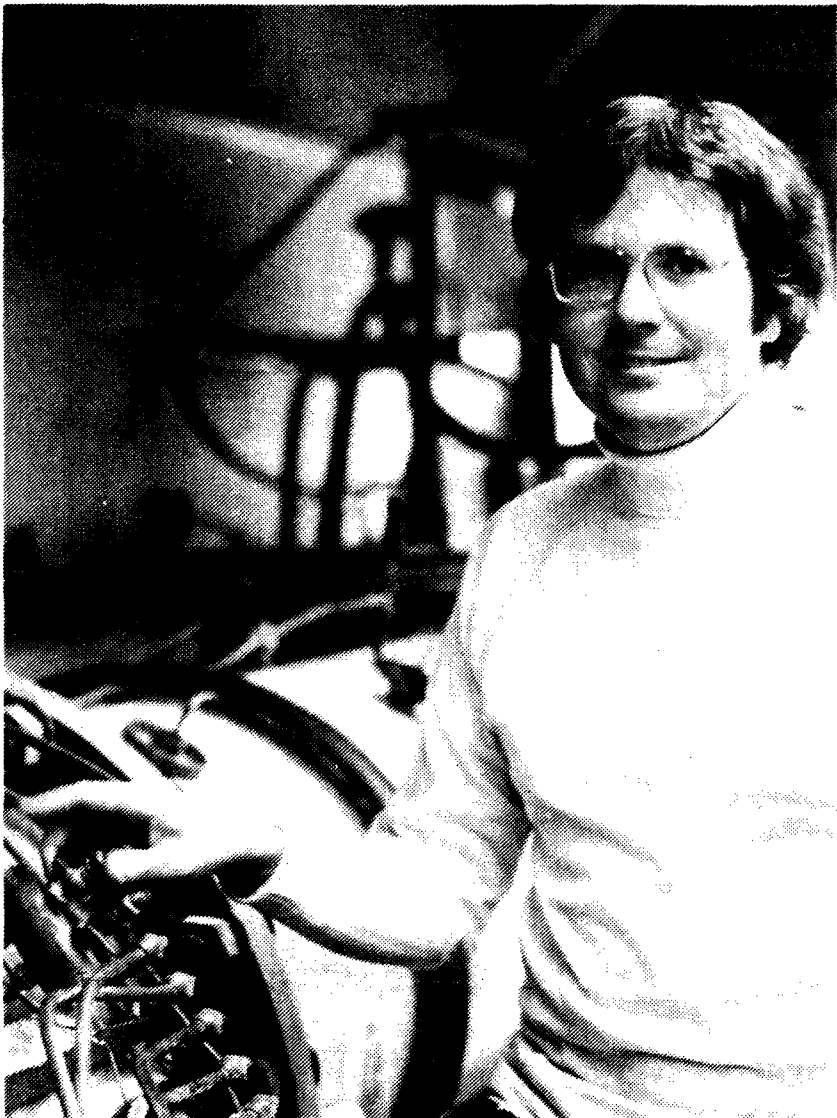


# UBC reports

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Jim Banham photo

Prof. Keith Brimacombe of UBC's Department of Metallurgical Engineering has received his third major award in 1979 from the American Institute of Mining, Metallurgical and Petroleum Engineers. His most recent honor is the Mathewson Gold Medal Award for "outstanding contributions to the understanding of transport phenomena in metallurgical processes." Earlier this year the institute presented him with its Extractive Metallurgy Science Award and the 1979 John Chipman Award. Prof. Brimacombe is shown above in his research lab where he uses a giant rotary kiln for experiments in collaboration with Prof. Paul Watkinson of the chemical engineering department.

## Cancer agents in food subject of UBC research

UBC scientists have been awarded more than \$700,000 for 16 research projects in the areas of environmental toxicology, oceanography and food production.

The grants from the Natural Sciences and Engineering Research Council (NSERC), which last year took over the research-granting function formerly held by the National Research Council, are for the support of projects in "national problem areas."

The 1979-80 grants, which total \$748,470, include funds for three pieces of equipment that will be used in the research projects.

In addition to the new grants, 16 other UBC faculty members have been awarded renewals of 1978-79 grants to enable them to continue work on projects funded by NSERC last year. The renewal funds total \$459,955.

The largest single grant for 1979-80 has been made to a multidisciplinary team of food scientists and cancer researchers who will collaborate on a

study of possible cancer-causing agents in food.

The two principle investigators in the study will be Prof. William Powrie, head of UBC's Department of Food Science in the Faculty of Agricultural Sciences, and Dr. Hans Stich, professor of zoology at UBC and head of the Environmental Carcinogenesis Unit of the B.C. Cancer Research Centre.

The team will use a \$140,000 grant to study how various components in food interact. Because certain substances in food can enhance or inhibit the actions of carcinogens — cancer-causing agents — the research team plans to assess diets as a whole.

"One important aspect which we will be investigating," Dr. Powrie said, "is the effect of cooking processes, such as frying and baking, on the health hazard that may be posed by some foods."

Initial studies will involve

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See RESEARCH

## Committee makes 22 recommendations on science faculty

UBC's Faculty of Science has "very real and undisputed strengths," but it will not reach its full potential until a number of serious problems are recognized and remedied.

This is the opinion of a six-member review committee established by President Douglas Kenny, which has made 22 recommendations in a 147-page report covering all aspects of the science faculty's operations.

The full text of the report of the review committee for the science faculty is being printed and will be distributed to all members of that faculty this week.

### Curriculum review urged

The committee has recommended:

- An extensive review of the science faculty curriculum, especially at the first-year level, where the committee says the program is characterized by "rigidity";
- Improved academic counselling for science students and the establishment of guidelines for student evaluation of courses and teaching, and for the use and distribution of the results;
- The collection and maintenance by the dean of Science of complete records on the resources and responsibilities of the

## UBC's mission subject of Thursday address

UBC's president, Dr. Douglas Kenny, has called a meeting of the Joint Faculties of the University to outline the contents of a document entitled "The Mission of the University of British Columbia," prepared at the request of the Universities Council of B.C.

The meeting will be held tomorrow (Thursday, Nov. 22) in Lecture Hall 2 of the Woodward Instructional Resources Centre from 1:00 to 2:15 p.m.

In a foreword to the printed version of the mission statement, which will be distributed to faculty members on Friday, President Kenny says the document is intended "to stimulate discussion within the University community about the mission, goals and objectives of the University."

He adds: "The views expressed in it are not carved in stone; I shall welcome considered comments and reactions to it."

The mission statement is divided into two parts. Part I is an overall statement of the goals of the University by President Kenny and is based on statements prepared by the deans of UBC's 12 faculties, the directors of the Centre for Continuing Education and the Computing Centre and the University Librarian, which make up Part II of the booklet.

faculty and the activities of faculty members and that the dean "play the definitive role in the allocation of resources in the faculty"; and

- More involvement by the dean of the Faculty of Graduate Studies in future planning and allocation of research funds in the science faculty.

### 'Leading Science Faculty'

One of the recommendations described as a matter of "urgency" by the committee is establishment by the dean of a review committee for the mathematical sciences to advise him on the future of applied mathematics and statistics, to be followed by reviews of earth and space sciences and the life sciences.

All 22 recommendations made by the committee appear on page 3 of this issue of *UBC Reports*.

Before dealing with the problem areas of the science faculty, the committee outlines its growth and development and emphasizes that "as judged from both inside and outside the University," UBC's Faculty of Science "ranks as a leading Science Faculty."

## Has central role at UBC

The faculty, the report says, "plays a central role in the University...through the instruction it regularly provides to students registered in all Faculties but Law," and its research program is "enormous and encompasses both basic and applied research."

"It is worth noting," the report says, "that the average number of research papers already published by each faculty member is 34, that the average number published in the last five years is 12, and that research funds awarded to members of the Faculty in 1978-79 were of the order of 60 per cent of the Faculty's professorial salaries budget."

Please turn to page 3  
See SCIENCE REVIEW

## Senate

At its November meeting held last Wednesday (Nov. 14), Senate was presented with an interim report from its admissions committee concerning how best to evaluate the English composition skills of students applying for admission to the University. The test was to be used in admitting students in September, 1980.

The committee reported it had looked at a number of possible tests and rejected them all. However, the interim report mentioned that progress has been made within the school system in the last several years in emphasizing the importance of English composition, and the Ministry of Education is looking into the feasibility of providing an evaluation of writing ability distinct from the students' English 12 grades.

The committee proposed to adopt a "wait and see" approach to the problem. At the urging of Dr. Jon Wisenthal of the English department, though, Senate voted to ask the admissions committee to continue its search for an independent test of the literacy of applicants, and to consult with interested parties within the University.

Senate has voted to establish a standing committee on student awards to advise the director of Awards and Financial Aid on matters of policy.

The new committee will have to guide it nine recommendations which were presented to Senate by the ad hoc committee on awards and scholarships, created at Senate's request in February, 1978, to make recommendations on UBC's policy in that area.

The guidelines include:

- Encouraging donors to provide funds on an unrestricted basis to allow flexibility;
- Permitting a student to defer a scholarship only for medical or compassionate reasons, and only for one academic year;
- Limiting the aggregate value of scholarships held by an undergraduate student in a given academic year to \$2,500;
- Expanding the "University Scholarship" program, funds permitting, to provide a scholarship of \$750 for the top three per cent of the continuing full-time undergraduate students in each year and faculty, \$500 for the next three per cent, and \$250 for the next two per cent; and
- Developing an "awards transcript" that will be sent to all winners of academic awards.

Chairman of the ad hoc committee Dean George Beagrie stressed to Senate that the guidelines were intended only as advice to the new committee, and not policy that the new committee must stand by.

UBC has a new school following Senate's November meeting. Senate voted to accept the Faculty of Medicine's recommendation that the Division of Audiology and Speech Sciences, now part of the Department of Paediatrics, become a School of Audiology and Speech Sciences.

Audiology and Speech Sciences at UBC was established 10 years ago and offers a Master of Science degree in this special field. Graduates work in the field of audiology and speech-language pathology.

The change to school status gives the division greater freedom in dealing with special problems, and draws it more closely in line with other UBC schools, characterized, among other things, as mainly professional or vocational in nature.

Several motions dealing with the proposed Discovery Park on the campus were discussed by Senate at the request of student senator Valgeet Johl. The motions stemmed from "a desire

to see a more open process in any future decisions to be made with full community involvement." Ms. Johl stated in her rationale. Although Senate voted to ask the Board of Governors to give Senate "periodic progress reports on development of the Discovery Park," it rejected motions recommending that the Board "not condone any further expansion of the Discovery Park ... without a full community hearing process" and that the Board of Management of the Discovery Park include full representation from UBC students, faculty and staff as well as residents of the University Endowment Lands.

The Board of Management has not yet been appointed. However, President Kenny said he intended to keep it a small working group in order that it be able to handle efficiently the day-to-day operations of UBC's Discovery Park.

Another motion by student senator Anne Gardner was also rejected by Senate. The motion asked that a committee be set up to suggest upper limits on student/teacher ratios in labs, tutorials, discussion groups and problem sessions. Ms. Gardner said she was concerned that, as budgets were cut back, the number of students in these special teaching situations would increase, thereby making the teaching less effective. She urged that priority be given to keeping student/teacher ratios low.

However, Dean of Arts Robert Will said there had been no cutbacks in his faculty in budgets providing for teaching assistants and, in fact, his faculty often provides for more teaching assistants than there is budget for. Commerce dean Peter Lusztig argued against the motion as well, saying that if a limit on the number of students were in place, and the teaching budget were reduced, tutorials and the like would not be able to be offered at all.

A fifth motion by student senator Doug Watts that students be allowed to view their final exams after marking was tabled.

## Alumni name new director

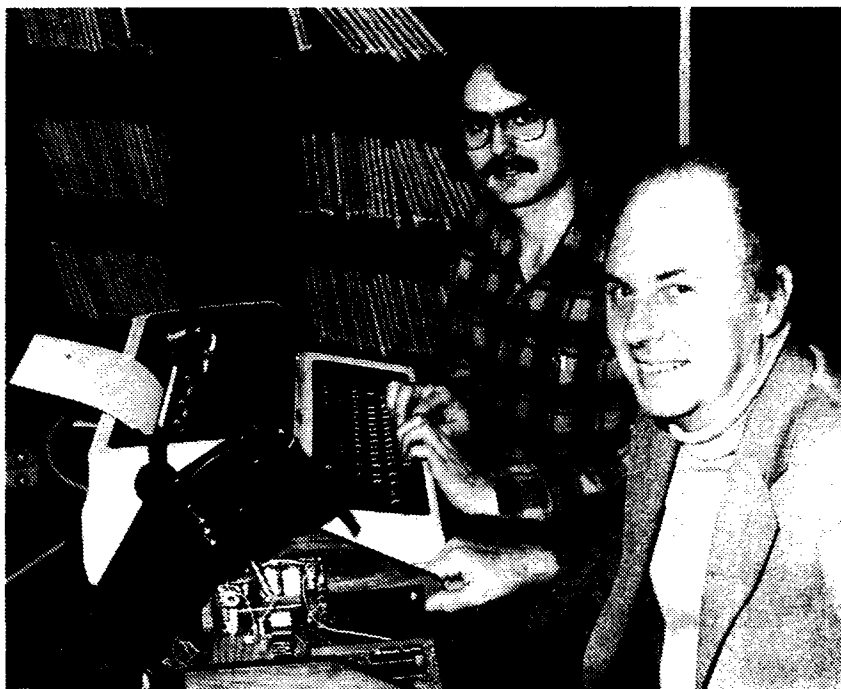
The UBC Alumni Association has appointed Dr. Peter Jones as executive director of the association.

Jones, who succeeds Harry Franklin who resigned in July, took up his post Nov. 15.

A Canadian citizen, he was born and received his early education in Britain. He earned his licentiates in philosophy in 1960 and religious studies in 1964 (equivalent to master's degrees) from the Gregorian University, Rome, and his doctorate in religious studies from McGill University in 1973.

He joins the UBC Alumni Association from Food for the Hungry, Canada, where he was executive director. Previously he had spent five years with the Canadian Council of Christians and Jews. He was appointed executive director of the Council's Pacific Region in 1974 and was named national president in 1976. As president he was responsible for the Council's nation-wide educational programs and fund-raising campaigns.

Trilingual (English, French and Italian), he was a faculty member at Concordia University from 1967 to 1974 where he was assistant professor of Theological Studies and director of the Centre for Interdisciplinary Studies, Loyola Campus. Prior to his Concordia appointment he was a lecturer at Marianopolis College, Université de Montreal.



Jim Banham photo

Prof. Michael Beddoes of UBC's electrical engineering department, right, is in New Jersey on the U.S. east coast this week delivering the latest version of his talking typewriter to the family of a brain-damaged seven-year-old boy who will use it to learn to spell. For almost a decade, Prof. Beddoes has been working on the talking typewriter to enable the blind to hear the sound of letters written on a typewriter. His latest version also enables the typist to correct mistakes and turn out error-free copy. Key to the operation of the talking typewriter is the foot-square box in front of Prof. Beddoes, which contains a microcomputer with a memory that can store 4,000 characters and handle all 42 sounds in the English language. Prof. Beddoes says B.C. Institute of Technology graduate Mark Bunce, left, deserves much of the credit for design of the improved machine. The voice the typist hears, described by Prof. Beddoes as a "soft-spoken Canadian alto," is actually that of CBC newsreader Judy Piercey.

## Council seeks proposals

The Science Council of British Columbia is conducting a province-wide competition for the distribution of more than a million dollars in research funds.

"We have received a transfer of \$2 million from the provincial government to establish a research fund," said Dr. Erich Vogt, chairman of the Science Council and vice-president for faculty and student affairs at UBC.

"The council has decided that, rather than deal with research grant applications by dribs and drabs, it would be best to use a large-scale competition in order to cull all the best research ideas from around the province."

Dr. Vogt said the council is seeking suitable research proposals from interested research workers in industry, research institutes and consulting organizations, as well as the universities.

The deadline for submissions is Dec. 1, 1979. All applications will be considered for funding by the council, with results to be announced early in 1980.

For the competition the Science Council has established specialist evaluation committees in eight areas: forests and forest products; mining, minerals and metals; energy; electronics and communications; transportation; manufacturing processes; agriculture; and oceans and marine resources.

Information, application forms and detailed application procedures are available from: Research Secretariat of B.C., 7671 Alderbridge Way, Richmond, B.C. V6X 1Z9. Telephone: 273-0788/89.

The Science Council of B.C. was established in June, 1978, under Bill 23 to advise the provincial government on matters of science and research policy. In addition, the council has the power to provide support for scientific research and development projects "to promote the industrial, economic and social development of the province."

Three members of the UBC faculty

have already received grants from the council. The recipients are:

Prof. James Kutney of the chemistry department, who is using a \$150,000 grant for chemical studies on forest by-products; Prof. John S. Nadeau of Metallurgy, who has received \$15,000 for studies on crack growth in wood; and Prof. Ernest Peters, also of Metallurgy, who has a \$25,000 grant to study the separation of iron from copper concentrates by reductive leaching.

### RESEARCH

Continued from page 1

laboratory assays, but the researchers also plan controlled-diet experiments on human population groups. The research could lead to diet advice as well as changes in food products and processes to lower cancer risk.

"One of the most positive approaches," Dr. Powrie said, "would be the addition of anti-carcinogenic compounds, such as anti-oxidants, to foods to reduce the influence of carcinogens which may be present naturally."

Dr. Stich added: "Most effort in cancer prevention is focussed on hazards in the workplace, but the public is exposed to many cancer-producing substances in low doses. It is these carcinogens that affect the man on the street which we wish to identify."

A second grant of \$120,000 has been made to a research team headed by zoologist Dr. Peter Larkin to study populations of coho salmon in the Strait of Georgia. The three-year project will involve a total of five studies, including genetic and life history research on several coho salmon stocks, with a view to determining the implications for management of the salmon stocks.

The other NSERC-funded projects cover a wide range of topics, including soil degradation in the Fraser Valley, the effect of various forms of trace metals on marine organisms in the Fraser River estuary and the degradation of hydrocarbons by marine bacteria.

## SCIENCE REVIEW Continued from page 1

Many members of the Faculty, the report continues, have been recognized for outstanding research. "In the Faculty, there are scholars of distinction, and UBC graduates (bachelor's, master's and doctoral) are well respected."

The committee then goes on to deal with the faculty's problem areas under a number of headings, including the undergraduate and graduate programs, instabilities within the faculty and planning for the future.

The report says that the adoption by the faculty of the policy that all Science students must complete a 3-unit, 100-level course in chemistry, physics and mathematics has led to rigidity and lack of flexibility in the first-year curriculum.

## Flexibility urged

The results of this policy include the assumption of enormous service-teaching responsibilities by these three departments, the provision of laboratory courses "for large captive (and occasionally disinterested) audiences," and the inability of students to "shop around" in the first year and explore other disciplines. "Moreover," the report comments, "one or more of the basic disciplines may be irrelevant for (the student's) major (e.g. chemistry for Computer Science)."

To introduce more flexibility into the first two years of the Science curriculum, the committee urges, among other things:

- The adoption of a firm grade 12 admission requirement to 100-level courses, coupled with the formulation of realistic foundation-course objectives;

- Development of one-term courses "to give the student more opportunity to choose a variety of Science courses";

- Development of courses and sequences that would permit more rapid exposure to the content of a discipline for outstanding students; and

- More widespread use of placement exams for entering students.

The committee says students at all levels within the faculty, and especially first-year students who must make "hard decisions" at the end of their initial year of study, should be encouraged to seek academic counselling both through the dean's office ("the logical source of counselling advice") and Science departments, which should be "ready sources of information."

In a section on undergraduate specialization, the committee expresses concern about "the multiplicity of course choices open to senior students in a given program, leading to excessive specialization (as well as to increased costs) at the undergraduate level."

## Wide variations

In some quarters, the report says, "it is felt that too little attention is given to the objective of educating thoughtful, adaptable scientists and too much to producing specialist honors and majors graduates in the disciplines."

The committee also points to the "alarmingly large service course commitments" which have been assumed by some departments, which the report says is "laudable, but in a world of finite resources, no faculty or department can be all things to all people."

The committee also found "wide variation" in the manner in which the evaluation of Science courses and instructors is carried out and the way the information is used. A statement of policy "could remove much mystery and suspicion in the minds of students (and anxiety in the minds of faculty)," the report says.

The committee also expresses concern about a number of matters centering on the allocation of teaching duties, and found evidence that some departments "give low priority to instruction at the lower levels, and depend heavily on (teaching assistants) for laboratory and tutorial supervision."

This is not intended to reflect on the performance of TA's, the committee adds, "about whom many favorable comments were heard... However, the lack of a professorial presence in first-year laboratories and tutorials may imply that this component of instruction is less important than lectures.

It may also contribute to the sense of isolation between faculty and students at the lower levels."

The committee suggests there should be "an explicit policy on the nature and extent of this kind of faculty participation in undergraduate teaching."

The committee says it was also alarmed at the apparent high proportion of Science students who considered themselves "pre-medical" or "pre-dental" and whose objective "took precedence over advancement in the discipline of study."

These students, the report says, "add needlessly to the faculty burden of instruction, and they deprive themselves of alternative careers that might otherwise give them the possibility of employment and of personal satisfaction."

The committee urges that the Faculties of Science, Medicine and Dentistry develop a more rational approach to pre-medical and pre-dental studies.

The committee then turns, in a section entitled "Instabilities," to a discussion of the problem of uncertainty about future structures of some of the faculty's departments and programs.

In particular, it identifies the area of "Applied Mathematics/Statistics/Numerical Analysis" and the question of the future of the Institute of Applied Mathematics and Statistics as a question that demands resolution in the very near future. "The majority of those active in applied mathematics and statistics now feel stifled within the parent departments," the report says, "and want to form a separate department. The statisticians see their future in a Department of Statistics."

## Sizable investment

The committee says it found "widely divergent views" on the appropriate administrative structure and policies to serve the faculty best in its research and graduate programs. It also found among the departments widely divergent modes of implementation of the graduate program.

The committee first describes the existing structure under which the administrative responsibilities for research lie with the departments in conjunction with the Office of Research Administration, which reports to the president, and the responsibilities for graduate instruction which lie with the departments in conjunction with the Faculty of Graduate Studies. "The dean of Science," the report comments, "seems not to have any direct responsibility for either research or graduate instruction."

In discussing the costs of research and graduate instruction, the committee says the University makes a substantial contribution to research in the science faculty because appointment to a faculty position involves both teaching and research.

"Thus the University has made a sizable investment in the research enterprise even before any funds are allocated for capital and operating purposes," the committee comments. "The consensus of this committee is that there should be an awareness of this cost and of all other costs of research (and of graduate instruction)... Only then can the faculty and the University administration assess the relative costs and benefits of incremental changes in research support, and make the case for increased support."

## Dean central figure

The central figure in communicating this sense of awareness "must be the dean of the Faculty of Science," the committee says, "who has budgetary responsibility for the teaching and the research base of his faculty." The role of the dean of Graduate Studies, who has program responsibility for graduate studies in the science faculty "should not be minimized," the report says.

The committee observed "extreme variations" within the faculty in the way in which graduate programs are administered and many Graduate Studies regulations are not being observed in some Science departments.

The future direction of the Faculty of Science "is the most serious concern of this committee," the report says, and leads it to make a number of recommendations in

specific problem areas, including compilation of a comprehensive data base, forward planning and resource allocation.

As a minimum, the report says, the Science dean should have precise information for each unit of the faculty on:

- Faculty resources, including faculty and support staff, teaching and research space and equipment and supplies inventories; and

- Faculty activities and responsibilities, including information on teaching and research at the graduate and undergraduate levels, committee work and outside professional activities.

## Faculty-wide plan

The effective use of this data base for management decisions requires the development of measures more appropriate for faculty decision-making than those presently in use, which the committee describes as "over-simplified."

On the question of resolution of uncertainties about faculty structure, the report recommends that the dean strike review committees to advise him on the future of applied mathematics and statistics, earth and space sciences and the biology program.

The science faculty is also in need of "Faculty-wide planning for the future," the committee says, and recommends development of a plan covering the next five and 10 years.

The dean of Science "must be concerned with the allocation of resources in the Faculty," the report says. The committee suggests the dean review the deployment of faculty and non-faculty teaching resources and teaching assistant budget allocations to Science departments.

The committee also draws attention to inadequate facilities for some Science departments and says the planning for new and remodelled space for various units is another aspect of resource allocation.

Finally, the committee calls for more involvement by the dean of Graduate Studies in the work of the science faculty "with the co-operation and support of the dean of Science."

"If graduate work is to be given an identity separate from undergraduate studies," the report says, "it follows that the dean of Graduate Studies must assume a more important budgetary role than at present. In particular, he should have the capacity to respond to genuine research needs in any sector of the University."

## Committee listed

Prof. Donald Moore of Electrical Engineering, who chaired the presidential review committee on the science faculty, was also a member of the search committee which earlier this year met to make recommendations to the president on the appointment of a new dean for the Faculty of Science. Prof. Moore was asked to provide the search committee with an interim report on the review of the faculty, which included a statement of the principles which guided the review committee's thinking and most of the 22 recommendations (see below) contained in the review committee's final report.

In addition to Prof. Moore, other members of the science faculty review committee were: Prof. R.H.T. Smith, currently on leave as head of the Department of Geography as UBC's associate vice-president for academic development; Dr. Victor L. Klee, Jr., of the University of Washington in Seattle; Dr. James A. Morrison of McMaster University in Hamilton, Ont.; Dr. David W. Strangway of the University of Toronto; and Dr. David Walden of the University of Western Ontario, in London, Ont.

## Second review

The review of the science faculty is the second of two major faculty reviews initiated by President Kenny last year as part of an overall plan aimed at improving the quality of education at UBC. A review of the Faculty of Education was completed and made public in February of this year.

# Recommendations given in full

Here are the 22 recommendations made by the President's Review Committee for the Faculty of Science.

1. That the rigidity of the first-year B.Sc. curriculum be reduced.

2. That the need for parallel 100-level courses for students with different senior secondary school preparation be examined with a view to relaxing the number and length of required courses for the student with the full secondary school preparation.

3. That a more flexible and personal system of academic counselling be developed, to accommodate the several distinct constituencies of the Faculty (first-year students; Majors, Honors and General B.Sc. students; students in affiliated programs; and students intending to seek entry to the Faculties of Dentistry or Medicine), preferably so that the Departments and the Office of the Dean of the Faculty of Science complement each other in this essential function.

4. That all third and fourth year courses be reviewed to determine whether undue specialization or course duplication exists.

5. That the content and purpose of service courses be examined to ensure that they are in fact meeting real needs and that they are consistent with the resources and mission of the Faculty of Science.

6. That the Dean of the Faculty of Science establish guidelines for student evaluation of courses and of teaching, and for the use and distribution of the results of such evaluations.

7. That the Dean of the Faculty of Science review the deployment of non-professional teaching personnel in the Departments and consider the merits of more Post-doctoral Fellows and Sessional Lecturers in this role.

8. That a review of the Mathematical Sciences be conducted as a matter of urgency, to be followed as soon as practicable by reviews of the Earth and Space Sciences, and of the Life Sciences.

9. That the administrative responsibility of the Dean of the Faculty of Graduate Studies for graduate programs in the Faculty of Science be reaffirmed, and, in particular, that there be relative uniformity in the application of the guidelines on admissions, residence, examinations, etc., of the Faculty of Graduate Studies.

10. That the Dean of the Faculty of Science collect and maintain records (more complete than now available) on the resources and responsibilities of the Faculty, and on the activities of faculty members.

11. That in the allocation of resources within the Faculty of Science (and within the University), the cost of graduate study be separated clearly from the cost of undergraduate study and that the two be funded separately.

12. That the Dean of the Faculty of Science involve appropriate members of the Faculty in matters which are at present the exclusive preserve of the Heads of Departments.

13. That the Faculty of Science enunciate a realistic development plan for the next five-year and ten-year periods.

14. That the Dean of the Faculty of Science play the definitive role in the allocation of resources within the Faculty.

15. That the planning and design of new and remodelled space pay due regard to its use by the various constituencies, especially the undergraduate students, and to the needs of the emerging disciplines and the interface areas.

16. That the provision of common controlled-environment facilities (for the growth of experimental plants, animals or microbes) as a Faculty-wide resource be given high priority.

17. That the Dean of the Faculty of Science, acting in concert with the Dean of the Faculty of Graduate Studies, address as a matter of urgency the issue of the uniformity of stipends for teaching assistants.

18. That the leadership role of the Dean of the Faculty of Graduate Studies in graduate study and research be recognized in the Faculty of Science by his central involvement in: forward planning (including the establishment of realistic enrolment levels and the associated support funds); the allocation of research funds by the existing committees; and the exercise of discretion in the disbursement of any special University fund that may be created for the encouragement of research.

19. That the Faculty responsibility for safety procedures be recognized, and that appropriate action be taken to ensure uniform standards of safety awareness and enforcement.

20. That a Faculty-wide (indeed, University-wide) plan for the systematic amortization of equipment be developed.

21. That an appropriate form and level of participation in the affairs and programs of the Faculty of Science be established for the four affiliated Departments (Biochemistry, Geography, Physiology and Psychology).

22. That steps be taken to identify clearly those parts of the budgets of the Departments of Botany, Zoology and Microbiology which are to be committed to the Biology program at both undergraduate and graduate levels, so that in resource allocation that program is considered in the same light as other Departmental programs.

# UBC Calendar

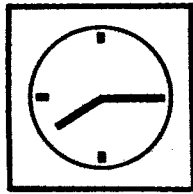
## UBC CALENDAR DEADLINES

Events in the week of

Dec. 2-Dec. 8 Deadline is 5 p.m. Nov. 22  
Dec. 9-Dec. 15 Deadline is 5 p.m. Nov. 29

Send notices to Information Services, 6328 Memorial Road (Old Administration Building), Campus. Further information is available at 228-3131.

## THE VANCOUVER INSTITUTE



### SATURDAY, NOV. 24

Dr. John H. Young, International Monetary Fund, Washington, D.C., on **What is Happening to Money? The International Monetary System.**

### SATURDAY, DEC. 1

Sir Fitzroy Maclean, Argyll, Scotland, on **Holy Russia.**

Both lectures at 8:15 p.m. in Lecture Hall 2, Woodward Instructional Resources Centre.

## SUNDAY, NOV. 25

3:00 p.m. **MUSEUM OF ANTHROPOLOGY** presents the third in a four-part series on Art As Language: **Dialogue between two Haida Artists, Robert Davidson and Bill Reid.** Museum, 6393 Northwest Marine Dr.

7:00 p.m. **SUBFILMS** presents **Revenge of the Pink Panther** in the Auditorium, Student Union Building. Admission with AMS card, \$1.

7:30 p.m. **VARSITY OUTDOOR CLUB** presents a 60-minute multimedia show on climbing around the world with Jeff Lowe, established ice and rock climber from the U.S. Lecture Hall 2, Woodward Instructional Resources Centre. Admission, \$2.50; students, \$1.50.

## MONDAY, NOV. 26

12 noon **CANCER RESEARCH SEMINAR.** Dr. N. Bruchovsky, Cancer Endocrinology, Cancer Control Agency of B.C., on **New Aspects of Androgen Action in the Prostate.** Lecture Theatre, B.C. Cancer Research Centre, 601 W. 10th Ave.

12:30 p.m. **BRASS CHOIR,** directed by Gordon Cherry, performs **Music of Gabrieli.** Recital Hall, Music Building.

3:30 p.m. **APPLIED MATHEMATICS SEMINAR.** Dr. Marc Mangel, Center for Naval Analyses, Alexandria, Va., and Oak Harbor, Wa., on **Optimal Search: Old Problems, New Solutions, and New Problems.** Room 203, Mathematics Building.

4:00 p.m. **BIOCHEMISTRY SEMINAR.** Colin Yarrow, Biochemistry, UBC, on **Applications of Recombinant DNA Technology to the Study of Opiate Receptors.** Lecture Hall 3, Woodward Instructional Resources Centre.

7:30 p.m. **MUSEUM OF ANTHROPOLOGY.** Dr. Richard Pearson, Archaeology, UBC, on **UBC's Korean Collection.** 6393 Northwest Marine Dr. Fee of \$22 for members, \$29 for non-members includes lecture and tour on Thursday, Nov. 29, to **5,000 Years of Korean Art** at the Seattle Art Museum.

8:30 p.m. **MUSEUM OF ANTHROPOLOGY** presents a special television program with Arthur Erickson, architect, Dr. Michael Ames, museum director, and Julie Martell, Channel 10, Vancouver Cablevision. The program will also be seen on Wednesday, Nov. 28, at 5 p.m.

## TUESDAY, NOV. 27

12:30 p.m. **BIOCHEMISTRY SEMINAR.** Dr. James Rothman, Biochemistry, Stanford University, Calif., on **Coated Vesicles and the Sorting Problem in Membrane Biogenesis.** Lecture Hall 4, Woodward Instructional Resources Centre.

**WORLD UNIVERSITY SERVICES Bi-Monthly Meeting** presents a report on the WUSC conference in Toronto and on sponsoring student refugees. Room 205, Buchanan Building.

**LAW STUDENTS ASSOCIATION Speakers Committee** presents columnist and freelance writer Doug Collins on **Immigration and the Destruction of English Canada.** Room 101, Curtis Law Building.

**FREESEE FILM SERIES** presents the last in a seven-part series on **Civilization** with Kenneth Clark. This week's film is **Grandeur and Obedience.** Auditorium, Student Union Building. Free.

**BOTANY SEMINAR.** Dr. G. Ledyard Stebbins, University of California at Davis, on **DNA, Chromatin and the Evolution of Angiosperms.** Room 3219, Biological Sciences Building.

3:30 p.m. **OCEANOGRAPHY SEMINAR.** Dr. S.E. Calvert, head, Oceanography, UBC, on **Mediterranean Sappopels.** Room 1465, west wing, Biological Sciences Building.

**METALLURGICAL ENGINEERING SEMINAR.** Dr. Don Wensley, MacMillan Bloedel Research, Ltd., on **Corrosion in Alkaline Pulping Liquors.** Room 308, Forward Metallurgy Building.

4:30 p.m. **CHEMISTRY COLLOQUIUM.** Dr. Kurt Mislow, Princeton University, on **Recent Advances in the Stereochemistry of Molecular Propellers.** Room 250, Chemistry Building.

**UNIVERSITY LECTURES COMMITTEE Special Lecture.** Prof. G. Ledyard Stebbins, professor emeritus, Genetics, University of California at Davis, on **Biological Evolution, Cultural Evolution, and the Significance of Sociobiology.** Lecture Hall 2, Woodward Instructional Resources Centre.

6:00 p.m. **MUSEUM OF ANTHROPOLOGY** free identification clinic. 6393 Northwest Marine Dr. Continues until 8 p.m.

7:30 p.m. **CUSO INFORMATION NIGHT.** Susan Harris and Jim Mactier, CUSO volunteers from Papua New Guinea, give a slide presentation on **CUSO in Papua New Guinea.** Upper Lounge, International House. Recruitment information will be available.

8:00 p.m. **AMS SPEAKERS FORUM.** The last in a series on **Computers for the '80s.** Party Room, Student Union Building.

**ECOLOGY LECTURE.** Elizabeth Dodson Gray, co-founder, Bolton Institute for a Sustainable Future, Washington, D.C., on **A Feminist Perspective on Our Ecological Crises.** Lecture Hall 2, Woodward Instructional Resources Centre. Admission, \$5, at the door.

## WEDNESDAY, NOV. 28

12 noon **PHARMACOLOGY SEMINAR.** Dr. N. Buskard, Medicine, UBC, on **Current Trends in Supportive Hematology.** Room 114, Block C, Medical Sciences Building.

12:30 p.m. **NOON-HOUR CONCERT.** Eric Wilson, cello, and Robert Rogers, piano, perform **Music of Couperin, Barber and Paganini.** Recital Hall, Music Building.

**HUMANITIES ASSOCIATION SERIES on Religion and Literature.** Dr. Leon M. Zolbrod, Asian Studies, on **Faith, Piety and Retribution in The Tale of Genji.** Room 2230, Buchanan Building.

**HABITAT LECTURE.** Prof. Kulbhushan Jain, School of Architecture, Centre for Environmental Planning, Ahmedabad, India, on **Form and Structure of a Planned City — Jaipur, India.** Room 107, Lasserre Building.

3:30 p.m. **CHEMICAL ENGINEERING SEMINAR.** J. Wong on **Separation of Sodium Sulphate from Chlorine Dioxide Generator Effluent.** Room 206, Chemical Engineering Building.

## DRAMA

*The Father* by August Strindberg is being performed at the Frederic Wood Theatre until Saturday, Dec. 1, excluding Sunday, Nov. 25, at 8 p.m. Admission, \$5; students and seniors, \$3. For reservations call 228-2678 or drop by Room 207 of the Frederic Wood Theatre.

## FACULTY CO-ED VOLLEYBALL

A team is being set up to play other teams in the city. Inexperienced players welcome. For information, call 228-5925 or 266-9826 (evenings).

## AMS ART GALLERY

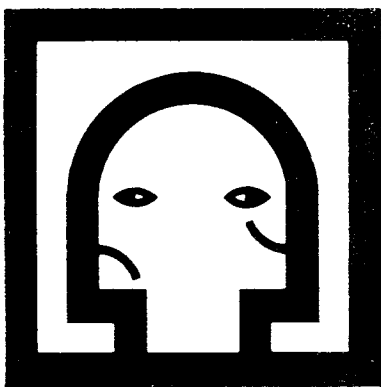
An exhibition of **Paintings and Drawings** by Robert Linsley continues until Nov. 30; 10:30 a.m. - 3:30 p.m. AMS Art Gallery, Student Union Building.

## SKATE UBC WINTER SESSION

An eight week program begins on Saturday, Nov. 24. Children and adults are put into groups according to skill. There are: skating lessons, \$16; power skating for hockey players to develop their skating skills, \$22; advanced free style for more advanced skaters, \$29; dance session where Preliminary and Bronze dances are taught, \$22. For information, call Skate UBC at 228-5995, Monday to Saturday, 9 a.m. to 1 p.m.

## CEREMONY OF CAROLS CHORALE

Faculty and students are invited to join in the last rehearsals of Benjamin Britten's *Ceremony of Carols* with harp accompaniment. Either Tuesdays, 12:30-1:20 p.m., or Thursdays, 2:30-3:20 p.m. Music Education Hut 0-16, 6488 Old Orchard Rd. Further information, 228-5206, 228-5367. Performance will be Dec. 3.



Freddy Wood  
Theatre  
presents  
*The Father*  
by Strindberg  
till Saturday,  
Dec. 1, Call  
228-2678.

## FINAL ORAL EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Listed below are scheduled final examinations for the degree of Doctor of Philosophy at the University. Unless otherwise noted, all examinations are held in the Faculty of Graduate Studies Examination Room, General Services Administration Building. Members of the University community are encouraged to attend the examinations, provided they do not arrive after the examination has commenced.  
Monday, Nov. 26, 3:30 p.m.: R. MARC BUSTIN, Geological Sciences; **Structural Features of Kootenay Coal, Southern Canadian Rocky Mountains.**

## MUSEUM EXHIBITS

Cycles: **The Graphic Art of Robert Davidson, Haida,** continues until Feb. 3, 1980.

Three student exhibits are on display in the museum — **Design Elements in Northwest Coast Indian Art; The Evolution of Bill Reid's Beaver Print and Kwagiutl Masks: An Expression of Transformation.**

The Theatre Gallery in the museum features two multi-screen slide-sound presentations which can be operated by visitors.

Museum is open Tuesdays, noon to 9 p.m.; Wednesdays through Sundays, noon to 5 p.m.

3:30 p.m. **STATISTICS WORKSHOP.** Dr. Ray Faith, Statistics, Stanford University, on **Interpolating Air Pollution.** Room 214, Angus Building.

**GEOPHYSICS SEMINAR.** Dr. M.E. Evans, Physics, University of Alberta, Edmonton, on **Paleomagnetism and Secular Variation of the Earth's Magnetic Field.** Room 260, Geophysics and Astronomy Building.

**ECONOMIC THEORY WORKSHOP.** W. Schworm on **The Estimation of Age Effects on Capital Use and Deterioration: Are Second Hand Markets Perfect?** Room 351, Brock Hall.

4:00 p.m. **ENERGY POLICY MODELING SEMINAR.** Victor De Buen, B.C. Hydro, on **An Energy Supply Model for B.C. Penthouse, Angus Building.**

4:30 p.m. **ECOLOGY SEMINAR.** Dr. Tom Bergerud, Biology, University of Victoria, on **Predation and Caribou.** Room 2449, Biological Sciences Building.

## THURSDAY, NOV. 29

7:15 a.m. **MUSEUM OF ANTHROPOLOGY** tour to the Seattle Art Museum to see **5,000 Years of Korean Art.** \$22 for members; \$29 for non-members; Enrolment limited.

9:00 a.m. **MEDICAL GRAND ROUNDS.** Dr. Donald R. Studney, Medicine, VGH, on **Update Computers in Medicine.** Lecture Hall B, Vancouver General Hospital.

12 noon **CANCER RESEARCH SEMINAR.** Dr. D.R. McCalla, Biochemistry, McMaster University, on **Aeromutagenicity in the Steel Foundry.** Lecture Theatre, B.C. Cancer Research Centre, 601 W. 10th Ave.

12:30 p.m. **UBC PENSION AND INSURANCE POLICIES,** a meeting sponsored by the Faculty Association and the Centre for Continuing Education. Room 110, Angus Building.

**UNIVERSITY SINGERS,** directed by James Schell, perform **Music of Vaughan Williams, Brahms and Eugene Wilson.** Recital Hall, Music Building.

**LAW STUDENTS' ASSOCIATION Film Committee** presents **Fantastic Animation Festival,** a program of light-hearted short shorts to relieve exam worries. Rooms 101/102, Law Building.

**PLANT SCIENCE SEMINAR.** D. Donnelly on **The in vitro Culture of Rubus spp.** Room 342, MacMillan Building.

**WEEKLY WEATHER BRIEFING** for previous seven days and previews of weather for coming five days in Room 215, Geography Building.

12:45 p.m. **RUGBY.** UBC Thunderbirds vs. the University of Victoria, Thunderbird Stadium.

2:30 p.m. **PHYSICS CONDENSED-MATTER SEMINAR.** Ross Datars, McMaster University, on **Charge Density Waves in Potassium.** Room 318, Hennings Building.

3:00 p.m. **BLOOD DONOR CLINIC.** North Lounge, Ballroom, Totem Park Residence. Continues until 8 p.m.

4:00 p.m. **PHYSICS COLLOQUIUM.** Garth Jones, UBC, on **Pion Production Using Polarized Protons.** Room 201, Hennings Building.

7:00 p.m. **SUBFILMS** presents **Heaven Can Wait** in the Auditorium, Student Union Building. Admission with AMS card, \$1. Repeated Friday and Saturday at 7:00 and 9:30 p.m. and Sunday at 7:00 p.m.

7:30 p.m. **BENGALI LANGUAGE EVENING** at the Coffeeplace, International House.

8:00 p.m. **SYDNEY ISRAELI MEMORIAL SEMINAR.** Dr. David Morley, University of London, England, on **Child-to-Child Program.** Lecture Hall 2, Woodward Instructional Resources Centre.

**YOUNG ALUMNI CLUB** presents an evening of relaxing live music. Full facilities. Final year and graduate students may join. Continues until 12 midnight at Cecil Green Park. Information at 228-3313.

## FRIDAY, NOV. 30

9:00 a.m. **PEDIATRICS GRAND ROUNDS.** Dr. David Morley, professor of pediatrics, Royal Post Graduate School of Medicine, University of London and UBC Panel, on **UBC and Care in Developing Countries.** Lecture Hall B, Heather Pavilion, Vancouver General Hospital.

12 noon **DENTISTRY SEMINAR.** Dr. D. Overman, Anatomy, University of West Virginia, on **In vivo and in vitro Studies on Palatal Development: A UBC Sabbatical Report.** Room 388, Macdonald Building.

12:30 p.m. **MUSIC LECTURE/RECITAL.** Hans-Karl Piltz, viola d'amore, with Doreen Oke, harpsichord, on **The Viola d'Amore in the Baroque Period.** Recital Hall, Music Building.

**CLASSICS LECTURE.** Prof. Niall Rudd, Classics, University of Bristol, England, on **Pyramus and Thisbe in Ovid and Shakespeare.** Room 100, Buchanan Building.

1:00 p.m. **GENETICS SEMINAR.** Dr. P.M. MacLeod on **Genetic Approaches to the Nervous System.** Conference room, fourth floor, Health Centre for Children, VGH.

2:30 p.m. **GEOLOGICAL SCIENCES COLLOQUIUM.** Dr. J.G. Souther, Geological Survey of Canada, on **Meager Mountain and Other Geothermal Research in Canada.** Room 330A, Geological Sciences Centre.

3:30 p.m. **LINGUISTICS COLLOQUIUM.** Sarah Bell, Linguistics, UBC, on **Minor Relativization Strategies in Cebuano.** Room 2225, Buchanan Building.

**MATHEMATICS COLLOQUIUM.** Prof. E. Granirer, Mathematics, UBC, on **Some Aspects of Noncommutative Harmonic Analysis.** Room 1100, Mathematics Building Annex.

**ECONOMICS LECTURE.** Joel Mokyr, Stanford University, on **Why Ireland Starved.** Room 351, Brock Hall.

8:00 p.m. **UNIVERSITY SINGERS,** directed by James Schell, perform **Music of Vaughan Williams, Brahms and Eugene Wilson.** Recital Hall, Music Building.

## SATURDAY, DEC. 1

8:00 p.m. **ASAHIKAWA CHORAL GROUP** with the University Singers. Recital Hall, Music Building.

