

UBC Reports

Volume 28, Number 15

July 7, 1982

Research is a growth industry at University

NSERC grants higher

Grants to UBC researchers from the Natural Sciences and Engineering Research Council for 1982-83 are up nearly 20 per cent over last year.

Grants for new and on-going projects in 1982-83 will total \$11,616,964, an increase of \$1,889,964 or 19.43 per cent.

In addition, NSERC has approved awards for postgraduate study totalling \$2,430,200 for students enrolled at UBC or students who are now enrolled at other universities and intend to pursue graduate work here.

Post-doctoral fellowships, each worth \$21,000, have been awarded to 16 students; 183 will receive postgraduate fellowships, each valued at \$10,500; and 11 students will receive Science '67 fellowships, each worth \$15,700, for study at UBC.

The awards announced by NSERC total \$151.5 million; \$128 million for research and \$23.5 million for awards to students for postgraduate study.

Seven UBC faculty members received first-time research awards in excess of \$60,000. NSERC will renew the grants for similar amounts in two succeeding years, providing funds are available. Here are brief descriptions of the projects.

Prof. Peter Hochachka, Zoology — \$96,000 for research on the ways in which animals and humans adapt to varying oxygen supply at the cellular and sub-cellular levels.

Prof. R.R. Haering, Physics — \$80,720 for studies on intercalation batteries.

Prof. J.E. Phillips, Zoology — \$68,000 for studies of membrane transport processes, their hormonal control and the physiology and osmoregulation in insects.

Prof. Walter Hardy, Physics — \$65,140 for research on atomic hydrogen at low temperatures.

Prof. Paul Gilmore, Computer Science — \$64,500 for support of a laboratory for research on experimental program languages, data communications and operating systems.

Prof. David R. Jones, Zoology — \$61,000 for studies on the control of cardiovascular and respiratory responses in diving birds and animals.

Prof. Geoffrey Scudder, Zoology — \$61,000 for research on "true" bugs, insects with piercing and sucking mouth parts.



Profs. Robert Miller, right, and Douglas Kilburn . . . recipients of \$1 million grant.

Million to cancer workers

In the midst of debate over methods to retrieve universities and the country from economic stagnation, one area of UBC life continues to prosper.

Research is a growth industry at UBC. Recent events underline the continuing growth of quality among UBC faculty and their success in winning, in competition with other universities, major research grants from outside agencies.

Profs. Robert Miller and Douglas Kilburn have received a \$1 million grant from the Terry Fox special initiatives program designed to stimulate innovative cancer research.

Their research will aim at enhancing the biochemical signals which activate the body's immune system to destroy invading cells. Part of the reason the body's immune system fails to effectively deal with cancer cells is presumably because the biochemical signals or "helper factors" aren't strong enough to turn on the defence system.

The team plans to use gene cloning to produce quantities of helper factors large enough for their effectiveness to be tested in animal trials.

Dr. Miller is head of UBC's microbiology department and is also a professor in the medical genetics department. Dr. Kilburn is a professor in UBC's microbiology department.

They already have a sound track record in gene cloning. A few months ago they successfully cloned a gene for an enzyme which will convert renewable waste products such as sawdust and straw into the sugar glucose. The glucose could then be fermented into plastics and alcohol for use as a fuel. Their Terry Fox special initiatives grant is the only one to be issued this year.

In another recent development: the Medical Research Council (MRC), the premier funding agency for medical research in Canada, concluded a week-long visit to UBC by announcing four new areas of priority for council funding.

Special consideration will be given by the council to applications from Canadian universities for funding in biotechnology (manipulation of genetic material), and for use of ultra-sophisticated equipment to produce images of what is going on inside the human body. The council will also fund a series of special conferences to increase the effectiveness of research in treating disease and it will provide five-year, full-time research positions within universities.

At an MRC news conference announcing the four areas of priority, Dr. Louis Simonovitch, council member and president of the National Cancer Institute of Canada, praised UBC's progress in biotechnology. He singled out Prof. Michael Smith of UBC's biochemistry

Please turn to page 2
See RESEARCH

Summer workloads are heavier

Students enrolled in UBC's 1982 spring and summer sessions have taken on heavier academic workloads than in the past.

Dr. Norman Watt, director of UBC's extra-sessional studies office, said the number of students registered in the 1982 spring and summer sessions rose only slightly over last year's figures, but there is a marked increase in the number of units taken per student.

"There are a lot of regular, winter-

session students attending the spring and summer sessions this year," said Dr. Watt. "Many of them are trying to accelerate their programs, and some students are continuing their studies over the summer because they can't find jobs."

More than 4,000 students are enrolled in some 350 summer session courses, which began Monday and continue until Aug. 14. Enrolment for the 1982 spring session totalled 3,600 students, an increase of about 70 students over last year.

The Summer Session Association, headed by Cindy Lam and Michael Grice, has a continuing series of events planned for people on campus in July and August. The popular Summer Screen and Summer Sounds series are among the activities being organized.

For information about summer activities, check bulletin boards around campus, or drop by the Summer Session Association office in room 100A on the main floor of the Student Union Building. Events will also be listed in the "UBC Calendar" section of this paper, which will appear on July 21 and Aug. 4.

Board hears Julius Kane appeal

A decision by UBC's Board of Governors on an appeal by Prof. Julius Kane against the 18-month suspension without pay and benefits imposed on March 1, 1982 will not be made public until Dr. Kane and UBC president Dr. Douglas Kenny have been informed of the decision in writing.

The suspension, which runs until Aug. 31, 1983, was imposed by President Kenny on the recommendation of a three-member

hearing committee established under the terms of the University's agreement with its Faculty Association on the terms and conditions of employment.

Prof. Kane was entitled to appeal the president's action under Section 57 (3) of the University Act.

The Board heard Prof. Kane's appeal at its regular meeting yesterday (July 6).

Pulleyblank wins Biely prize

Few of man's accomplishments are more wrapped in mystery than the creation of language, the chief means which humans have for expressing their thoughts and feelings and something most people take for granted.

Interest in how man went about creating language has expanded enormously in recent years and one of the frontier thinkers in the field is Prof. Edwin Pulleyblank of the Department of Asian Studies, who has been named the winner of UBC's top research prize for 1982.

As the recipient of the \$1,000 Prof. Jacob Biely Faculty Research Prize, Prof. Pulleyblank is being honored for more than 35 years of contributions to the disciplines of Chinese history and linguistics, fields in which he has a reputation as one of the world's leading scholars.

Prof. Pulleyblank's interest in the origin of language is an outgrowth of his research on Chinese linguistics, particularly his pioneering studies in reconstructing the pronunciation of ancient Chinese, which he began while professor of Chinese at Cambridge University in England from 1953 to 1966.

A native of Calgary, where he was born almost 60 years ago, Prof. Pulleyblank began his academic career at the University of Alberta, where he received his Bachelor of Arts degree with honors in classics in 1942.

After war work with the National Research Council in Ottawa and in England, he was awarded a Chinese government scholarship for study at the University of London, where he received his Doctor of Philosophy degree in Chinese history in 1951.

Four years later, his Ph.D. thesis was published by Oxford University Press under the title *The Background of the Rebellion of An Lu-shan*.

This volume has been described as a seminal work on the T'ang dynasty, which ruled China from the 7th to the 9th century A.D. and which is regarded as one of the highpoints of Chinese history, both in terms of imperial power and culture.

The An Lu-shan rebellion occurred in the middle of the T'ang dynasty and divides it in two. An Lu-shan, it turns out, was a foreigner of mixed Iranian and Turkish extraction, which led Prof. Pulleyblank to take a more than passing interest in foreign connections and influences in ancient China.

His involvement in Chinese linguistics resulted from a combination of teaching the language and problems associated with identifying names in ancient Chinese script.

One of the main problems he's tackled over the years is reconstructing the way in which Chinese was pronounced in ancient times. He's been able to make a good deal of progress in this area by pouring over rhyming dictionaries published in China from 600 A.D. on.

The Chinese used rhyme in their poetry and the ancient dictionaries give the sounds used to pronounce words which sounded similar but which had totally different meanings.

Still highly problematical is any attempt to reconstruct pronunciation in, say the time of Confucius (500 B.C.) or the beginnings of Chinese civilization more than 1000 years earlier.

Prof. Pulleyblank plans to continue his attempts to reconstruct the pronunciation of Chinese earlier than the T'ang dynasty because of the possibilities that exist for linking Chinese to other languages, such as the group known as Indo-European, which includes English.

The chances of linking Chinese to other languages will be significantly improved if scholars like Prof. Pulleyblank can successfully reconstruct the pronunciation of the language as far back as the second millennium B.C.

"We know that Chinese is related to Burmese and Tibetan," he says, "and I have a strong suspicion that Chinese is

related to Indo-European languages.

"That may sound far-fetched when you compare modern Chinese to any Indo-European language, but the kind of framework that I have reconstructed for early Chinese and the kind of structure one encounters in the Indo-European languages have some striking similarities. There are individual words that one can connect in both languages.

"When the Chinese first moved into Central Asia in the second century B.C., they encountered the Tocharians, a now extinct people who spoke an Indo-European language. Though we do not yet know how long the Tocharians had been there, there is no reason to believe they were recent arrivals and it is quite likely that the Chinese and Indo-Europeans had been neighbours for a very long time."

All of this scholarly activity has led Prof. Pulleyblank to speculate on how man came to invent language.

His interests lie in an area that academics describe as the "origin of duality



Edwin Pulleyblank

of patterning in language," which Prof. Pulleyblank says boils down to the idea that you can use a limited number of sounds which are organized to express an unlimited number of words.

"If you begin by imagining the easiest and most natural way of inventing language," says Prof. Pulleyblank, "it seems logical to assume that man first invented a sound that corresponded to a whole word, rather than to part of a word."

"That's what the Chinese did in terms of writing their language. They invented characters, pictures of a whole word. I've been speculating on how one gets from using sounds that represented ideas to sounds that represented only parts of words.

"My theory is that man started with individual sounds, but they were all consonants. To take a simple example, the consonant sound 'shhhh' means keep quiet. But if you link two 'shhhh's' with the vowel, 'u,' you get shush, which is a word that also means keep quiet.

"So the theory, to put it crudely, is that you start with consonants and derive the vowels as connectors. In a more sophisticated form the hypothesis, which is derived from my research in historical linguistics, is about the nature of the distinctive features which are used in all languages to differentiate the sounds that form words."

Prof. Pulleyblank last year gave a paper outlining his theory to a conference on the origin of language sponsored by UNESCO. He fully expects that when the conference proceedings are published he'll have plenty of supporting — and dissenting — views to consider.

But that, he hastens to add, is how ideas are tested, revised and, eventually, confirmed in academic circles.

Prof. Pulleyblank is the 13th winner of the Biely prize, which was first awarded in 1969. It was established by George Biely, a well-known figure in the B.C. construction industry, in honor of his brother, Prof. Jacob Biely, an internationally-known poultry scientist whose association with UBC spanned half a century and who died in June, 1981.

Space & AV reorganized

UBC has appointed a new director of audio-visual services and reorganized the former Department of Space and Audio-

Research

continued from page 1

department. Prof. Smith, he said, could work at Harvard, M.I.T., or any other prestigious university he wanted and doubtlessly received job offers routinely.

MRC president Dr. Pierre Bois, in announcing the new areas of support, referred to two new methods of obtaining three-dimensional images which for the first time will show what is happening inside the human body at a microscopic level. UBC is already well on its way to becoming the leading centre in Canada in the use of the two devices — positron emission tomograph and nuclear magnetic resonance scanners.

UBC faculty are also succeeding in attracting research funds from the Natural Sciences and Engineering Research Council (NSERC), the federal cousin of the MRC.

Grants to UBC professors from NSERC in 1982-83 will total \$11.6 million, an increase of almost 20 per cent.

Two months ago UBC, in competition with more than 60 other universities across Canada, took three of eight medals awarded this year by the Royal Society of Canada for outstanding discoveries during the last 10 years.

The total amount of research funds from all sources for the University in 1981-82 was \$44.9 million, an increase of more than 11 per cent from \$39.3 million for the previous year.

Visual Services.

Effective July 1, Ian T.W. Franks, former co-ordinator of A-V Services in the Faculty of Education, became director of audio-visual services for the University.

In his new post, Mr. Franks will supervise the graphics, photography, productions and equipment rentals and repairs sections of the former space and A-V services department, which continues to occupy space on the third floor of the Library Processing Centre.

He will also co-ordinate campus activities initiated by faculty members for the Knowledge Network of the West (KNOW), which has its headquarters in the same building.

The space-booking function formerly assigned to the department has now been moved to the Registrar's Office in the General Services Administration Building (rooms 208 and 210).

Campus phone numbers for space bookings listed in the yellow pages of UBC's telephone directory under Space and A/V Services remain the same, except for bookings for Cecil Green Park. These are now handled by the UBC Alumni Association (local 3313).

Other wrinkles involved in the reorganization of the department are:

The space inventory function has been assigned to the Office of Institutional Analysis and Planning (local 5611); and

The University's Film Library will remain in its present quarters on the third floor of the Library Processing Centre but is now part of the UBC library system.

CAMPUS PEOPLE

C.O. "Chuck" Brawner, associate professor of Mining and Mineral Process Engineering, is the first Canadian to receive the Distinguished Member Award of the Society of Mining Engineers, a constituent society of the American Institute of Mining, Metallurgical and Petroleum Engineers.

The award goes to a select few who have distinguished themselves by outstanding contributions to the technology or professional activities of the society. Mr. Brawner will be installed at meetings of the SME scheduled for Sept. 9 in Honolulu.

★

Dr. Christopher Friedrichs of the UBC history department was awarded the Wallace K. Ferguson Prize, which carries with it a cash prize of \$2,000, at meetings of the Canadian Historical Association in Ottawa in June.

The prize is for an outstanding scholarly book in a field of history other than Canadian published in the two-year period Jan. 1, 1979 to December 31, 1980. Dr. Friedrichs received the award for his book, *Urban Society in the Age of War: Nordlingen, 1580-1720*, published by Princeton University Press in 1979.

★

The new president of the Classical Association of Canada is Prof. J. Allan Evans of UBC's Department of Classics. He was elected at the association's annual meeting early in June in Ottawa.

★

Norman Young, a UBC graduate who has been a member of the Department of Theatre since 1960, has been named to the Canada Council, which makes grants to support the arts in Canada.

Mr. Young, who has just retired as chairman of the B.C. Arts Board, has a long list of credits in the arts in this province. He is executive director of the B.C. Festival of the Arts and chairman of the Vancouver Civic Theatres Board which manages the Orpheum and the Queen Elizabeth Theatre and Playhouse. He's also a member of the City of Vancouver's 1986 Centennial Commission.

★

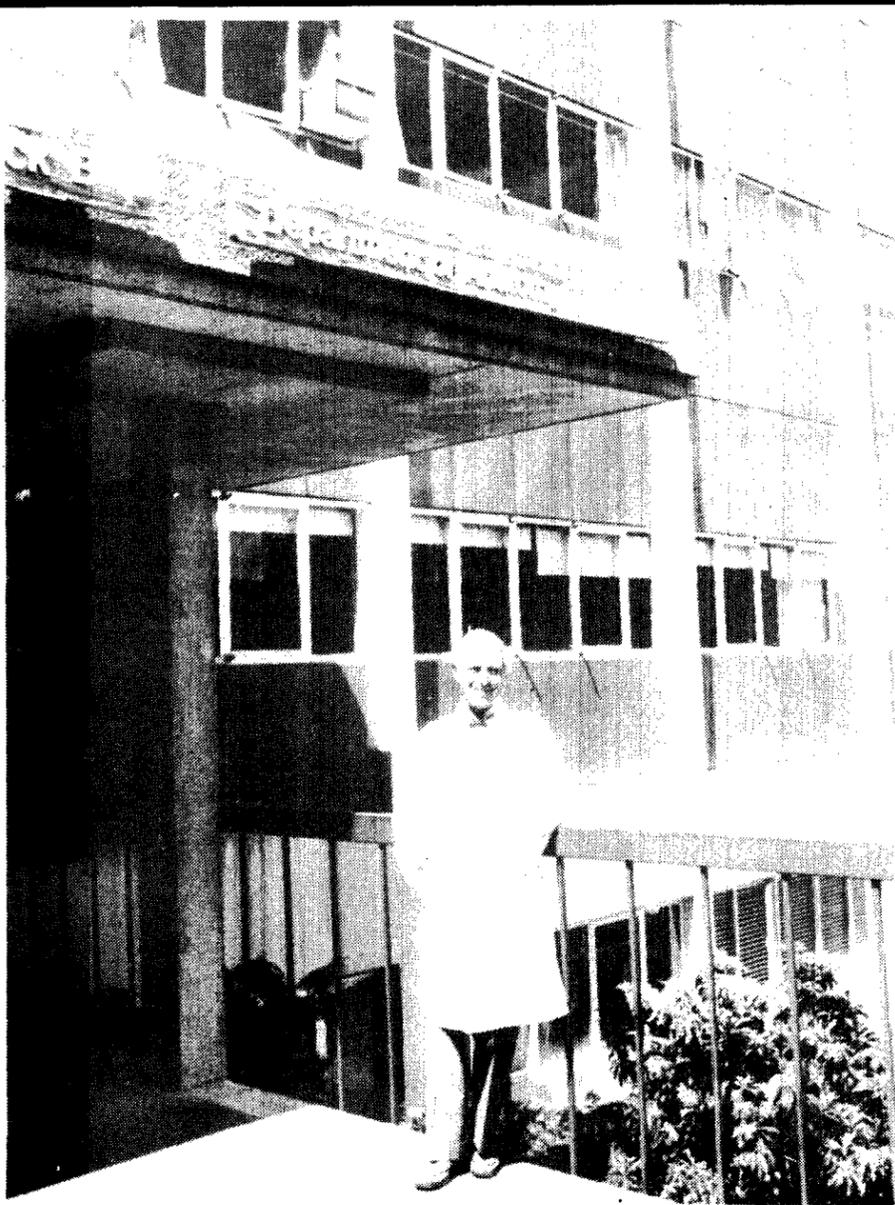
Two graduate students in the Faculty of Commerce have been honored by professional organizations.

Patricia Brennan, a Ph.D. student, received the "Best Student Paper" award in the finance division of the Administrative Sciences Association of Canada in Ottawa in May. Her paper was entitled *A Test of the Arbitrage Pricing Theory*.

Tom Muller, who was awarded a Ph.D. degree by UBC at Spring Congregation in May, won two prizes in the annual Administrative Sciences Association of Canada doctoral competition for his dissertation *Information Load at the Point of Purchase: Extending the Research*. ASAC conferred on him its award of excellence and his second distinction was the award of excellence of Publicite Foster (Quebec) Ltee.

★

Marjorie D. Hamilton, a secretary in UBC's Faculty of Law, retired on May 31 after 20 years as a member of the University's support staff. She joined UBC in 1962 as a secretary in the office of inter-faculty affairs and subsequently worked for the School of Nursing, the personnel department and the Centre for Continuing Education before joining the law faculty in 1976.



Block B of UBC's basic medical sciences buildings is now known as the Friedman Building, in honor of Dr. Sydney Friedman, the first professor appointed to UBC's medical school when it was organized in 1950 and head of the Department of Anatomy until his retirement from administrative duties in 1981. Appropriately, the building houses the department he headed for more than 30 years and where he still remains active as a teacher and researcher. He was recently honored by the Canadian Association of Anatomists, which presented to him the J.C.B. Grant Award "in recognition of meritorious service and outstanding scholarly accomplishments in the field of anatomical sciences."

Two former faculty die

Two former UBC faculty members died in June.

Dr. Brock M. Fahrni, former director of UBC's School of Rehabilitation Medicine, collapsed at home and died June 9. A memorial service was held June 14 at the Kitsilano United Church.

A former professor in the Faculty of

Service today for Moran

A memorial service for Prof. Louis Moran of UBC's psychology department, who died June 13 at the age of 60, will be held in the recital hall of the Music Building today (July 7) at 2 p.m.

Prof. Moran, who joined the UBC faculty in 1969, was also associate dean in the Faculty of Graduate Studies.

A native of New Orleans who had become a Canadian citizen, Prof. Moran was a graduate of the University of Texas, where he received his Bachelor and Master of Arts and Ph.D. degrees.

He also taught at the University of Texas for a total of 12 years until 1969, when he came to UBC. His research field was cognitive development and he was the author or co-author of some 50 publications in the field.

Prof. Moran is survived by his wife, Frances, a son and three daughters. Remembrance gifts to the Cancer Control Clinic, 2656 Heather St., Vancouver, have been suggested by the family.

Forestry, Prof. Robert Wellwood, was killed in a traffic accident June 8 near Lytton. There was no service at his request.

Both men had long associations with the University.

Dr. Fahrni was born in 1913 in Manitoba and took his M.D. degree from the University of Manitoba in 1938. He did his residency at VGH and did postgraduate study at the Mayo Clinic and at the National Hospital in London.

He joined UBC's Faculty of Medicine in 1952 and was appointed associate professor in the faculty in 1960 to establish the School of Rehabilitation Medicine. The school was formed the next year and Dr. Fahrni was its first director. While at UBC Dr. Fahrni was a pioneer in the field of chronic care for the elderly. He retired in 1978.

Prof. Wellwood was born in Victoria in 1912 and took a Bachelor of Applied Science degree in forestry engineering with first class honors from UBC in 1935. He took a Master's degree in 1939 and a Ph.D. in 1943 from Duke University. He joined UBC's Faculty of Forestry in 1946.

Prof. Wellwood's area of expertise was wood science and utilization. He did extensive research on Canadian forest resources. On behalf of numerous development organizations such as the Canadian International Development Agency and the World Bank he consulted on developing forest industries in Nigeria, Venezuela, Ghana, Mexico and other countries.

Prof. Wellwood retired in 1977.

Board votes \$500,000 for more student aid

President Dave Frank and vice-president Cliff Stewart of the Alma Mater Society asked the Board of Governors Tuesday (July 6) for \$500,000 in additional student aid, and got what they asked for.

The Board voted that \$250,000 be made available immediately to augment the Employment Opportunities for Youth Program (formerly the Youth Employment Program) and that \$250,000 be used to hire students under the Work Study Program in the 1982-83 winter session. Under this program, students are allowed to work a maximum of ten hours a week.

In approving the \$500,000 increase in student aid, the Board also decided that any money not used in either of the work programs be used to provide additional bursaries.

The Board emphasized, however, that the \$500,000 is non-recurring money, to be used only for the 1982-83 year.

In addition to the \$500,000, the Board also directed that the director of financial aid "provide a report to the president after registration has been completed in September, 1982, for the president's assessment, review and recommendation to the Board as to whether further funding should be provided to assist needy students in the second term of the winter session 1982-83."

The \$500,000 increase in aid to students follows an earlier increase this year of close to \$1 million. When tuition fees were increased in January, the Board of Governors voted to put \$921,000 into a student bursary fund.

The appearance of Frank and Stewart before the Board of Governors followed a June 18 letter from the AMS to the Board in which concern was expressed because of the surplus announced by the University at the end of the 1980-81 fiscal year.

In addition to the request for more student aid, the letter called for retrenched funds to be returned to faculties, that efforts be made to reinstate employees who lost their jobs because of financial cutbacks, that a study be made of student accessibility to UBC, that improved planning be implemented, and that tuition fees be frozen at the 1982-83 level for at least one year.

In making his case for improved funding for the Work Study Program, Stewart noted that UBC last year hired only 150 students, all of them in the library, at a cost of \$93,000. He said 301 students were

hired under the same program at the University of Victoria.

Stewart asked that \$30,000 of the \$250,000 in additional funding be used for a widespread advertising program to let students know that more part-time jobs would be available.

He noted that as of the beginning of July there were 1,200 more applicants for student aid than there were last year.

Top coaches spend time on campus

The athletic department's new coach-in-residence program began on June 19 when former Soviet national hockey coach, Anatoly Tarasov, and Soviet head of player development, Yuri Korolev, arrived at UBC for a two-week stay.

The visit is part of the three-year, \$45,000 program sponsored by Molson Breweries which has as its intention to bring to British Columbia world-class coaches in a variety of sports.

To oversee the project, Dr. Bob Hindmarch, executive director of Athletics and Sport Services, has appointed Thunderbird rugby coach Donn Spence as director of the program and has indicated that three or four such coaching delegations will be visiting UBC each year.

"Donn Spence has many international and provincial sports contacts and he'll be in charge of bringing in and setting up the itineraries of the incoming personalities," Dr. Hindmarch said.

"Historically, Canadian universities have been the centre of these types of programs and it is one of our policies to encourage excellence in sports development in British Columbia. To that end, we are very thankful for the assistance and commitment Molson's has made to make this sport program a success."

During their two-week stay, Tarasov and Korolev gave lectures and seminars in Vancouver and around the province in association with the British Columbia Amateur Hockey Association.

The next installment of the coach-in-residence program is expected to see a hockey delegation from Czechoslovakia come to UBC in September or October.



A group describing themselves as "old Commerce Undergraduate Society hacks" recently honored retiring commerce professor Colin Gourlay (third from right in front row) at a University Club luncheon. Amid a lot of good-natured bantering and reminiscing, the former students presented a set of wine glasses to Prof. Gourlay, whose teaching and administrative career at UBC spanned 33 years.

