

NEXT WEEK AT UBC

Notices must reach Information Services, Main Mall North Admin. Bldg., by mail, by 5 p.m. Thursday of week preceding publication of notice.

MONDAY, NOV. 1
12:30 p.m.

DEPARTMENTS OF FRENCH, ENGLISH, THEATRE LECTURE. Dr. Richard N. Coe, University of Warwick, England, on *The Pursuance and Assassination of Macbeth*. Room 106, Buchanan Building. Dr. Coe will also give a colloquium on avant-garde theatre entitled *God the Father and Participatory Democracy* at 3:30 p.m. in Room 2238, Buchanan Building.

CANCER RESEARCH SEMINAR. Dr. Glenn Slemmer, UBC, on *Specific Cell-Mediated Suppression of Allograft Immunity*. Library, Cancer Research Centre, Block B, Medical Sciences Building.

BIOCHEMICAL DISCUSSION GROUP SEMINAR. Dr. Peter Hahn, Paediatrics, UBC, on *Regulation of Phosphoenolpyruvate Carboxylase in Liver and Brown Fat of the Developing Rat*. Lecture Hall 3, Woodward Instructional Resources Centre.

TUESDAY, NOV. 2
12:30 p.m.

BOTANY LECTURE. Dr. Raymond Smith, Scripps Institution of Oceanography, La Jolla, Calif., on *Remote Sensing of Chlorophyll in Coastal Waters*. Room 3219, Biological Sciences Building. Dr. Smith will discuss technical aspects of his research at 3:30 p.m. in Room 1465 of the Biological Sciences Building.

3:30 p.m.

COMPARATIVE LITERATURE PROGRAM-ENGLISH DEPARTMENT JOINT COLLOQUIUM. Dr. Patricia Merivale, English, UBC, on *Reports from Ultima Thule: Images of Ghosts and Borderlines in Yeats and Rilke*. Buchanan Penthouse.

4:30 p.m.

CHEMISTRY SEMINAR. Prof. A. J. Carty, Guelph-Waterloo Centre for Graduate Work in Chemistry, Ontario, on *Phosphino Acetylenes: Versatile Reagents in Inorganic and Organometallic Synthesis*. Room 250, Chemistry Building.

WEDNESDAY, NOV. 3
12:30 p.m.

CENTRE FOR CONTINUING EDUCATION LECTURE. Dr. George MacDonald, National Museum of Man, Ottawa, and chief of the Archaeological Survey of Canada, on *Recent Discoveries in Wet-Site Archaeology*. Room 102, Buchanan Building.

PHARMACOLOGY SEMINAR. Dr. Sidney Katz, Pharmaceutical Sciences, UBC, on *Calcium-stimulated membrane Phosphorylation and ATPase Activity in Normal and Cystic Fibrosis Erythrocytes*. Room 221, Block C, Medical Sciences Building.

FREESEE FILMS. The Hero as Artist, part of the film series *Civilization*. Auditorium, Student Union Building.

2:30 p.m.

APPLIED MATHEMATICS SEMINAR. Prof. Fred Bennett, Mathematics, UBC, on *The "Impact" Principle for Applied Mathematics*. Room 202, Mathematics Building.

3:30 p.m.

CHEMICAL ENGINEERING SEMINAR. Howard Bennett, UBC graduate student, on *Claus Process Simulation*. Room 206, Chemical Engineering Building.

STATISTICS WORKSHOP. Dr. Murray D. Burke, Mathematics, UBC, on *Strong Approximation of the EDF When Parameters are Estimated*. Room 321, Angus Building.

4:30 p.m.

ANIMAL RESOURCE ECOLOGY SEMINAR. Dr. T. R. Parsons, Oceanography, UBC, on *Controlled Aquatic Ecosystems*. Room 2449, Biological Sciences Building.

6:00 p.m.

TUMOR BIOLOGY STUDY GROUP. Dr. Glenn Slemmer, UBC Cancer Research Centre, on *Allogeneic Transplantation Without Immunosuppression*, and Dr. W. D. Stewart, Medicine, UBC, on *Sunlight and the Skin*. Conference Room, Cancer Control Agency, 2656 Heather St.

Health expansion plan welcomed

President Douglas T. Kenny has welcomed the announcement by the provincial government that it will implement its commitment to improve health education facilities and expand the size of the UBC medical class.

But he has also warned that many problems remain to be solved.

President Kenny's statement was issued Friday (Oct. 22), the day after the provincial government announced a \$50 million program to improve B.C. medical teaching facilities.

The program includes:

- Construction of a new 240-bed hospital in UBC's Health Sciences Centre;

- Provision of new medical science teaching space at UBC at a cost of \$5 million; and

- Expenditure of more than \$13 million to upgrade teaching facilities at four Vancouver hospitals — the Vancouver General, St. Paul's, Shaughnessy and a new children's hospital.

Here is the full text of President Kenny's Oct. 22 statement:

"I am pleased that the government is prepared to begin implementing its commitment to improve health education facilities and to expand the medical class at UBC. I appreciate that this represents a significant long-term commitment on their part to improving health care and health education opportunities for the people of the province. Many problems still remain to be solved, however.

"The University is ready to resume discussion with the government of the conditions required to assure the necessary academic funding for the expansion plan. In doing this, we will have to take into account the further tightening of the total University budget which has occurred since the medical expansion plan was first announced last spring.

"We are also prepared simultaneously to begin work towards securing the required academic approvals at the University.

"I hope the various problems can be satisfactorily resolved and that it will be possible to begin moving towards a phased expansion of the medical school in the near future."

The provincial government's Oct. 21 announcement was another link in a chain of events that began last March 9 when Education Minister Patrick

McGeer announced that \$50 million would be available to construct a new hospital at UBC, double the size of the medical class and upgrade facilities at teaching hospitals associated with UBC's medical school.

At the request of the provincial government, UBC prepared a comprehensive report on the proposal and submitted it to Victoria within a 60-day time limit.

The UBC report was then subject to review by a Task Force on Medical Teaching Facilities, under the chairmanship of A. C. L. Kelly, former chairman of the Greater Vancouver Regional District. The UBC report was accepted by the task force, which recommended the expansion of medical teaching facilities in B.C.

As part of its announcement last week, the provincial government also announced the creation of a new project co-ordinating committee to ensure that the new health science building projects at UBC and work at the downtown teaching hospitals proceed as expeditiously as possible.

The co-ordinating committee, which will also be under the chairmanship of Mr. Kelly, will ensure

AUCE requests mediator

The Association of University and College Employees, Local 1, informed UBC Tuesday that it had applied to the provincial Department of Labour for the services of a mediator to assist in current negotiations for a new agreement.

Negotiations with AUCE, which represents 1,400 administrative support staff at UBC, have been going on since mid-August. Negotiators have held 20 meetings to discuss 92 contract items raised by the union.

Bob Grant, director of Employee Relations at UBC, said that the University has made a formal response to all items raised by the union. Of the 92 items raised by the union, nine have been resolved, he said, but the University is still waiting for the union to respond to three major proposals made by UBC.

They are:

1. Salary increases. In response to the union's initial proposal of a general increase of \$191 per month, plus 7½ per cent, the

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that personnel and equipment, both on campus and at downtown teaching hospitals, are available in time to serve the increased number of medical students.

The co-ordinating committee will include representatives from UBC, the Department of Education, the Greater Vancouver Regional Hospital District and the provincial Department of Health (Hospital Programs).

The provincial government's Oct. 21 announcement said a new financing formula had been established to "meet the urgent need for these additional medical educational facilities."

The capital costs of the new UBC hospital and the developments at downtown teaching facilities will be borne by the provincial Departments of Health and Education, the Greater Vancouver Regional Hospital District, and the federal government through the Health Resources Fund.

The proposed expansion of the size of the UBC medical class and campus medical facilities has yet to be approved by UBC's Faculty of Medicine, Senate and Board of Governors.

University has indicated that it is bound by the second year Anti-Inflation Board guidelines which limit increases to 6 per cent in wages and benefits.

UBC has offered the union an economic package that will cost an additional 6 per cent in wages and benefits. This proposal is also based on the University's ability to pay.

The University has proposed that no changes be made in any monetary items except salaries, and has asked the union to propose a preferred method of distribution which would keep the total cost within the 6 per cent limitation.

2. Job Evaluation and Classification and Grievance Procedures.

The University has proposed that the union membership be directly involved in UBC's job classification and evaluation program as well as in a

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the music box

WEDNESDAY, NOV. 3

12:30 p.m. CONCERT by Dennis Miller, tuba, and Leslier Jones, piano. **Music of Barot, Koetsier, Tomasi and Zindars.**

THURSDAY, NOV. 4

12:30 p.m. UNIVERSITY WIND SYMPHONY. Martin Berinbaum, conductor. **Music of Wagner, Walton and Gossec.** Auditorium, Student Union Building.

FRIDAY, NOV. 5

12:30 p.m. UNIVERSITY CHAMBER SINGERS. Cortland Hultberg, director. **Music of Keable, Ligeti and Hindemith.** Recital Hall, Music Building.
8:00 p.m. UNIVERSITY WIND SYMPHONY. Martin Berinbaum, conductor. **Music of Holst, Mendelssohn and Mithaud.** Old Auditorium.

Nominations close Nov. 12

A flyer outlining criteria for UBC's 1976-77 Master Teacher Awards is now available at eight on- and off-campus centres. Closing date for nominations is Nov. 12.

The flyer, which gives details on the method of nomination, is available at the Main, Woodward and Sedgewick Libraries, the H. R. MacMillan Building (Room 270), the AMS business office in the Student Union Building, the campus Bookstore, the dean's office in the Faculty of Law

Building, and at the UBC Biomedical Branch Library, 700 West 10th Ave., Vancouver.

Two Master Teacher Awards are offered annually to outstanding teachers of UBC undergraduates. Each winner receives \$2,500. Four Certificate of Merit winners will be chosen and each will receive \$500.

The winners are chosen by a committee representing UBC faculty members, students and the UBC Alumni Association.

'Birds face stiffest test

UBC's Canadian football team faces its stiffest test of the 1976 season Saturday (Oct. 30) when it meets the University of Calgary Dinosaurs at Thunderbird Stadium at 2 p.m.

The Thunderbirds, who went down to defeat 42-16 last Saturday against the University of Manitoba, are now in second place behind the University of Saskatchewan Huskies, who have completed their schedule.

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fact-finding approach to the investigation of grievances.

The University proposes that an existing joint job-evaluation committee be extended and re-established as a classification system committee, and that a new position review procedure be established that includes union participation at the appeal stage and which also makes provision for arbitration in classification disputes.

In the matter of grievance procedures, Mr. Grant said, the University is proposing that both parties co-operate in a single, fact-finding investigation in which the University and the union would have access to the same facts. Under the current contract, the union and the University undertake separate investigations of grievances.

3. Definition of the term "Employee."

A major difference which remains between the University and the union reached quickly."

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B.C. is squandering oil and gas reserves

Dr. Denis Russell, pictured below, of UBC's Faculty of Applied Science, and a group of seven graduate students, took a close look at B.C.'s energy picture in a class project earlier this year. They concluded that a more rational attack on the energy problem is needed through conservation and the development of a financial mechanism to pay for alternative long-range energy sources.



Canada as far as natural gas is concerned, and that Canada is only slightly better off than the non-communist world in terms of oil.

"Thus it seems unlikely that B.C. can count on very much help from the rest of Canada with gas supplies, nor can Canada count on very much help from the rest of the world for oil supplies," Dr. Russell says.

What about the possibility of major new oil and gas finds?

"One has to beware of excessive optimism in this area," says Dr. Russell. "The major conventional oil supplies are in the Middle East, where the geology of the region is simple and well understood. The optimistic assumption that similar geological formations elsewhere would yield similar amounts of oil have been found to be wrong, and recently there has been a general tendency to revise estimates of ultimate potential sharply downwards."

The graph developed by the group showing remaining oil and gas reserves in B.C. shows that by 1991 B.C. would have trouble meeting its energy needs from this source in the event that the most pessimistic forecast of a high load and a low estimate of reserves proves to be true. "On the other hand, the crunch may not come until well into the next century if there is a high estimate of reserves and a low, or constant, demand," says Dr. Russell.

However, the reserves will not suddenly run out. As they approach exhaustion, the rate of depletion will reduce and the price will escalate.

Dr. Russell is convinced that B.C. can replace oil and gas with alternative long-term energy sources.

"We have ample supplies of coal and undeveloped hydro sites in the province and there is ample uranium in Canada for the generation of electricity," he says.

In addition, gas can be synthesized from coal and there is another very large potential oil source in the Athabasca tar sands.

The problem surrounding all these alternatives is that they are expensive and require large amounts of capital. The study group estimates that to replace the oil and gas now being used in B.C., and allowing for some growth during a transition period and depending upon the energy mix, there could be a need for a capital

investment of more than \$20 billion in B.C.

"Depending on how long a period this capital need is spread over," says Dr. Russell, "we are probably looking at a rate of investment about double the one we are used to, or about 30 per cent of our available capital."

The study group also concluded that B.C. is very wasteful of energy and that considerable savings could be made through conservation. "About 25 per cent of our energy could be saved by relatively minor measures and up to 50 per cent if we were prepared to change our lifestyles," Dr. Russell says.

In describing B.C.'s present energy position, Dr. Russell likens the province to a pioneer family in an isolated area who rely on potatoes for food.

"Supplies are barely adequate but with rigorous economy the supply can be eked out with everyone fed at subsistence level until the next crop year and allowing a portion to be set aside as next year's seed crop.

"Unthinking consumption, waste or failure to plan ahead would jeopardize the existence of the whole family," he says.

The parallel between this situation and B.C.'s energy position is alarmingly close, Dr. Russell believes. "We are squandering our precious oil and gas reserves instead of husbanding them carefully to tide us over the gap and provide 'seed' energy for constructing the necessary long-term energy supplies."

The profits now being derived from the sale of natural gas are being used as general revenue instead of being ploughed back into long-term energy sources against the day when gas wells are exhausted, says Dr. Russell.

"The government acts as if it believes that additional supplies or technological breakthroughs will come along at just the right time. But lights will be going out all over the world and requests for help are unlikely to be met with much sympathy."

Dr. Russell believes a more rational attack on the energy problem is needed. "We need to conserve energy as much as possible, we need to begin development of alternative long-term sources as rapidly as possible and we need to set up a financial mechanism so that we will be able to afford to pay for them."

reserves of B.C. coal and Canadian uranium to last for a few centuries.

"Since over 70 per cent of our energy comes from oil and gas and since reserves are running out, it can be seen that the really big energy problem will be to develop alternative sources in time.

"From the provincial point of view, we have to develop a strategy to spin out the oil and gas we have or can afford to buy long enough to allow us to develop alternative resources and mobilize the enormous amounts of capital they will require," says Dr. Russell.

(Dr. Russell says that other potential sources of energy, such as wind, wave, tidal, solar and geothermal power and nuclear fusion are not likely to make major contributions to the B.C. energy picture, with the possible exception of solar power, which is best considered under the heading of conservation because of its application as a supplementary heating source.)

A series of graphs developed by the study group, showing available Canadian oil and gas reserves with projected rates of depletion and the oil and gas situation for the rest of the world other than the communist bloc, reveals that B.C. is slightly better off on a proportional basis than the rest of