UBC REPORTS

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Faculty approve agreement

UBC faculty members have voted 655-336 in favor of a new agreement which outlines criteria and procedures for termination or non-renewal of faculty appointments in the event of a financial exigency.

Prof. Sidney Mindess, president of UBC's Faculty Association, said he is pleased with the faculty's decision to accept the agreement. "I think it's a good document which represents a fair compromise between the administration and the faculty," he said.

President David Strangway was also happy with the outcome of the vote. "The new agreement is the product of negotiations and revisions that have been carried out since 1977, and I'm delighted that the document has been approved," he said.

The agreement outlines the criteria and procedures that would be followed by the University if it was determined that a financial deficit could not reasonably be met without the termination of some faculty appointments. The document includes procedures for the declaration of a state of financial exigency, the steps that would be followed in the termination of contracts, the order of terminations, and procedures for appeal.

Prof. Mindess said faculty have "very strong" appeal procedures under the new agreement.

The January vote was the second time faculty had been asked to approve conditions for termination of appointment. A 1984 draft agreement was rejected by a vote of 698-577. Prof. Mindess said that many of the features that had been criticized by faculty in the 1984 document had been revised or excluded from the new agreement.

Two students elected to UBC Board

Incumbent Don Holubitsky and third-year Commerce student Claudia Gilmartin have been elected to one-year terms as student representatives on UBC's Board of Governors, effective Feb. 1.

Mr. Holubitsky, who begins his third term on the Board of Governors, is currently enrolled in the Faculty of Law after having obtained his Bachelor of Science degree with combined honors in biology and chemistry, his Master of Science degree in anatomy and the degree of Doctor of Medicine.

He has been actively involved in student affairs over the years as an executive member of the Graduate Student Association, the Students Council and a large number of other campus organizations associated with student government. He recently was awarded the Jean Craig Smith Scholarship, one of UBC's top student prizes.

Ms. Gilmartin has been active on the students council and in the Commerce Undergraduate Society, serving on the AMS budget and management committees, the CUS appointment, promotion and tenure committee and CUS external affairs. She replaces Nancy Bradshaw on the Board.

CIAR sponsors cosmology program

Vancouver will be the centre of an international research project on the origin and destiny of the physical universe.

The cosmology program will also attempt to produce the "Grand Unified Theory" that would describe in one mathematical formula all of the physical events in the universe.

The Grand Unified Theory, sometimes referred to as the "Theory of Everything," has evaded scientists for decades. It was the subject of much of Albert Einstein's later work. Scientists around the world now feel that a solution is imminent.

The theory would unify the four known forces at work in the universe -- gravity, electromagnetism and the strong and weak forces active within atoms. There have been recent suggestions, but no proof, that a fifth force may exist.

Sponsored by the Canadian Institute for Advanced Research, the five-year, $2-million project will link six Canadian scientists, internationally recognized as leaders in their fields. Two of the scientists now at American institutions are expected to return to Canada.

Director of the project is Dr. William Unruh of UBC's physics department who has won every major physics award Canada has to offer.

The institute, a private, non-profit organization, was created five years ago to focus money and brain power on subjects that are important to Canada's future.

Because no single university in Canada has first-rate scientists working in all areas of national importance, the institute links researchers at various universities into a sophisticated communications network that allows them to interact on a continuous basis.

Canadian Institute for Advanced Research President Dr. Fraser Mustard said the calibre of the participating scientists ensures that the program "will become a major contributor to scientific advances in cosmology in the coming years.

"Its strength will be further reinforced by its links to other research groups in the United States and Great Britain. The result will be a world-class program, directed from Vancouver, in a field of major scientific importance."

Dr. Unruh views the program as an incredible opportunity for Canada.

"Scientists are on the verge of understanding the fundamental physical properties of the world around us. Many philosophers have maintained there is a basic unity between the macroscopic and microscopic events in the universe. Modern science supports this view.

"Cosmic events such as the formation of galaxies and the properties of elementary particles in the interior of atoms are related. The properties of one are determined by the other.

"In this program we have a chance to make Canada a focal point for this type of research in the world."

Other members of the research team include:

* Dr. Werner Israel of the University of Alberta, an internationally respected researcher in one of the most prestigious areas of physics -- black holes;
* Dr. Richard Bond, formerly of Stanford University, who is now at the Canadian Institute for Theoretical Astrophyics at the University of Toronto;
* Dr. Ian Affleck of Princeton University, who is also expected to return to Canada;
* Dr. James Peebles of Princeton University, one of the top three cosmologists in the world. He is mentioned in virtually every textbook on the origin of the universe; and
* Dr. Mark Wise of the California Institute of Technology.

The Canadian Institute for Advanced Research will pay the salaries of Drs. Unruh, Israel, Bond and Affleck for five years, relieving them of teaching and administrative duties and allowing them to concentrate all of their energies on research.

Drs. Peebles and Wise will participate in the program but remain in the U.S. Their salaries will not be paid by the institute but as associate members of the cosmology team, the institute will pay their expenses for attending scientific meetings of the group.

The first such meeting was a week-long conference in December in Banff.

The cost for the first year of the program will be about $350,000. Over five years, the cost will be approximately $2 million.

The program has the support of other interested institutions such as the Canadian Institute for Theoretical Astrophysics and the Universite de Montreal.

This is the second major national research program undertaken by the institute. The first focuses on artificial intelligence -- research into the design and construction of robots that can "read" a situation, make decisions based on what the machines sense, and then carry out actions, somewhat similar to the technology involved in the Canadarm building a space platform unassisted.

The artificial intelligence project, now in its second year, links 23 scientists at eight Canadian universities, including UBC.

The institute's programs are developed by its research council, composed of scientists and scholars from across Canada, as well as distinguished individuals from the private sector.

The progress of each program is monitored by an advisory panel and is evaluated by a panel of international experts at the end of five years.

Dr. Fraser Mustard, president of the Canadian Institute for Advanced Research, left, with Dr. William Unruh of UBC's physics department. Dr. Unruh has been named director of the institute's new research project on cosmology.

What makes seniors buy?

The medium is the message.

That aphorism of the late Canadian communications guru Marshall McLuhan seems to sum up an unique UBC marketing research project involving senior citizens.

Television commercials with facts and nothing but facts are most effective in telling seniors about a product.

But when it comes to getting seniors to use the product, straight information commercials fare no better than commercials with minimal information but with an emotional component such as background music, or with commericals that are high in information and have a musical sound-track too.

"It doesn't seem to make any difference which approach you take," said marketing expert Dr. Gerry Gorn of UBC's Faculty of Commerce and Business Administration.

"Musical and informational commercials work equally well. Perhaps the medium of television itself is as important as the content of the commercials in motivating seniors."

In the first market research of its kind done anywhere, Dr. Gorn and two colleagues, Dr. Marv Goldberg of McGill University and Dr. David Litvack of the University of Ottawa, tested two types of commercials on Canadian seniors.

They did the research because it was unexplored territory and because the population of North America is aging.

"There have been no experimental studies to my knowledge on the effect of TV advertising on seniors in Canada or the U.S.," he said. "All research of this type has been on children and adults. Those two groups have been intensively studied but seniors have been ignored."

Advertisers traditionally use emotion -- music, vivid colors or humor -- to motivate buyers. That approach also works with seniors. But advertisers or agencies who want to get a particular message across to seniors should use straight information without emotion, Dr. Gorn said.

"It's as if the emotional content interferes with learning," he said.

Dr. Gorn said seniors are becoming a larger and more influencial group in society.

"People are living longer. And the buldge in

Please turn to Page 2
See GORN

Drs. Bill Powrie, Ruth Wu and Brent Skura enjoy the fruits of their labor.

Food scientists develop new storage techniques

B.C.'s fresh fruits are in demand. But with the exception of apples, the short harvest period and high level of perishability mean that only about 10 per cent of the total crops in the province are sold fresh.

If these fruits could be preserved fresh for a period of one to six months, the high-priced fresh products could be marketed throughout Canada and other countries.

It sounds like a fruit grower's dream. But Dr. William Powrie, head of UBC's food sciences department, and his co-investigators Drs. Brent Skura and Ruth Wu are on their way to making it a reality.

The three researchers have just received $142,500 from the Natural Sciences and Engineering Research Council of Canada for a three-year, in-depth research study entitled "Development of a Modified Atmosphere Packaging System for a Long-Term Storage of Fresh Fruits." The researchers have developed a system using gases to preserve the fresh fruit.

"It was Dr. Powrie who did the initial research in this area," says Dr. Skura. "On the basis of what we can scan in the literature, we are the only research group at this point who have discovered a viable system. The research can now be taken further with the government support we have received."

The process involves no sugar and no food additives. "Our preservation method could be compared to NASA's research on suspended animation," says Dr. Powrie. "We're slowing down the metabolic processes."

Their proposed model for the preservation of fruit by gases is now being evaluated. Fruit is placed in a semi-rigid bag which is then sealed and placed in a cold room. Fruits that have been preserved using the test gas include highbush blueberries, sweet cherries, raspberries, strawberries and slice freestone peaches. Sweet cherries and raspberries were preserved successfully for at least two months. Strawberries, the most delicate fruit, were firm and tasty to a maximum of four weeks in storage.

Seldom do faculty members meet in a basement "pilot plant" for "sensory evaluation sessions", but such meetings are de riguer for these food scientists. On my recent visit to the pilot plant -- a room crowded with pipes and large hissing cylindrical food product testers -- Dr. Powrie brought out raspberries stored in the cooler more than two months ago. Their color was perfect. Their texture was good. The only flaw appeared to be the storage taste which he said would disappear in a couple of hours. The untreated control samples were covered in mold.

Next we tasted blueberries from Richmond. They weren't as firm as Dr. Powrie would like them, but they looked fine. "We're very close on raspberries and blueberries," he said.

Not suprisingly, this investigation has sparked the interest of all B.C. fruit grower groups. They will be financially supporting the technology transfer from the laboratory to the marketplace.

Under another research project, the group has invented a process to preserve fresh salmon for periods up to two months. Canadian consumers prefer fresh seafood products over frozen and canned products. And it's much the same for fresh salmon.

Salmon can only be held for four or five days under normal holding conditions -- on ice or refrigerated. Using the technique of modified atmosphere packaging, a gas is introduced into the packaged fish to prevent bacterial growth and the development of a rancid flavor.

"This technique would be very valuable not only for commercial salmon fishing companies but for fish farms," said Dr. Powrie. "Then we would have high quality fish to export."

The preservation technique could be used year-round with the four-month harvest of the wild salmon and the fish farms. The three food scientists are now in the process of patenting their unique preservation method. It should be available in 1987.

Telephone system to be updated

UBC's new telephone system could be installed as early as this summer.

Mr. Al Fowler, director of the Computing Centre and chairman of UBC's telephone systems task force, says a committee has been meeting to consider a number of different systems to replace the aging central telephone switch on campus.

"We've requested proposals from six companies and we expect to hear back from them early this month," he said.

Although a final decision hasn't been made, the systems under consideration all have the following features:

* The standard telephone will be push-button rather than rotary dial. This will allow the user access to a number of features of an electric switch. These include Call Forwarding and Camp On, a feature which informs users when a number they have been trying to reach is no longer busy.

* Least Cost Routing. Currently the WATS system is not heavily used, possibly because it is not always immediately available to the user. With the new system, a long distance call will automatically be routed to the WATS line. If the WATS line is busy the call will be re-rerouted to the Direct Distance Dialing lines.

* Some data transmission will be possible with the new system, limited by cost considerations.

Public grateful for help from UBC experts

Vancouverites are seeing ghosts. And some of them, in an attempt to shed light on their visions, are dialing the University for an answer. "My friend saw a vague apparition floating around in the next room," one caller to UBC's Community Relations office recently noted. "What should she do?"

Community Relations receptionist Barbara Nicholls, UBC's front-line answer person, fields a vast number of enquiries each day, ranging from requests for general information about the University, telephone referrals, information on UBC's public attractions for tourists, upcoming events and public relations information. The office also receives numerous calls from media seeking contact with UBC experts for comment on situations of critical local and international importance, such as the possible cause of last week's NASA tragedy, current economic and political issues or crucial matters related to B.C.'s resource industries. In the summer, Community Relations also handles telephone bookings for the more than 1,200 visitors who sign up for free guided walking tours of the campus.

In the past year alone, Barbara has listened to queries from thousands of Lower Mainland residents. In addition to the more than 3,000 to 4,000 calls a month the Community Relations office receives requesting information about the University, about 200 calls a month come in from members of the general public looking for experts on everything from politics and religion to the mating habits of slugs.

Callers often launch into elaborate explanations before Barbara can get a word in edgewise. While this can be entertaining, says the receptionist, it can also be time-consuming, particularly when others are waiting on the line. "Most people assume I'm the expert," she says ruefully.

In fact, Barbara can claim expert status in certain fields. "There are a lot of questions about fleas," she says. As a veteran of endless battles with the vermin on her poodle's behalf, she advises the blighted to "put down flea powder three times a day, then vacuum."

But most of Barbara's calls fall outside her expertise. Putting the questioner on hold, she dials around to suitable departments, determines who might be best able to help the caller, and returns with appropriate information or numbers to dial. She always comes up with a referral, even for some surprising questions.

"Why are earthworms crawling out of the undergrowth by the hundreds and falling into my swimming pool?" a thoroughly alarmed home-owner enquired recently. "What are the chances of a major earthquake occurring in Vancouver?" many callers wanted to know, following the devastation in Mexico last year. "How do I get my slugs to mate?" discreetly enquired another, his intentions unclear. Zoology, Geophysics and Astronomy, and Zoology again answered those ones, Barbara recalls.

While finding many enquiries amusing, she remains aware that her callers are in earnest. "I enjoy helping people," says the receptionist of ten years. Before coming to Canada from her native New Zealand, she taught school to five- to eight-year-olds. There she developed her skills of answering a barrage of random questions.

"UBC faculty and staff provide a unique public service by offering information and advice in their areas of expertise and the people who call in are extremely appreciative," adds Barbara. "This accessibility and willingness to help people in the community has a tremendous public relations value for the University. People seem genuinely surprised and pleased that in an institution as large and busy as UBC there are people who will take the time to discuss their questions. This interaction also makes the public more aware of UBC's importance as a national resource." Contacts made through this community service often lead to valuable support for the University in the private sector.

For callers who contact the University after 5 p.m. the Community Relations office provides a taped message listing public attractions, upcoming events and other information of interest and importance to the public.

But it's during the day that the Community Relations telephone lines really light up. Last week, an agitated house-sitter called in a panic to report that all his friend's chickens were dying. If UBC's experts couldn't help him, he presumably reasoned to himself, who could?

Having problems with your chickens? Thousands of Lower Mainland residents call Community Relations receptionist Barbara Nicholls each year with queries on everything from how to keep chickens healthy to how to get rid of skunks.

Gorn *continued from Page 1*

the population caused by the post-Second World War baby boom is growing older. This will increase the number of seniors in the future."

He said seniors now make up 10 per cent of Canada's population but will increase to 25 per cent in less than 50 years. In the U.S., seniors now spend $60 billion per year compared with the $20 billion purchasing power of the youth market. "Seniors are cautious shoppers, loyal to brands and large department store chains."

Dr. Gorn wrote and produced his own commercials. Viewers were tested after they were shown the TV messages.

He divided his audience into two groups by age -- a control group of adults 50 to 64 and a group of seniors 65 and older. He tested seniors who live alone in their own dwelling and those living with one or more people.

He also wanted his research to be of immediate benefit to seniors. So he concentrated his research on encouraging improved nutrition, since national surveys have shown that nutritional problems are prevalent among seniors.

Following the advice of nutritional experts, he produced commercials for apple and orange juice.

One set of commercials emphasized the nutritional importance of each product -- for example, that it contained vitamin C and was recommended by doctors. The second set had less nutritional information but presented the products with music dubbed over the images. The third combined all of the information of the first with the music of the second.

The 30-second commercials were inserted twice into a 15-minute, neutral program and viewers were told that the program was being tested for the broadcasting industry to see if it should be aired the following year.

After seeing the program and a commercial, viewers filled out a questionnaire with filler questions about the program but with critical questions about their response to the commercial.

Dr. Gorn said he plans to carry out more research on the purchasing habits of seniors and how much television they watch.

Man-in-Motion

Update: Feb. 6, 1986. Rick Hansen has travelled 12,250 miles on his round-the-world wheelchair tour to raise funds for spinal cord research and rehabilitation, and is currently in Camperdown, Australia. Contributions in Canada so far total $640,000. If you'd like to make a donation, please call 687-5200.

Larry MacKenzie—"He was enormously human"

It takes a man of some stature to build a university, rope a steer, amass over 29 honorary awards and degrees, and, as a 19-year-old college freshman, croon seven verses of a Scottish ballad before a host of jeering sophomores. Dr. Norman Archibald MacRae MacKenzie, who died on Jan. 26 at age 92, was such a man. "He was a bit of a giant, you know," noted MacKenzie's close friend and colleague Prof. George F. Curtis.

'Larry' MacKenzie's calendar of accomplishments is impressive. His honors and degrees aside, he was full professor of International and Canadian Constitutional Law, president of two universities, and active on countless local, national, and international boards and commissions, from the Consultative Committee on Doukhobor problems to the Canada Council and Vincent Massey's Royal Commission on National Development in the Arts, Letters and Sciences. But UBC's third, and perhaps best known president was also recognized for his personal warmth and humor.

"Larry MacKenzie is the absolute opposite of a stuffed shirt," said one associate several years ago. "There just isn't a phoney or flashy streak in his nature . . . His main trait is sincerity. Yet he never really takes himself seriously."

Larry MacKenzie first arrived at the Point Grey campus in 1944, and immediately made clear his professional philosophy. "Higher education," he declared, "once the privilege of the few, must and will be extended to every young citizen who has the desire for self-creation, and the capability to achieve it."

This principle at once took shape in an open-door admissions policy for all veterans of the Second World War, then in its final months. "By hook or by crook, " he vowed to a colleague, "I'll make room for every one who wants to come."

In September 1944, there were 2,500 students attending classes on Point Grey. By December, the number had swelled to 3,000, by the following fall to 5,800, and by September 1947 more than 9,000 undergraduates could be seen toting their text books around campus paths.

The next problem was where to put them all. "At that time," recalled MacKenzie in a letter to a colleague, "there were no nails, there was no lumber, there was no concrete, there was no money, there was nothing." But there were army huts, no longer in use, scattered throughout the Lower Mainland. MacKenzie set about comandeering these by the hundreds from the west side, downtown, North Vancouver, and as far afield as Tofino and Ucluelet.

Before doing so he was supposed to wait for official permission from the Ministry of Defense in Ottawa, but MacKenzie, according to Prof. George Curtis who was in on the scheme, suggested they go ahead anyway, "and let the paper work catch up later."

One morning, six weeks after 25 huts from North Vancouver had been safely installed on their new Point Grey foundations, MacKenzie stood up in an auditorium filled with students,

many of whom had hijacked the huts themselves, and calmly announced that "official permission" from Ottawa had arrived to move a certain group of huts . . ." The hall erupted in gails of laughter. "Perhaps we did take a few shortcuts," MacKenzie later noted, with no apologies.

Larry MacKenzie was a dedicated evangelist for the University of British Columbia. "Our basic problem," he wrote while president, "is to persuade the people of the province that the university is important and should have priority."

MacKenzie was eminently persuasive. During his first two years at UBC, he raised more than had been managed in the previous 29 combined. In an often quoted story, the new president was awarded $5 million while putting around a nine-hole Point Grey golf course. MacKenzie lost the game to then Premier John Hart, but won the building grant his university had coveted for 20 years.

MacKenzie's easy manner was a true asset to the university. "He did a great deal," asserted one colleague, "towards erasing the impression shared by some people that UBC is a rich man's university for Vancouver students."

In 1958, MacKenzie launched a massive building program and accompanying fund-raising drive. Their initial objective was $5 million. In a month they lifted their sights to $7.5 million, and a year later once again to $10 million. Construction began almost immediately.

During his eighteen years as president, MacKenzie watched a 2,500-student, 3-faculty, 27-department institution, with an annual budget of $9,000, blossom into the second largest university in Canada, embracing 10 faculties, 46 departments, 7 schools, 5 institutes, 13,000 students and with an annual budget of over $15 million.

President MacKenzie valued keeping in touch with his students. Prof. Curtis recalls one morning in 1948 when he and MacKenzie took a stroll out to the Acadia camp, the cluster of huts where married veteran students were lodged. "How are things going?" he inquired of a young veteran wife. In response, she invited them in for coffee. This was long before Pampers, recounts Curtis, and the baby boom was on. "Well, the place was festooned with diapers, absolutely wall to wall." On their way back, MacKenzie remarked on the clutter and said, "Well, we'll get (Gordon) Shrum on this." The result was UBC's first laundromat. Three new huts were obtained, carted out to the camp, and strung togheter: one for washing, another for drying and the third for toddlers to play in.

The November afternoon after MacKenzie announced his retirement in 1961, more than 1,000 undergrads gathered outside the administration building in a drenching downpour to chant 'For he's a jolly good fellow.' A photograph shows a sea of faces, each one radiant with a mixture of fondness and respect.

"He was a natural born leader," noted Prof. Curtis. "That's a human quality. You just can't spell it out."

Born in Pugwash, Nova Scotia in 1894, Norman Archibald MacRae MacKenzie was raised in the middle of seven children, three boys and three girls. At age 12, following his mother's death, he left home on a 'harvest train' bound for the Prairies where his two older brothers were homesteading a 640-acre ranch near Qu'Appelle, Saskatchewan. As a youngest brother and low man on the totem pole, he was appointed chief cook and bottle washer. But his four-year sojourn in the west was not entirely consumed in domestic chores. There he learned to rope and tie a steer, a feat which he never tired of demonstrating while touring as university president in the B.C. Interior.

In 1913, MacKenzie returned to the Maritimes to enroll at Dalhousie University.

His first stint at university was brief. In 1914, he joined the Canadian Mounted Rifles, and later the Nova Scotia Highlanders. By 1918, he was platoon's sole survivor, and just before the armistice was awarded a Medal and Bar for bravery in the field outside Avignon. Over 50 months in the trenches having convinced MacKenzie that there must be a better way to solve world problems, he resolved to study international law.

Back in Canada, MacKenzie finished his studies with a vengeance, stacking up 39 credits to the average student's 20. And he did more than study, presiding over the student council for two years running, the first to do so in Dalhousie history. From Halifax, he went to study law at Harvard, St. John's College, Cambridge, and Gray's Inn, London. After a brief break from the university community, as an advisor at the International Labour Office in Geneva, he returned for good in 1927, first as instructor and later professor of International and Canadian Constitutional Law at the University of Toronto, where he remained for 14 years, and then as law professor and president at the University of New Brunswick. He left UNB for UBC in 1943.

While an instructor in Toronto, MacKenzie met his future wife Margaret Thomas. They married in 1928, and raised a boy, Patrick, now a professor in Saskatchewan, and two girls, Susan, who lives in Vancouver, and Sheila ('Bridgie'), who has settled in London. Said Mrs. MacKenzie, of raising these children in their rustic army hut on Point Grey, "It was ideal. There were linoleum floors and plywood walls; absolutely indestructible."

After retiring from UBC in 1962, MacKenzie remained characteristically active. He was involved in a host of organizations, from the Canada Council to the Tibetan Refugee Aid Society, from the East African Commission on University Education to the Canadian Senate.

In 1969, the year he retired from the Senate at age 75, MacKenzie had amassed a prodigious array of awards and degrees, the most recent being the Order of Canada, considered, with the possible exception of the Victoria Cross, the highest accolade a Canadian can receive.

But MacKenzie was not a man for elaborate tributes. In 1976, at a sumptuous banquet thrown in his, Walter Gage's and Gordon Shrum's honor, he listened to several hours of laudatory speeches. But enough was enough. "Now we've all been here quite a while," intoned the Honourable Norman Archibald MacRae MacKenzie C.C., C.M.G., M.M., C.D., Q.C., B.A., LL.B., LL.M., LL.D., D.C.L., D.Litt., F.R.S.C., "I know some of us, like me, would like to go to the bathroom,"

"Larry MacKenzie," concluded Prof. Curtis, in a single phrase embracing the man and his towering accomplishments, "was enormously human."

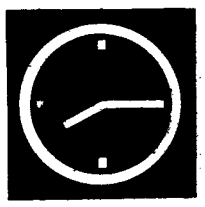
President emeritus N. A. M. "Larry" MacKenzie poses with a portrait bust of himself that was unveiled at a Sept. 3 ceremony at the Norman MacKenzie Centre for Fine Arts. Another president emeritus of UBC, Prof. Walter Gage, unveiled the bust following tributes to Dr. MacKenzie by former colleagues. The fine arts centre, named for Dr. MacKenzie shortly after he retired in 1962 after serving as UBC's president for 18 years, consists of the Frederic Wood Theatre, the Music Building and the Frederic Lasserre Building.

UBC CALENDAR

Calendar Deadlines

Events for the period Feb. 23 to March 8 should be submitted on proper Calendar forms no later than 4 p.m. on Thursday, Feb. 13 to the Community Relations Office, 6328 Memorial Road, Room 207, Old Administration Building. For more information, call 228-3131.

The Vancouver Institute.



Saturday, Feb. 8

Why Economists Disagree. Prof. Herbert A. Simon, Computer Science and Psychology, Carnegie-Mellon University.

Saturday, Feb. 15

Genetic Engineering - 1986. Prof. Michael Smith, Biochemistry, Faculty of Medicine, UBC.

Lecture Hall 2, Woodward Instructional Resources Centre, 8:15 p.m. Free admission.

MONDAY, FEB. 10

Natural Resource Management Colloquium.

Canadian Water: A Commodity for Export? Richard Bocking, Canadian Broadcasting Corporation. Room D-239, Buchanan Building, 10:30 a.m.

Plant Science Seminar.

Detection and Evaluation of Saline Seeps. Timothy J. Ross, Plant Science, UBC. Room 342, MacMillan Building, 12:30 p.m.

Mechanical Engineering Seminar.

CAD-CAM at the University of Victoria. Dr. G.W. Vickers, University of Victoria. Room 1202, CEME Building. 3:30 p.m.

Lipid and Lipoprotein Discussion Group.

Mechanism and Specificity of Protein Kinase C Activation by Diacylglycerols, Second Messengers. Robert Bell, Biochemistry, Duke University. IRC 4. 4 p.m.

Preventive Medicine & Health Promotion Lecture.

Aerobic Exercise Training: Its Role in the Primary, Secondary and Tertiary Prevention of Coronary Artery Disease. Len Goodman, Ph.D. candidate, Interdisciplinary Studies, Physical Education & Medicine (B.C. Sports Medicine Clinic). Free admission. For information, call 228-2258. Room 253, James Mather Building. 4 - 5:30 p.m.

Zoology "Physiology Group" Seminar.

Teleocalcin: A New Calcium Ion Regulating Hormone in Sockeye Salmon. Dr. G. Wagner, Physiology, UBC. Room 2449, Biological Sciences Building. 4:30 p.m.

TUESDAY, FEB. 11

Library, Archival & Information Studies Colloquium.

Newspapers as Centennial Resource Documents. Shirley Mooney, Library Manager, Pacific Press. Room 835, North Wing, Main Library. 11:30 a.m.

Lipid and Lipoprotein Discussion Group/Biochemical Discussion Group Seminar.

Structure, Function and Regulation of E. Coli Glycerol-P Acyltransferase and Diacylglycerol Kinase. Robert Bell, Biochemistry, Duke University. Room 4210, Medical Sciences Building, Block A. 12:30 p.m.

Religious Studies Illustrated Lecture.

Mathematics and Astronomy in Medieval Islam. Prof. John L. Berggren, Simon Fraser University. Room 105, Lasserre Building. 12:30 p.m.

Botany Seminar.

Towards Rapid Virus Detection in Small Fruits. Bob Martin, Agriculture Canada. Room 3219, Biological Science Building. 12:30 p.m.

UBC Symphony Orchestra.

Timothy Vernon, conductor. Free admission. Old Auditorium. 12:30 p.m.

Chemistry Seminar.

Selective Organic Photoelectro-Chemistry. Prof. Marye A. Fox, Chemistry, University of Texas, Austin. Room 250, Chemistry Building. 1 p.m.

International Relations Lecture.

Development Assistance: Linkage for Canada's 21st. Century. Margaret Catley-Carlson, president, Canadian International Development Agency (CIDA). Room A100, Buchanan Building. 3:30 p.m.

Applied Mathematics Statistics Seminar.

New Methods for Solving the Collective Ruin Problem. Prof. Marc Mangel, Mathematics, University of California at Davis. Room 225, Mathematics Building. 3:30 p.m.

CUSO Development Education Series.

Headlines Theatre. Employment in Canada and the Third World. For further information, phone the Cuso office at 228-4886. International House, UBC. 7:30 p.m.

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UBC CALENDAR

Continued from Page 3

UBC Sailing Club Meeting.
1986 Spring Gulf Islands Cruise. All interested students welcome. Contact John Kinahan at 228-4231 for more information. Room 205, Student Union Building. 7:30 p.m.

WEDNESDAY, FEB. 12

Pharmacology and Therapeutics Seminar.
Studies on Carbamezapine and INH Interactions. Dr. R.A. Wall, Pharmacology and Therapeutics, Faculty of Medicine, UBC. Room 317, Medical Sciences Building, Block C. 12 noon.

Research Seminar.
Adrenoceptors in Brown Fat of Infant Rats. Iqbal M. Shaikh, Pathology, UBC. Room 202, The Research Centre, 950 W. 28th Avenue. 12 noon.

Wednesday Noon-Hour Concert.
The York Winds. Free admission. Recital Hall. 12:30 p.m.

Biochemistry and Ophthalmology Seminar.
The Extracellular Transport of Vitamin A-Characterization, Biosynthesis and Molecular Cloning at a New Binding Protein. Dr. C.D. Bridges, Baylor College of Medicine, Houston, Texas. IRC 3. 4 p.m.

Animal Resource Ecology Seminar.
Wolves and Cariboo in Central Columbia. Dr. Dale Seip, Forestry, UBC. Room 2449, Biological Science Building, 4:30 p.m.

THURSDAY, FEB. 13

Germanic Studies Film.
German movie on video cassette American Friend (with subtitles). For further information, call 228-2169. Room A205 Buchanan Building. 12:30-2:30 p.m.

Rehabilitation Medicine Lecture.
Retraining of the Damaged Brain: A Challenge for Rehabilitation Medicine. Dr. Christina Chan, Occupational and Physical Therapy, McGill University. IRC 1. 12:30 p.m.

Moffatt Lecture in Chemistry.
Biochemistry of Vision: A Beginning. Prof. Gobind Khorana, Biology and Chemistry, M.I.T., Cambridge, Mass. Room 250, Chemistry Building. 1 p.m.

Political Science Lecture.
Survival in an Age of Crisis: Canada's Cultural Options. Dr. John Meisel, a distinguished Canadian political scientist, Queen's University, Kingston, and former Chairman of the CRTC. Room A204, Buchanan Building. 1:30 p.m.

FIRST CLASS MAIL

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Metallurgical Process Engineering Lecture.
Enhanced Uses of Aluminium and Its Alloys. J.P. McGeer, Alcan International Limited. Room 303, Frank Forward (Metallurgy) Building. 1:30 p.m.

Environmetrics Seminar.
Hourly Fluctuations of Acid Deposition. Dr. Paul Switzer, Statistics, Stanford University. Room 225, Mathematics Building. 3:30 p.m.

Physics Colloquium.
Psychokinetic Effects: Relevance for Quantum Mechanics? Dr. Helmuth Schmidt, Mind Science Foundation, San Antonio, Texas. Room 201, Hennings Building. 4 p.m.

Zoology Seminar.
Genetic and Experimental Approaches to Pattern Formation in Drosophila. Dr. Geral Schubiger, Zoology, University of Washington. Room 2000, Biological Science Building. 4:30 p.m.

FRIDAY, FEB. 14

Conference on Law and Contemporary Social Issues.
The conference will include four sessions over two days, covering the practical aspects of deregulating the telecommunications industry, the broad ramifications of government intervention in the economy, the implications of regulating Canada's culture, and the effects of pornography and hate literature on personal freedoms. Speakers include lawyers, economists, academics, authors, playwrights, and government and labor representatives. The speakers will present their views and the floor will then be opened for questions from the audience. Continues on Feb. 15. Rooms 101, 102, 201, Curtis (Law) Building. 9 a.m. and 2 p.m.

Asian Studies Lecture.
The Buddhist Approach to Language. Dr. R.C. Pandeya, Philosophy, Delhi University. Room 20, Family & Nutritional Sciences Building. 9:30 a.m.

Management Science Seminar.
Integration of Priority Dispatching and Due-Date Assignment in a Job Shop. T.C.E. Cheng, MBA Division, Business Administration, The Chinese University of Hong Kong, Shatin, NT, Hong Kong. Angus Penthouse. 10:30 a.m.

Asian Studies Lecture.
Is Indian Philosophy Other-Worldly? Dr. R.C. Pandeya, Philosophy, Delhi University. Room 604, Asian Centre. 12:30 p.m.

Pharmaceutical Sciences Seminar.
Hyperphosphorylation of Plasma Membrane Components in a Hepatocarcinoma Cell Line. Dr. John Church, Pharmaceutical Sciences, UBC. IRC 3, 12:30 p.m.

Faculty Recital.
David Branter, saxophone, with the Vancouver Wind Quintet. Free admission. Recital Hall. 12:30 p.m.

Political Science Lecture.
Canadian-Soviet Relations. Derek Fraser, Department of External Affairs. Room A205, Buchanan Building. 12:30 p.m.

Medical Genetics Seminar.
Clinical Day-Intersex Problems and the Y Chromosome. Clinical Genetics Unit Staff, Grace Hospital. Parentcraft Room, Grace Hospital. 1 p.m.

UBC Symphony Orchestra.
Timothy Vernon, conductor. Free admission. Old Auditorium. 8 p.m.

SATURDAY, FEB. 15

Thunderbird Wrestling.
The Canada West University Championships. UBC students admitted free. For further information, call 228-3917. Osborne Centre. All day.

MONDAY, FEB. 17

Botany Seminar.
Unified Theory of Evolution. Dan Brooks, Zoology, UBC. Room 3219, Biological Science Building. 12:30 p.m.

Faculty Recital.
Eileen Broadie-Feay, mezzo-soprano and Philip Tillotson, piano. Free admission. Recital Hall. 12:30 p.m.

Germanic Studies Lecture.
Paradox, Metaphor, Ambiguity in Kafka. Dr. Hans Helmut Hiebel, University of Graz, Austria. Room B314, Buchanan Building. 12:30 p.m.

Plant Science Seminar.
The Effect of Elevated CO2 Concentrations on Plant Competition in Monocultures and Mixtures. Grace Mchaina, Plant Science, UBC. Room 342, MacMillan Building. 12:30 p.m.

Mechanical Engineering Seminar.
Dynamics of Satellites with Thermally Flexing Appendages. Mr. A. Ng; Strategies with Robotic Control. Mr. H. Voss. Room 1202, CEME Building. 3:30 p.m.

Germanic Studies Seminar.
Kafka's Novel The Judgement. Dr. Hans Helmut Hiebel, University of Graz, Austria. Room B314, Buchanan Building. 3:30 p.m.

Applied Mathematics Seminar.
Uniform Asymptotic Expansion for the Green's Function of the Two-Dimensional Acoustic Equation. Prof. Matthew Yedlin, Geophysics and Astronomy, UBC. Room 229, Mathematics Building. 3:45 p.m.

Biomedical Discussion Group.
Analysis of Electrostatic Interactions in Proteins and Nucleic Acids. James B. Matthew, E.I. du Pont de Nemours, Wilmington, Delaware. IRC 4. 4 p.m.

Zoology "Physiology Group" Seminar.
Cardiac Physiology in Teleost Fish. Dr. A.P. Farrell, Biological Sciences, SFU. Room 2449, Biological Science Building. 4:30 p.m.

TUESDAY, FEB. 18

Botany Seminar.
Hydroclathrus: An Alga with a Specialized Mechanism for Making Holes in the Thallus. Brian Oates, Botany, UBC. Room 3219, Biological Science Building. 12:30 p.m.

Chemistry Seminar.
The Unified Theory of Evolution. Prof. Daniel R. Brooks, Zoology, UBC. Room 250, Chemistry Building. 1 p.m.

Metallurgical Engineering Seminar.
Theory of Plastic and Viscous Deformation. T.H. Alden, Metallurgical Engineering, UBC. Room 317, Frank Forward (Metallurgy) Building. 3:30 p.m.

CUSO Development Education Series.
Urban Poverty. A panel on urbanization in South East Asia. For further information, phone the CUSO office at 228-4886. International House, UBC. 7:30 p.m.

WEDNESDAY, FEB. 19

Wednesday Noon-Hour Concert.
Gerald Stanick, viola and Robert Silverman, piano. Free admission. Recital Hall. 12:30 p.m.

Forestry Seminar.
Forestry-Range Conflicts and Accommodations in B.C. Dr. M. Pitt, Plant Science, UBC. For further information, call 228-2507. Room 166, MacMillan Building. 12:30 p.m.

Pharmaceutical Sciences/Pharmacology and Therapeutics Seminar.
Influence of Dietary Calcium on the Development of Hypertension in SHR. Dr. Tom Tenner, Pharmacology, Texas Tech. University. IRC 3. 12:30 p.m.

Comparative Literature Colloquium-What is a Text?
What is a Judicial and Legal Text (ancient and modern)? Prof. DeLloyd Guth, Law, UBC. Buchanan Penthouse. 3:30 p.m.

Geography Colloquium.
Creating a Sense of Place in New Canadian Resource Towns. Dr. Alison Gill, Geography, SFU. Room 201, Geography Building. 3:30 p.m.

Animal Resource Ecology.
Mortality in Larval Pacific Herring: Starvation or Predation? Mr. Michael McGurk, I.A.R.E., Zoology, UBC. Room 2449, Biological Science Building. 4:30 p.m.

THURSDAY, FEB. 20

Physics Mini-Symposium.
Forces Stabilizing Lamellar Assemblies: Direct Measurements of Free Energies and Determination of Microscopic Structures.
Dr. V. Adrian Parsegian. Room 201, Henning Building. 2 p.m.

Physics Mini-Symposium.
Direct Measurement of Forces and Other Interactions (Adhesion and Fusion) Between Surfaces Absorbed with Lipid Monolayers or Bilayers. Dr. Jacob Israelachvili, Australian National University, Canberra, Australia. Room 201, Hennings Building. 3 p.m.

Physics Mini-Symposium.
Direct Measurement of Free Energy Potential for Assembly of Lipid Bilayers to Adhesive Contact: Insights Gained from Studies on Lipid Mixtures. Dr. Evan Evans, Pathology, UBC. Room 201, Hennings Building. 4 p.m.

Pharmaceutical Sciences/Biomembranes Discussion Group Seminar.
Regulation of ACTH Secretion. Dr. Seymour Heisler, Unite de Bioregulation Cellulaire, Laval University, IRC 1. 4 p.m.

Zoology "Physiology Group" Seminar.
Phosphoinositides and Calcium Signalling in Cells. Dr. C.W. Taylor, Pharmacology, Medical College of Virginia, Richmond, Virginia. Room 2449, Biological Sciences Building. 4:30 p.m.

FRIDAY, FEB. 21

Pharmaceutical Sciences Seminar.
Regulation of Hepatic Cytochrome P450 by Steroid and Peptide Hormones. Dr. Bruce Virgo, Biology, University of Windsor. IRC 3. 12:30 p.m.

Medical Genetics Seminar.
Congenital Rubella and Its Implications. Dr. A. Tingle, Paediatrics, Children's Hospital. Parentcraft Room, Grace Hospital. 1 p.m.

Thunderbird Volleyball.
UBC Men's and Women's teams vs. The University of Saskatchewan. For further information, call 228-3917. War Memorial Gym. 6 p.m. (women's) and 8 p.m. (men's).

SATURDAY, FEB. 22

Thunderbird Volleyball.
UBC Men's and Women's teams vs. The University of Alberta. For further information, call 228-3917. War Memorial Gym. 6 p.m. (women's) and 8 p.m. (men's).

SUNDAY, FEB. 23

Thunderbird Hockey.
UBC vs. The University of Lethbridge. UBC students admitted free. For further information, call 228-3917. Thunderbird Arena. 2:30 p.m.

Thunderbird Hockey.
UBC vs. The University of Lethbridge. UBC students admitted free. For further information, call 228-3917. Thunderbird Arena. 7:30 p.m.

Notices . . .

Fine Arts Exhibit
A Measure of Consensus: Canadian Architecture in Transition will be on display Feb. 1 - March 1 at the UBC Fine Arts Gallery. The exhibition is guest-curated by Andrew Gruft. Hours are Tuesday to Friday, 10 a.m.-5 p.m. and Saturday, noon-5 p.m.

Application for Graduation
Application for graduation cards have now been mailed to students registered in the graduating year of the following degree programs: B.A., B.F.A., B.Mus., B.Com., Lic.Acct., B.Ed.-Elem., B.Ed.-Sec., B.P.E., B.R.E. and B.Sc. All students who expect to graduate this May or November are requested to complete and return both cards to the Registrar's Office (Mrs. Donna Anderson) as soon as possible, but no later than Feb. 15, 1986 for graduation in May, and Aug. 15, 1986 for graduation in Nov. Any student in the graduating year of these programs who has not received cards in the mail should confirm with the Registrar's Office (by phone at 228-4455) that his/her local mailing address is correct. Students in the graduating year of all remaining degree programs, except Applied Science and Graduate Studies, should obtain their "Application for Graduation" cards from the Dean's or Director's Office of their Faculty or School. Students of Applied Science, Graduate Studies or diploma programs should obtain their appications from their departments. "Applications for Graduation" cards are also available in the Office of the Registrar, 2nd Floor, General Services Administration Building. Please note: Every student who expects to graduate must make application for graduation. Any student who does not apply is ineligible to graduate.

Faculty Club Exhibition
Recent Watercolor paintings by Victor Doray, are on display at The Faculty Club until Feb. 22.

Badminton Club
Faculty and Staff Badminton Club meets Tuesdays 8:30-10:30 p.m. and Fridays 6:30-9:30 p.m. (except Feb. 14) in Gym B of the Robert Osborne Sports Centre. New members welcome. Fees $10 per term. For more information call 228-4025.

Issues in Iconicity
An Interdisciplinary Conference entitled Issues in Iconicity will be held Feb. 28 to March 1. Sponsored by the Vancouver Semiotic Circle and UBC's program in Comparative Literature. For details, call Lorrain Weir at 228-2365 or Shelagh Lindsey at 228-4492.

Dorothy Somerset Studio
The Dorothy Somerset Studio is presenting Crimes of the Heart by Beth Henley, directed by Julie Akers. Tuesday, Feb. 25 through Saturday, March 1. Student admission is $4 with a valid student card. Regular admission is $5. Curtain time is each evening at 8 p.m. For further information and reservations, phone 228-2678 or drop by Room 207 of the Frederic Wood Theatre Building.