining links between all the computing constituencies, and facilitate resource and information sharing.

Many departments on campus would benefit from a centralized pool of technical people to act as a resource when problems arise. Workstation Services and the Personal Computing Support Centre both fulfilled this function a few years ago, but were not cost recovered. C&C no longer has the mandate to perform such "good works" for the University community. In order to obtain the optimum return and benefit from the wide range of expertise that exists on this campus, it is essential that there be a mechanism by which information can be shared. With rapidly changing information technology, it is crucial that individuals who find themselves in different departments and units have a means to access the wisdom and knowledge of other experts on the campus. An excellent example of such a link that has worked well is the UNIX Users Group. Technical information has been shared at monthly meetings, and via an e-mail distribution list where questions of a technical nature receive valuable and rapid answers from informed sources. Employees of UCS have played a pivotal role in the establishment and running of this valuable group. The Network Administrators group serves a similar function. It should be recognized that an important aspect of the job of employees of the University whose job devolves around IT (both within and without C&C) is to make a collegial contribution to the sharing of expertise with others, and that this is not a cost recoverable item, but rather a service to the University as a whole.

9. The institutional responsibility for IT planning should be assigned to a vice president or associate vice president.

Over the past decade information technology has emerged as a critical element in the advancement and dissemination of knowledge. The impact of IT has been felt in nearly every institutional endeavor. The Committee was frequently reminded of the importance of and the need for the institutional establishment and maintenance of standards for network architecture and systems including such elements as electronic messaging which benefit the University as a whole. Institutional leadership in the management of this rapidly changing technology is critical and the Committee recommends that the responsibility for IT planning should be vested in an administrative officer at the vice presidential or associate vice presidential level. This could be the Vice President Student and Academic Services, or the Vice President Academic and Provost. Alternatively the University might want to appoint a Chief Information Officer who would hold a rank equivalent to a vice president or associate vice president.

10. The individual with responsibility for information technology should place a high priority on reviewing the organizational structure of C&C with the goal of establishing a structure that optimizes the chances of the University realizing its IT vision.

Computing and Communications have evolved from a primary focus on computing to the point where communications capabilities are of paramount importance. The communications infrastructure is often the limiting factor in accessing and transferring information. This is particularly true in an older institution lacking adequate wiring and space for cables and communications rooms. The shift from centralized mainframe computing activities to a distributed mode further emphasizes the need for sophisticated communications infrastructure.

The organizational structure of Computing and Communications reflects the priorities of the past and may not be optimal for the realities of today or for the future. It is necessary that the organizational structure of C&C be reviewed with a view to creating a model which will best meet the University's IT vision. Given the rapidly changing nature of IT it would be wise to review the operation of C&C at three year intervals.

11. The University should make available network facilities to deliver high speed access directly to the desk top of all faculty, staff and graduate students. Based on current standards and commonly available technology, the Committee recommends a minimum speed of 10 Mbps, realizing that the minimum requirements will rise rapidly as the technology advances.

High speed connections to the campus network infrastructure are an essential part of the workplace. All modern network services are built on the assumption that such high speed access exists to the desk top. Without such connections, faculty, staff and students are disadvantaged because they cannot reasonably access essential network services both on the UBC campus and around the world. At this time the networking infrastructure at UBC is at best inconsistent, and high speed access is not available to most members of the campus community. The Committee is aware of new and emerging high speed technologies including ISDN, cable modems and satellites, however, based on current standards and commonly available technology, the Committee recommends a minimum speed of 10 Mbps. We realize that plans are underway for 100 megabit-per-second networks and in the future 10 Mbps is likely to feel uncomfortably slow.

12. The University should move quickly to increase student access to network facilities through establishment of common workstation areas, by increasing dial in facilities and by bringing network access to the residence rooms. These services should be provided at minimal or no cost to the students.

UBC has fallen behind in providing reasonable access to campus network services and to the Internet for students. This is demonstrated by the recent success of Netinfo. Even such a rudimentary text-based service was highly successful, and there is clearly a strong latent demand for network access among the student population.

Networking is a "supply push" market. Given universal access, network applications are developed by the user community, and network usage increases. In the context of students, universal access to the network will result in the use of many network applications in support of teaching. These will include electronic mail, list servers, newsgroups and local Web facilities. Students will also have access to the Internet, a learning resource which is becoming as important to teaching as the library. Every large university is already providing or is moving in the direction of providing universal network access to all students. UBC must do so in order to remain competitive and credible.

13. The University should start an ongoing program to bring high speed networking capabilities to the major classrooms and laboratories in the University.

The learning infrastructure at UBC is based primarily on traditional "talk and chalk" methodologies. Such an infrastructure is not adequate to teach new technologies and does not allow for the use of emerging multi-media capabilities in the teaching of traditional material.

Students have more choices in where they learn both on and off campus, and these choices will expand with the introduction of even more sophisticated and more powerful provincial, national and international networking and telecommunication facilities. UBC must move forward in the introduction of multi-media capabilities in the teaching environment at the University. These capabilities will be delivered over the campus network.

In the 21st century "learning marketplace", UBC must appear to be the best educational provider facilitated and enhanced by the use of information technologies. This is a critical issue if UBC is to to attract and retain outstanding students.

14. The University should implement a program for supplying each faculty member with a workstation.

In order to access and use facilities delivered over the network, academic staff must have a reasonably up-to-date workstation available to them in their place of work. In addition faculty should be supplied with technologies that allow them to teach in the electronic classroom.

This leverages the faculties ability to compete in the worldwide academic electronic community, promotes economies of scale and positions UBC as a competitive academic community.

15. The University should integrate and manage the telecommunications infrastructure, including all intra and interbuilding cable and distribution plant, as a single University-wide entity encompassing voice, video and data components.

In order to achieve a cost effective long term approach to diverse and evolving physical communications support structures, most institutions with a campus setting consider and manage the basic voice, video and data communications infrastructure as a single distribution system with common horizontal and physical distribution, conduits, closets, and transmission mediums. Often such infrastructure is treated, as is the practice in telephone companies, as part of one unified overall end-to-end telecommunications system for investment, costing and recharge purposes. Data and data network functions are typically included with voice aspects in the basic telephone system recharge and investment approaches of a unit like C&C. Similarly cable pulling, phone and network connection add, change and move functions can be addressed by a highly focused and coordinated staff. This fully integrated model parallels those of private sector communications companies as well as other leading universities, and is seen as providing the most cost-effective long term approach to evolving the robust, flexible, universal, cost effective physical communications infrastructure needed by UBC. By the same token most universities have found that the best medium for building, maintaining and operating network communications infrastructure is as an end-to-end approach of providing ethernet connectivity all the way to desktops.

16. The University should streamline the cable installation process by vesting overall authority in one position.

Several people interviewed complained about difficulties they had encountered in having network cables installed in existing buildings. These difficulties

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE COMMITTEE TO REVIEW COMPUTING AND COMMUNICATIONS

appeared to be due mainly to the fact that a number of different departments have a role in network installation projects. These departments include C&C (Network Systems Support and Cable Facilities Services), Campus Planning and Development and Plant Operations. One or more of these units may use external consultants or service providers. Although the individuals involved in each step of the project were considered to be good at their jobs, they did not seem to be able to work together effectively to define, plan and execute projects quickly and efficiently. The cost and scope of projects can vary without the knowledge or involvement of the client for whom the work is being done. The time taken to complete projects can be considerable. These problems must be resolved. One approach would be for the accountable vice president and the Vice President Finance to agree on a single position in C&C which would be responsible for ensuring that cable installation projects are completed in a timely and economical manner; one which reflects the available budget and the needs of the user. The position should have the necessary authority to be able to waive standards where appropriate, and to ensure co-operation between all the parties involved.

17. The University should insist that C&C take advantage of every opportunity to cannibalize and extend existing wiring facilities for campus networking.

Remodeling projects vary widely but each should be creatively and flexibly approached by UBC and C&C with the goal of cost effectively improving the wiring infrastructure with the quick (even "quick and dirty") achievement of universal ethernet access in the area as the driving goal. Given the poor state of wiring in many buildings, C&C must work aggressively and with creativity to leverage the existing in-building voice plant for ethernet connectivity even when it does not fully meet new wiring standards or closet requirements. As resources become available the voice data copper infrastructure should be replaced with high speed links. Special projects in information intensive contexts such as the new Koerner Library should ensure pervasive installation of plug in and fixed ethernet connectivity in all carrels as well as other areas of the facilities.

18. New construction must follow the most recent integrated voice, video and data communications standards. Where possible similar standards should be applied to large scale renovations.

With leadership by C&C, UBC should establish communications systems wiring and distribution standards for new construction that will ensure that occupants of those buildings will enjoy ready and inexpensive access to the full range of networking and communications equipment and capabilities that will become available throughout the life of the structure. This approach is now common in business and in peer institutions throughout Europe and North America and is seen by universities as a key effort in ensuring the long term adaptability and cost effectiveness of their buildings and the programs and operatives which they will house.

19. In areas where no other options exist the University should use analog voice telephone lines with low cost v32 or v42 modems as an interim step to enable access by faculty, staff and students until they can be provided with ethernet connectivity.

Even in cases where it is not possible to provide ethernet connectivity to an individual's office or desktop, it is crucial to ensure that they can participate in at least the most basic elements of a UBC electronic community by using e-mail, web and other services albeit at low speeds. People's access to the greater networked community should not be deferred due to difficulties in providing ethernet services. At the very least this should be provided with dial-in capabilities. However, as dial-up access is intrinsically inadequate to current and future research university standards and applications, UBC should undertake an aggressive long-term program to replace these interim modem connections by providing ethernet access to all desktops as soon as is possible.

20. The TELEcentre should be a service provider with its priorities dictated by the needs of its clients and CET.

There is a great deal of communications, media and technical expertise within Media Services. The leadership and staff are imaginative and are doing a good job in running the unit. The Committee feels that Media Services is appropriately placed in the Computing & Communications umbrella, given its technology orientation and its reliance on the communications infrastructure.

The TELEcentre plays an important role in the promotion and showcasing education technology. Positioning the TELEcentre as an ancillary is not entirely appropriate given that electronic educational technology (EET) is still in its infancy and rapidly evolving, and that adopting such technology is still beyond the capacity of individual departments. To advance UBC to the foreground in EET, there needs to be some central coordination of the application of education technology with priorities set by the clients and Centre for Educational Technology.

21. The PrintShop should promote document standards and provide consultation and advice to its customers.

The PrintShop is the largest division of Media Services and generates approximately 75% of the department's revenue. It has operated successfully as an ancillary. With electronic printing and publishing becoming a more significant component of the printing business, the PrintShop needs to improve efficiency by promoting document standards. The PrintShop should also provide consultation and advice to its customers on desktop publication software.

22. The roles and functions of Media Services and Biomedical Communications should be re-examined to determine if there are opportunities for alignment.

Although the possibility of merging Media Services and Biomedical Communications was examined in 1993, the Committee feels that there exists certain common functions within the two units (e.g. photography and video production) and changing economic conditions may warrant a revisit of the issue.

23. The UBC Press should not be designated an ancillary service expected to recover its full costs and, moreover, should be provided with a modest subsidy to support select publication priorities.

24. As an important intellectual enterprise, the Press should more appropri-ately report to the Vice President, Student & Academic Services independently of Computing & Communications, as does the Library, or alternatively to the Vice President, Academic & Provost.

25. The possibility of the Press becoming the university press of B.C. sustained by a consortium of provincial universities should be explored.

The UBC Press is extremely well run and has controlled its costs well. It has expanded its mandate and increased its influence as one of the nation's major publishers of academic work. It has also succeeded in publishing works of interest to a wider audience. However, it has incurred significant reductions in subsidies from the University and government granting agencies. At the same time, as an ancillary service it is expect to recover fully its costs. These constraints seriously undermine its viability. It should be re-emphasized that university presses throughout North America are commonly substantially subsidized.

H. Appendices

1. *Definitions*

ACIT - The Advisory Committee on Information Technology was established to review and coordinate the use of IT at UBC. Its mandate includes computing and data processing, as well as voice, video, and data communications in support of teaching, research, and administrative activities.

CET - The Centre for Educational Technology is an initiative of the Deans reporting to the Provost. Its mandate is to advance the use of information technology in teaching, learning and research.

C&C - Computing and Communications; the umbrella unit which includes University Computing Services (UCS), Telecommunication Services, Media Services and UBC Press.

Dial-in -access - A method of connecting two computers over a phone line. Each computer requires a modem. The speed of data transfer is considerably slower than ethernet.

EET - Electronic Educational Technology; this involves the use of computing and related technologies in the support of teaching.

Ethernet - A standardized way of connecting two computers together thereby establishing a network. Ethernet theoretically transmits data at the rate of 10 million bits per second (10Mbps).

Ethernet card - hardware which is installed in a computer to support an ethernet connection.

Mbps - stands for million bits per second; a measure of the speed at which data can be transmitted.

Modem - a device that converts signals the computer understands into signals which can be accurately transmitted over a telephone line to another modem. Computers use modems to talk to each other.

IT - Information Technology; this encompases computing and voice, video, and data communications.

UCS - University Computing Services; a part of C&C.

V.32 - a standard for modems which permits communication at up to 9600 bps.

V.42- a standard for modems which incorporates error control and supports data compression.

2. *List of Written Submissions*

Ed Auld, Professor, Department of Physics & Astronomy
Jean Barman, Professor, Department of Educational Studies
John Demco, Computing Facilities Manager, Department of Computer Science
Margaret Ellis, Coordinator, Centre for Educational Technology
Jim Hu
Judith R Johnston, Director, School of Audiology & Speech Sciences
Susan Mair, Manager/Senior Consultant, University Computing Services
Sara McIntosh, President, Thunderbird Resident's Association
Sham Pendleton, Registration Administrator, Office of the Registrar
Brian Sieben, Resident at Thunderbird
Glen Skene, MIS graduate student
Peter Ward, Head, Department of History

3. *List of Persons Interviewed*

Ed Auld, Professor, Department of Physics & Astronomy
Tony Bates, Director, Distance Education & Technology
Rainor Beltzner, KPMG
Bob Bruce, Director, Education Computing
Bob Carveth, Director, Science Communications
John Chase, Director, Budget & Planning
Mike Davies, Associate Dean, Applied Science
John Demco, Facilities Manager, Computer Science
Greg Fahlman, Professor, Astronomy & Geophysics
Eoin Finn, KPMG
Ian Franks, Director, Media Services
Bob Goldstein, Vice Chair, Advisory Committee on Information Technology
Doris Huang, Netinfo Coordinator
Maria Klawe, Vice President, Student & Academic Services
Rolf Kullak, Electrical Engineer, Plant Operations
Jack Leigh, Executive Director, Computing & Communications
John Madden, Rogers Cable representative
Janet McGregor, Chief Information Office
Peter Milroy, Director, UBC Press
Jock Munroe, former Vice President Academic, Simon Fraser University
Mary Risebrough, Director, Housing & Conferences
Rob Reid, Manager, Financial Planning, Computing & Communications
Bernie Sheehan, President, Technical University of British Columbia
Glen Skene, MIS graduate student
Julie Stevens, Netinfo Coordinator, Library
Jim Tom, Director, Telecommunications
Peter Ward, Head, History Department
Nancy Wiggs, Faculty of Law representative
Bob Woodham, Head, Computer Science

Forum

Some ideas about teaching

By Lee Gass

Lee Gass has taught first-year biology at UBC since 1974 as well as a human ecology course for non-scientists. A former member of the Science One teaching team, Gass is currently seconded to the Faculty of Science as a general consultant to the biology program.

One operating principle in science is that it is easier to solve problems if we know what they are. I believe that it is not yet time to reinvent lower-division teaching of science because we have not yet agreed on the problems we must solve or what we want our students to take with them when they leave us. More basically, we have not yet identified principles by which we could reinvent educational programs in the Faculty of Science. To this end I will suggest some very basic ideas about teaching and learning in general, and about teaching and learning science.

Limitations of human memory capacity make it impossible to remember large amounts of unrelated information. Among many other things, what we mean by intelligence rests on the ability to discover, remember, and use relationships among facts, "chunking" large information sets into manageable units.

It is useful to consider that the fundamental unit of understanding is not the fact but the relationship, and that "scientific memory" comprises a network of such relationships. One implication is that we remember the facts of scientific arguments by remembering the logical structure in which they reside. I suggest that when people remember scientific details for more than a few days, they often remember the structure and make up the details. (I do.)

To illustrate a logical structure by exposing students to it is not the same as to develop it. For a teacher to develop an argument is not the same as for a student to develop it. These points are subtle, but they are important to consider if we expect students to develop scientific arguments.

Many issues converge on this point. Most importantly, students must not think of arguments as noun-like objects that can exist in completed form, but as a verb-like communicative process, arguing, through which they can convince people. The metaphor of lawyers arguing in court usually makes this distinction clear to them, especially when they realize that we are the jury that they must convince in the end. It is worth considering that a basic unit of process in teaching may be the argument.

Two ways to develop logical structures can be called inductive and deductive. In the inductive approach, students confront sets of information and later confront a structure that unifies them.

In practice, the instructor "zooms out" from the details toward an integrated view of them. In the deductive approach, the instructor "zooms in" from global to increasingly local views of a phenomenon.

Science, as practiced by working scientists, requires both deduction and induction. To the extent that our own scientific ability rests in our performance of these operations, our objective must be for our students to perform them as well. This implies that in every science course, both teachers and students perform both operations repeatedly.

Students from incoming undergraduates to incoming graduate students have little experience of either induction or deduction in my experience. They find comparisons of all kinds difficult, usually for lack of simple linguistic structures (they do not understand what comparison is!), and find logical argumentation much more than difficult. If we are serious about argumentation, we must help students learn simple linguistic tools for comparison and simple logical structures such as syllogisms to help them link statements into trains of thought. We must teach them the power of simplifying assumptions: none of these things are obvious to the uninitiated.

Whether or not we blame others for failing to provide these tools, they didn't and so we must. If our revolution is a serious one, we must accept that things like this do not merely support learning the material; they are integral to the material and cannot be separated from it. If you doubt this, just consider the contingency of results on methods and experimental designs in your own work as a scientist.

Students have rarely had to make arguments at all, let alone formally and rigourously. Our students must begin sometime, and someone has to help them.

Students will risk their ideas in public as soon as they trust that their public wants to hear them. The first component of this "public" is us, because we hold such great power to discourage active, creative thought.

That we hold this power is known to all students before they meet us, and they believe it strongly because teachers before us have used it against them. (In a more cynical incarnation, I believed that the single most effective contribution of teachers to students is to destroy creative thought.) The fact is that most of our students suffered horribly from exactly this power for a long time before we meet them, if only through neglect. Unless we are very careful they will continue to suffer at our hands.

Gass

Liquid Line-Up

Students who lined up to buy parking passes during the first week of classes experienced Vancouver's liquid sunshine and enjoyed liquid refreshments provided by Parking and Security Services. Parking Manager David Miller said more than 1,000 parking passes were sold during the week. "We thought putting out the free drinks would help make the line-up a little more pleasant," he said. Students who waited until the second week of classes had much better luck with the weather.

Pros and cons of ethics topics for class debate

by Stephen Forgacs

Staff writer

Should a tobacco firm aggressively market its products abroad or to specific social groups such as females and youth to compensate for otherwise declining demand? Should multinational firms apply the same ethical, safety and environmental standards in all countries in which they operate?

These are a few of the questions Bernhard Schwab, a professor in the Faculty of Commerce and Business Administration, has his students in the BCom and MBA programs debate to ensure they consider ethics as an important component of management decisions.

Decisions based on good ethics sometimes entail costs, says Schwab—costs that may make unethical behaviour attractive in some cases.

Schwab recently published an article in the *Strategic Management Journal* challenging a University of Michigan professor's position that being ethical is invariably good for business.

"Unfortunately life is more complex, and the view that ethical behaviour is always the most profitable one is too simple," says Schwab, who is not an ethicist but includes discussion of ethics in the context of business strategy. "If good ethics were always good for business, we would require much less in terms of laws, regulations, and enforcement than we typically observe in our societies."

Being ethical is something that you may pay a price for, both in personal life and in business, Schwab says. Not being tied to a particular code of ethics provides flexibility of choice, and that choice can become valuable. In extreme situations, it could even mean the difference between bankruptcy and survival.

"You should not condone unethical behaviour but one has to recognize that the temptation is there. This temptation often increases under competitive pressure. It is easier to be ethical when you're well off and declaring profits than when you've got water up to here and you may have a chance to save yourself."

Recognizing such temptations, many companies have developed corporate guidelines for ethical business conduct to guide managers and employees as to what behaviour is deemed appropriate.

"Clearly, there may be advantages to the company that portrays itself as striving to be ethical, in that this can build trust with various stakeholder groups. Ethics, however, should not just become a public relations exercise," Schwab says.

"Ideally, ethical conduct should also prevail when nobody sees it, or when there is no tomorrow. Ultimately, ethical behaviour has to be rooted in personal values and the belief that there is more to life and to managing a business than narrow personal or economic gain."

While ethical issues can be complex, particularly in multicultural settings, Schwab gives his students some guidelines they can use to ensure their future business transactions are ones they can live with. These include being comfortable explaining particular decisions to your family, feeling at ease in reading about your business dealings on the front page of a newspaper, and ensuring relationships with colleagues, employees and customers are such that friendship with those individuals could always be possible at a later date.

News Digest

A new set of scholarships will enable some of Canada's most promising students to pursue undergraduate and graduate studies at Cambridge University.

Initially, four scholarships — two undergraduate and two graduate — will be awarded to students admitted to Cambridge for the fall of 1997.

Created by the Cambridge Canadian Trust, the scholarships will fully fund a student at the university, including tuition fees, reasonable living expenses and return travel from Canada to Cambridge once a year.

Applicants must be Canadian citizens or landed immigrants. Candidates will be selected for their outstanding academic achievement, with significant consideration given to extra-curricular achievement in areas such as community service, arts, sports and music.

Scholarships are tenable for one to three years, depending on the program, and are available for any approved course of study leading to a diploma, affiliated degree or research degree.

Application deadline is Oct. 11, 1996. For more information, call the Canadian Cambridge Scholarships Secretariat at (416) 413-4893 or toll-free at 1-800-977-8573. Applicants may also send a fax to (416) 413-4887 or pick-up scholarship application materials at UBC's Awards and Financial Aid Office, Room 1036, Brock Hall, 1874 East Mall.

• • • • •

The Alma Mater Society is going off on a *Tangent* — a new publication that promises extensive coverage of news, issues and events affecting the university community.

The first issue of the bi-monthly, 48-page magazine is slated to appear on campus Oct. 1.

"A magazine format allows us to delve more deeply than existing campus tabloids and newsletters," said editor-in-chief Fran Champagne.

"*Tangent* offers an alternative news source for people who want to know more about UBC research, services and facilities."

Also featured will be items of local and global interest such as human rights, the theme chosen for the magazine's inaugural issue, added Champagne, a Master of Arts student in Education.

Regular departments will include arts, entertainment, mixed media, music, science and the environment.

Tangent is a project of the New Initiatives Fund, established last year with proceeds from UBC's value-added agreement with Coca-Cola. Champagne hopes to have the magazine available on-line by the new year.

Staff is needed including writers and illustrators, as well as people interested in forming an editorial board. For more information, call 822-9084, visit room 249B in the Student Union Building or send e-mail to tangent@ams.ubc.ca

• • • • •

The UBC Library document delivery system was recognized at the Canadian Association of University Business Officers (CAUBO) summer conference in Whistler.

The delivery system won second prize in the association's Quality and Productivity Awards Program. The computer system allows people in other libraries to easily locate and request delivery of UBC library books and journal articles. The system has resulted in reduced paperwork and staff mediation, reduced costs and efficient delivery times of one to three days.

For example, in 1993-94 the number of items delivered from UBC to Simon Fraser University through traditional inter-library lending was 3,347. In 1994-95, the number of deliveries through the new document delivery system rose to 6,958. UBC's unit costs for lending documents decreased from $11.67 in 1991 to $5.15 in 1994.

The delivery system was developed by UBC librarians Ruth Patrick, Heather Keate, Brian Owen, Leonora Crema and David Winter. CAUBO represents more than 90 universities and colleges across Canada.

• • • • •

Continuing Studies is redirecting resources and modifying programs in response to emerging student needs and budget considerations.

New directions include an increase in certificate programs, the expansion of distance education credit and non-credit courses and more international studies.

Continuing Studies will continue to offer non-credit courses in public affairs, history, literature and environmental field studies to reflect the university's commitment to the arts and sciences. Programs such as the Third Age Community of Scholars and the Spring Program for Retired People will also return.

These initiatives have necessitated the reduction or elimination of non-credit courses offered to the general public in science, studio arts and creative writing.

For more information, or to receive a Continuing Studies course calendar, please call 822-1444.

Alan Donald, Ph.D.
Biostatistical Consultant

Medicine, dentistry, biosciences, aquaculture

101-5805 Balsam Street, Vancouver, V6M 4B9

264-9918   donald@portal.ca

Classified

Services

MADRONA SCHOOL. An independent elementary school for academically advanced, well motivated children. Challenging academic program. Modern facility, ten minutes from UBC. 2165 West 10 Ave. 732-9965.

LICENSED ELECTRICIAN living in Point Grey specialising in home repairs and installations. Can fix anything (almost). Reasonable. References. Call Brian 733-3171.

DAYCARE OPENING Full-time. Ages: 2.5 to 5 yrs. University Kindercare Daycare. Pleasant, spacious surroundings, small group. Snacks and tender loving care provided by ECE-qualified staff. 1 blk. from UBC gates. 4595 West 8th Ave. Call 228-5885.

House Sitters

RELIABLE NS GRADUATE STUDENT wishes to house-sit. Will take excellent care of your home, pets and plants. Available October 1. Call Stephane, 734-3513.

THE UNIVERSITY OF BRITISH COLUMBIA

Food Science Head

Applications or nominations are invited from within the University of British Columbia for the position of Head of the Department of Food Science.

The successful candidate will have a record of excellence in teaching, research and service, and have the ability to provide leadership for the Department through a period of anticipated academic and organizational change.

More information is available from Dr. J.F. Richards, Dean, Faculty of Agricultural Sciences, Suite 248, MacMillan Building, 2357 Main Mall, Zone 4, to whom applications or nominations should be sent no later than September 30, 1996.

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

Building a CD-ROM or World Wide Web site?

Wouldn't it be great if...
You could catch significant user interface pitfalls before students actually start using your software?

Wouldn't it be great if...
All that substantial content that you've been creating for your software project could be more quickly and easily accessed by your students?

Wouldn't it be great if...
You could have on your production team an experienced software designer who's designed and built several commercial products?

Well guess what? You can!
Paul D. Hibbitts of Republic Software Design provides user interface consultation and software production services to a variety of clients, with a focus on creating effective user interfaces. Call 730-2466 to get more information or visit **http://www.interchange.ubc.ca/republic/**

Accommodation

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

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

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

Accommodation

MONET'S ROOM. BED AND BREAKFAST. Close to UBC. Close to ocean, shops and restaurants. Smoke-free environment, en suite bathroom. Weekly rates available. Call 734-2921.

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

FULLY FURNISHED 2-3 bedroom house in Kerrisdale to sublet November 1 until March 31 (dates flexible). Gas fireplace, very cosy and comfortable, lots of storage. Ideal for visiting professor. $1500/month. 261-3649.

BROWN'S BY UBC B&B. Comfortable and relaxing accommodation close to UBC in quiet area. Quality breakfasts, queen-sized beds, private bath available. Satisfaction is assured for your friends or professional guests. Reasonable rates. 222-8073.

TWO BEDROOM GROUND FLOOR SUITE 47th and Victoria. $780 incl. utilities NS/NP. Convenient bus and skytrain location. Available immediately. Call 321-1665.

SUBLET JANUARY-JULY Kitsilano 2 bedroom bungalow. New appliances, jacuzzi tub, deck, back yard. Quiet street, near shopping and buses. 10 minute drive to UBC and downtown. Non smoker, no pets. Isabel 731-1686.

BRIGHT 2 BR GARDEN SUITE with high ceilings. Professionally designed and newly completed in heritage house. Full kitchen. Access to laundry. Security system. Heated floors. French doors open on to terrace and beautiful garden. Private entry. NS/NP. Ideal for 1 or 2 quiet people. Kitsilano. $1200 monthly. 730-1812.

COMPLETELY RENOVATED HOUSE for rent in quiet neighbourhood, close to UBC, shops, park. Fully furnished, 4 bedrooms, 3 1/2 bathrooms, hardwood floors, skylights, sauna, fireplace, piano, south deck. No pets, non-smokers. Available January 1 to June 30, 1997. $1,800 per month. Contact Ray Pederson 822-4224 (UBC) or e-mail: pederson@unixg.ubc.ca.

SUNNY FURNISHED BASEMENT SUITE for one person available in private home, South Vancouver, 15 min. bus ride from UBC. Kitchen/laundry facilities and spacious sitting area. Quiet NS/NP. $500/mo. 822-9370 (day), 263-9770 or 266-1390 (eves.)

Events

SINGLES IN SCIENCE. Single people interested in science or nature are meeting through a nationwide network. Contact us for info: Science Connection, P.O. Box 389, Port Dover, ON N0A 1N0; e-mail 71554.2160@compuserve.com; 1-800-667-5179.

Staff photo

Mentor Andrew Gorman, left, a graduate student in Earth and Ocean Sciences, demonstrates one of the principles of physics (what goes up, must come down) as he shares cooking duties with first-year science student Michaela McDonald at the annual Faculty of Science pancake breakfast.

Program rolls out carpet for first-time science students

A pancake breakfast is the traditional kick-off for a Faculty of Science program that introduces new students to faculty members, graduate students and senior undergraduates who will help them adjust to university life.

Each mentor meets with a group of four or five new students throughout the winter session to offer advice on available resources and services and help them feel more comfortable with senior members of the university community.

In large first-year classes, students may feel too intimidated or have too few opportunities to deal directly with faculty members.

Each group is chosen to match the interest of the students with the field of study of the mentors. The students groups reflect a mix of those living in residence, those from outside the Lower Mainland and long-time Vancouverites.

The program is available to all new science students at UBC.

United Way broadens appeal

UBC United Way campaign co-chairs Margaret Sayer of University Computing Services and Theatre Prof. Raymond Hall are reaching out to the extended campus community for help in achieving the 1996 campus campaign goal of $290,260.

More than 6,600 UBC employees emeritii and retirees will be asked to join UBC students, staff and faculty in the campaign that supports a broad spectrum of the Lower Mainland's charitable organizations.

Last year's UBC campaign raised $274,000 towards a United Way 1995 total of $20.8 million.

The United Way supports health care and rehabilitation services, crisis and emergency services, care for seniors, community services, and provides assistance to families and individuals through its 99 affiliated charitable agencies.

The United Way also processes donations for more than 1,000 registered Canadian charities when a donation is designated by a United Way donor. This service is performed at no cost to the receiving charity and is a means through which the United Way promotes philanthropy in Canadian society.

People
by staff writers

Two members of the Faculty of Agricultural Sciences are the recipients of special awards bestowed by their alma maters.

Gerald Straley, research scientist and curator of collections at UBC's Botanical Garden, has been honored with the 1996 Significant Achievement Award from the College of Arts and Sciences at Ohio University.

Straley was cited for his accomplishments at the Botanical Garden and as co-ordinator of the multi-volume *Flora of North America*.

Eleanore Vaines-Chamberlain, an associate professor of Family and Nutritional Sciences, was selected as an outstanding alumna by the College of Human Ecology at Michigan State University.

Straley

Vaines-Chamberlain's research interests include family life in contemporary society and communication in families. She will be presented with the award this fall during special celebration ceremonies marking the college's centennial year.

•••••

Dr. **Ray Baker**, an assistant professor in the Dept. of Family Practice, is one of seven B.C. nominees for the 1996 Manning Awards.

Baker was nominated for the creation of the AMIR (Addiction Medicine and Intercollegial Responsibility) program.

AMIR uses a multidisciplinary team of academics and community-based instructors to train UBC medical students to detect and prevent substance abuse in patients and to motivate them to take part in treatment and recovery programs.

Introduced into the curriculum in 1991, AMIR is the only program of its kind at a Canadian university.

The Ernest C. Manning Awards Foundation is a national, privately funded non-profit organization established to promote the recognition and encouragement of Canadian innovators in all disciplines. Awards range from $5,000 to $100,000.

Award winners will be announced in October.

•••••

Michael Smith is one of 12 prominent Canadians named by Prime Minister Jean Chretien to the newly formed Advisory Council on Science and Technology.

The council, a cornerstone of the recently announced federal science and technology strategy, will report to the prime minister and advise the cabinet's Economic Development Policy Committee.

In its first year, the council will focus on the development of private sector leadership in innovation and the establishment of new partnerships between government and the private sector to address the innovation challenges facing Canadian industry.

Smith

Smith, winner of the 1993 Nobel Prize in Chemistry, is a Peter Wall Distinguished Professor of Biotechnology, a University Killam Professor and a professor of biochemistry.

•••••
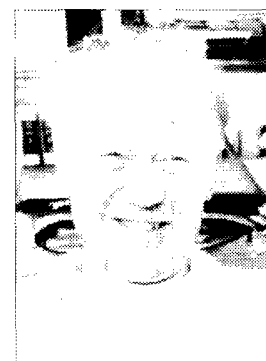
Mary Kelly, a doctoral candidate in the Faculty of Commerce and Business Administration, has been awarded a $10,000 renewal grant to fund her PhD thesis research from the Society of Actuaries. The society awards grants to candidates whose thesis research can make a significant contribution to academic and actuarial literature. Her thesis is titled *An Economic Analysis of the Property-Casualty Insurance Market.* Kelly is one of three recipients of renewal grants in Canada and the U.S. The Society of Actuaries is an international educational, research and professional membership organization with more than 17,000 members in the U.S. and Canada practising in the fields of life and health insurance, investments, pensions and employee benefits.

•••••

Rajesh Krishna, a PhD student in the Faculty of Pharmaceutical Sciences, is one of six graduate students in North America to receive this year's American Association of Pharmaceutical Scientists/Proctor and Gamble award for excellence in graduate research in drug delivery and pharmaceutical technology.

Krishna's research focuses on devising pharmacotherapeutic strategies to overcome the problem of multidrug resistance in cancer.

He will deliver a paper on the topic at the association's annual meeting in October.

Profile

Storyteller of the silver screen

Writing is Prof. Peggy Thompson's passion

by Connie Bagshaw

Staff writer

"When I get excited about something I give it everything I've got. I'm funny that way."

—Lauren Bacall,
Dark Passage (1947)

Creative Writing Prof. Peggy Thompson is funny that way too. Since childhood, she has been giving everything she's got to what excites her the most — writing — a passion that has, over the years, produced works as diverse as Canada's first improvised theatrical soap opera to award-winning films.

Thompson admits that her early attempts at storytelling usually put her audience to sleep.

"I began by making up bedtime stories about a ladybug for my younger sister," she recalls. "They were wildly popular."

So was Thompson's first movie which she wrote and co-produced a decade ago. Titled *It's A Party!*, the short comedy was nominated for a Genie Award (the Canadian equivalent of an Oscar) and took home more honours from the Pacific Northwest Film and Video Festival. In addition to screenings at film festivals around the world, *It's A Party!* has been broadcast on the A&E, PBS and CBC television networks.

A Vancouver native, Thompson was raised in a family that loves to read and holds books in high esteem. An aunt and uncle, both of whom were artists, also influenced her early years.

"They showed me that your life doesn't need to follow conventional paths, that there's room in life for a lot of different choices."

After graduating with a scholarship from Point Grey Secondary School in 1972, Thompson chose to study theatre and film at UBC.

By the mid-1970s, she was busy acting, stage managing and writing radio dramas and plays including *The Bittersweet Kid*, which toured in schools throughout Canada, the United States, Europe, Australia and Hong Kong. A stint as a television series writer for CBC's adventure show, *The Beachcombers*, followed in the early '80s.

Thompson has concentrated on writing primarily for and about film for the past six years, as well as co-producing many of the film projects she's involved with.

Her filmography is scattered with Genie Award winners including *In Search of the Last Good Man*, another short comedy Thompson wrote and co-produced, and *The Lotus Eaters*, her first feature film which captured three Genies in 1995, including one for best screenplay.

Rosamond Norbury photo

Peggy Thompson's first feature film *The Lotus Eaters* received numerous awards and was voted most popular Canadian film at the Vancouver Film Festival. Her latest book, *Hard-Boiled: Great Lines from Classic Noir Films*, focuses on a genre which has intrigued Thompson since childhood.

The Lotus Eaters also took three awards at the Atlantic Film Festival that year and was voted the most popular film at the Fort Lauderdale Film Festival and the most popular Canadian film at the Vancouver Film Festival.

Like her film influences — Scottish director Bill Forsythe (*Local Hero*, *Gregory's Girl*) and the late French film-maker François Truffaut (*Day for Night*, *Small Change*) — Thompson gets most of her inspiration from friends and their life experiences.

"I think that gives the work a feeling of authenticity," she explains. "The art of storytelling is all about making it seem like the story really happened or is happening or could happen to you."

Actual settings, especially ones Thompson is intimate with, also play a major role in her creative process.

"Place seems to be where I start from, whether it's a Gulf Island (*The Lotus Eaters*), an apartment building (*It's A Party!*), a coffee bar, (*In Search of the Last Good Man*), or my new screenplay, *Maggie and Lila*, which is set around a bookstore. Once I know where the characters are, then I can build the story around the feeling of the place."

Thompson describes her own taste in film as "very catholic" — evident in the projects she is currently developing including a romantic comedy, a historical biography and a police series.

Other works run the gamut from *A Girl, Her Motorcycle and A Boy*, a play for high school audiences about teenage alcoholism, to *They Went Thataway*, a book of quotations from Hollywood Westerns being co-authored with Saeko Usukawa and slated for publication in 1997/98.

Thompson's latest book is *Hard-Boiled: Great Lines from Classic Noir Films*, also written with Usukawa.

A collection of more than 300 lines from about 150 films, *Hard-Boiled* is described by Lee Server in her introduction to the book as "a glamorous and handy round-up of the unrestrained words of the drifters and dreamers, lovers and killers whose lives are the stuff of film noir."

It's a genre that has fascinated Thompson since watching her first film noir at about the same time she started telling bedtime stories. Coincidentally, the film was *The Big Sleep*, with Humphrey Bogart and Lauren Bacall, but it wasn't the title of the movie alone that got her attention.

"I remember it very well. I was about 12, it was a Saturday afternoon, I was in the rec room.

"I think what drew me to the film was that everything about it felt dangerous: the sexiness of it, the mystery, the actors' personas, the world of the film, the presence of evil. It was a tremendous contrast to the safety of my 12-year-old world."

Thompson adds that it's the pro-foundly visual expression of film noir, the questions it raises about morality and its exploration of evil that continue to hold her fascination.

"It's the fact that morality and nobility, when they're found in these films, come from the most unlikely places — the B-Girl played by Gloria Grahame in *The Big Heat*, the grifter played by Elisha Cook Jr. in *Murder My Sweet*. Although the films are black and white, they really explore the shades of good and evil."

Although she didn't plan a career in screenwriting, Thompson enjoys what she does and considers herself lucky to be able to do it.

"It is competitive, difficult, heart-breaking and very exciting."

That's the mantra she repeats to students when they ask her advice about a career in writing.

Thompson strives to give students in her screenwriting course at UBC the courage of their convictions which, she says, is necessary to pursue writing professionally. She also attempts to invoke in them a feeling for who their audience might be and how to reach them.

"I try to do that by supporting students in their creative work, developing their vision as far as they can take it, and assisting them in getting their work out into the community."

One of Thompson's students recently received a commission from the CBC based on a screenplay she developed in class. Another student was honoured with a 1996 National Screen Institute Drama Prize to produce a short film derived from a script which also started as a class project.

When Thompson isn't in a classroom teaching, she's in one learning and collaborating with peers, something she did recently at the Canadian Film Centre based in Toronto.

While attending a workshop at the centre this spring, she had the opportunity to develop her police series with British producer Paul Marcus of *Prime Suspect* fame and with Jeff King, the writer and producer of *Due South*.

In between writing, producing, teaching and professional development, Thompson has found time to make her directing debut with *Broken Images*, an art documentary about conceptual photographer Michelle Normoyle. The film has been selected for screening at this year's Vancouver Film Festival taking place Oct. 4-20.

The pace she sets for herself is dizzying, something that makes it easy for Thompson to lose track of time. She woke up one day last February and thought it was May. She laughs at the recollection.

"Having a sense of humour is the only way to survive in this industry."