

# The President's Report 1981-82



# The University of British Columbia





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*The report of President Douglas T. Kenny  
to the Senate and Board of Governors  
of the University of British Columbia  
for the academic year September 1,  
1981, to August 31, 1982.*

## The University of British Columbia

# Foreword

To the Board of Governors and Senate,  
The University of British Columbia.

Ladies and Gentlemen:

Despite the fact that The University of British Columbia has been in existence for only 67 years, it is the prevailing view that it is approaching maturity as a world-class institution. How has this been accomplished in such a remarkably short time?

I have attempted to provide the basic answers to that question in the first section of this report on the activities of the 1981-82 academic year. In short, I believe we have achieved maturity as a result of the commitment to excellence in all we do as an institution of higher education. British Columbians can take pride in the fact that UBC faculty members are regularly honored for their teaching and research achievements, that we have the best prepared students in Canada entering the University as the result of stringent entrance requirements and that we are the second largest centre for University research in this country.

The rest of my report records the many and varied endeavours of the people and organizations that make UBC one of the outstanding intellectual centres in Canada. I especially invite you to read those sections which record the continuing support that is forthcoming from the community at large and the outstanding effort the University continues to make by providing opportunities for learning in all parts of the province through its continuing education programs.

I would be less than honest if I did not admit that the University continues to face serious problems resulting from financial restraint. That we have managed to maintain and enhance the quality of the University's academic programs during a prolonged period of restraint is a tribute to all those who have a part in University governance — the Board and Senate, the deans of the faculties and their department heads, the faculty, the heads of administrative units and the students and employed staff of the University. It gives me great pleasure to record once again my debt to the entire University community for their devotion to the ideals of the academic enterprise.

Sincerely,

A handwritten signature in dark ink, reading "Douglas T. Kenny". The signature is fluid and cursive, with the first name "Douglas" and last name "Kenny" clearly legible.

Douglas T. Kenny  
President.

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# The President's Report 1981-82

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The University of British Columbia has been in existence for only 67 years. It has lived through hard times, hopeful times and doubtful times.

Unlike Harvard University, which is older than the United States, or the University of Toronto, which is older than Canada, our University is comparatively young from either an old- or a new-world standpoint. Although most academicians agree that UBC has become one of the nation's leading universities, nevertheless, as British Columbians, we tend to underestimate the value and importance of the high quality of its faculty, the quality of its students, the excellence of its research and reflective scholarship, its distinctive academic programs and its service to the community and the nation. I sometimes think that what all of us need today is the opportunity to visit other universities in Canada and abroad. The more I learn about universities elsewhere, the more certain I am that the taxpayer has grounds for being proud of the quality and excellence of this University's achievements.

As a case in point, it wasn't so long ago that I was asked by a member of the Bureau of Foreign Affairs of the Chinese Ministry of Education: "How did The University of British Columbia become one of the world's leading universities in such a remarkably short time?"

Looking back, how was it done? Perhaps not surprisingly, there is no simple or precise answer to the question.

The conditions that make a great university are not to be found in purely quantitative measures, such as the size of the campus, the number of buildings, the number of full-time and part-time professors or the number of students. My short answer to the question was: Woven into the intellectual and cultural fabric of the University's character is an insistent commitment to excellence in teaching and advanced research, an emphasis on sound liberal education, a diversity of academic programs relative to the basic fields of knowledge, a deep respect and encouragement for the exploration of novel lines of inquiry and strong academic leadership.

In elaboration I specified several criteria to which the University adheres in order to ensure that a continuing record of excellence is maintained:

1. To recruit, develop and retain faculty of the highest quality;
2. To maintain high entrance requirements for all students;
3. To conduct rigorous evaluation of all new and old programs;
4. To maintain an excellent library and computing centre;
5. To provide an environment that stimulates advanced research;
6. To provide adequate physical facilities in keeping with the University's academic priorities; and
7. To develop a flexible mission statement that indicates how the University could

develop in the future to be most valuable to the people of the province and the country.

It is my belief that these seven elements are imperative to the establishment, preservation and strengthening of a university that aspires to world distinction. It is important to realize that much of the strengthening of a university goes on in the day-to-day discoveries of professors, the gradual changes in teaching that take place in departments and the decisions of departmental administrators and their colleagues. The above seven elements simply provide the basis for a longer perspective for the future development of the University.

To give some idea of how these elements operate in practice, I would like to indicate some of the changes within the University that have strengthened it academically since 1975.

**THE FACULTY.** Faculty members are the most important resource in any University because they are recruited, retained and promoted on the basis of their dual commitment to teaching and excellence in research. During the last few years the criteria and procedures for the appointment and advancement of faculty have been strengthened. The University has in place a rigorous appointment, tenure and promotion policy, which ensures that a tradition of high standards is met by those who are attracted and retained. This is imperative since the faculty sets the academic tone and standards of the University.

In the long run it is the judgment of national and international bodies that provides the acid test of the faculty's quality. There are three main ways in which outside bodies make such judgments, namely, by the ability of faculty to attract research grants, by the honors received by faculty for their departments and faculties. On any of these measures the UBC faculty stands high.

Let me cite a few examples of our lengthy record of commitment to excellence.

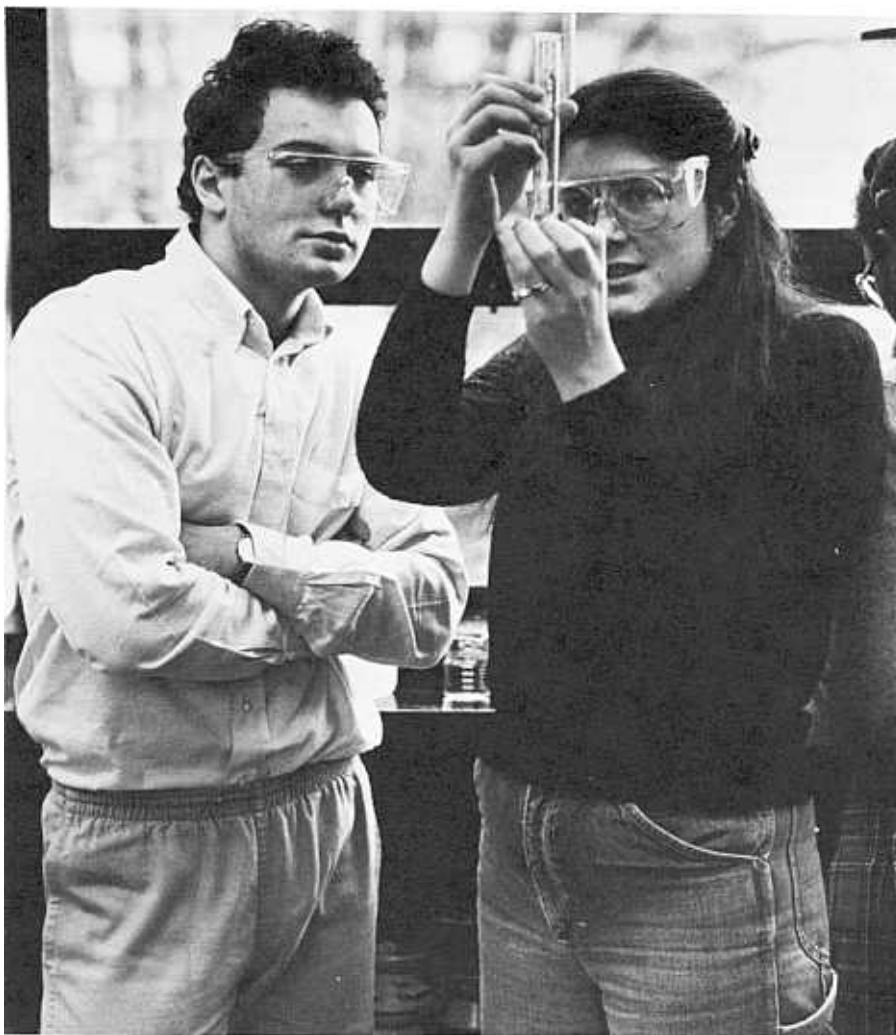
- On the national scene, UBC received a little over \$15 million in research monies in 1973-74. In 1981-82 UBC was awarded nearly \$45 million, making the University the second largest centre for research in Canada. Research funds come to UBC from a wide range of sources. Aggregated across all sources, UBC received almost 80 per cent of research monies awarded to British Columbia universities in 1981-82.

- In 1982 UBC, in competition with more than 60 other Canadian universities, received three of eight medals awarded by the Royal Society of Canada for outstanding discoveries over the past 10 years.

- UBC has been judged to have the best school in Canada for accounting, according to accounting professors across Canada.

- UBC's Faculty of Dentistry is the first in the world to introduce a simulation teaching system. The World Health Organization has asked the Faculty to become a collaborative centre for the review and evaluation of the





*The introduction by the University in the late 1970s of higher admission standards for students has resulted in the best-prepared student body entering any Canadian university and has not acted as a deterrent to increased enrolments.*

system, and to provide consultant assistance to other world institutions setting up similar facilities for training oral health personnel.

● Since 1976 the Faculty of Medicine has undergone a massive faculty rejuvenation, attracting 77 new full-time faculty and 64 part-time faculty. This rejuvenation has been unique in North America and the survey team for the Committee on the Accreditation of Canadian Medical Schools and the Liaison Committee on Medical Education report that the new faculty are "of exceptionally high calibre." The bright future of the Faculty of Medicine is guaranteed by these obviously talented young scholars.

It is the prevailing view at UBC that the University is approaching maturity as a world-class institution. This view is confirmed by outside reviewers and peer committees. Numerous faculty members have received national and international recognition. Many departments and faculties are widely recognized for their particular teaching and research strengths.

**THE STUDENT BODY.** No university will become great unless it insists that its students be of high scholarly quality. This is manifested in the first instance by the admission policies. During the 1960s and early 1970s, many North

American universities lowered their admission standards and opted for an open admission policy. This approach was a mistake because it lowered the value of secondary education and might have implied to students that a solid education in high school was not important. For entrance to a quality institution of higher learning students need a common intellectual base and it has been my experience that high university entrance requirements will produce higher enrolments.

Thus, in the late 1970s, the University sought to improve the quality of students entering at the undergraduate level. In 1975, the admission policy of the University was like a fragile flower requiring cultivation. Admission in that year was based on senior secondary school graduation with standing between 'C' and 'C+' or better and the University as a whole did not require specified high school courses.

While the University was cautious about forcing the pace of change in admission standards, in 1977 grade 12 applicants were subject to a more rigorous scrutiny than formerly, with applicants of a grade point average below 2.3 being denied entrance and those with a G.P.A. between 2.3 and 2.5 being screened on the basis of relevancy of secondary school subjects. As a result, failures at the University dropped. Accordingly, the admission requirements for 1978 were based on a high school standing of 'C+' on the best 10 relevant subjects.

Between the years 1978 and 1981, UBC phased in new entrance requirements, namely, at least 'C+' (G.P.A. 2.5) calculated on the following ten courses: English 11 and 12, Social Studies 11, French 11 or a foreign language 11, Algebra 11, Science 11, four additional "Arts or Science" courses, three of which must be numbered "12".

These higher admission requirements have not acted as a deterrent to increased enrolments. I am positive that they have served to attract quality grade 12 students to the excellent educational experiences available at UBC. In fact, the insistence on excellence in the high school has resulted in the highest enrolments in the University's history. Based on the best judgment I can obtain, I am sure that we have the best prepared students entering any Canadian university.

The matter of enrolment requirements goes beyond the freshman year, for, given UBC's responsibilities as a centre of professional education, it has been essential for the maintenance of quality to restrict or control the number of students entering most of our professional faculties. Unfortunately, enrolment demands exceed the capacity of these programs by an appreciable amount. Accordingly, most professional programs have enrolment limitations. In general, our professional faculties only enrol outstanding students with admission policy based primarily on previous undergraduate qualifications.

At the graduate level, UBC's strongest departments only accept graduate students who have first-class-average standing. Excellence at the graduate level is only achieved by a "high grading" of applications for admission. The University recognizes that the standards for establishing the evaluation of graduate theses are difficult to assess, maintain and improve.

However, the University has insisted that the best kind of insurance is a system of external examination, with examiners drawn from outside the student's supervisory committee, from outside the graduate student's department and from outside the University.

#### **PROGRAM REVIEW AND DEVELOPMENT.**

The programs required to advance the academic goals of the University are, for the most part, in place, but any university that aspires to world stature must strengthen, broaden, renew and add to its learning resources. A university must be responsive to changes in disciplines, societal needs and priorities, and student interests. The University of British Columbia will not continue to grow and develop its full potential for teaching and research unless it can afford to continue to invest in new academic initiatives at the undergraduate and graduate levels.

It is particularly important that the investment in new initiatives should occur now. As the developing and developed nations of the world compete more extensively, our economic well-being becomes progressively more dependent on new intellectual skills and technologies. This University plays a key role not only in the research it does but in the research atmosphere in which it educates highly qualified manpower for the future. At a time of economic restraint and national recession it is prudent to maintain and expand the investment in higher education in general and graduate education and research in particular.

And so the question: How does one avoid a static academic environment?

By two modes. First, we know through our own academic experience that the most important changes occur through internal academic leadership. This way is not as dramatic — or as anxiety producing — as the second mode. But it is more certain to change and improve academic programs than any other method. Traditionally at UBC, the faculty has done an outstanding job of reviewing and improving its own programs.

Second, program reviews may be conducted at University-wide levels by external review groups. Such program review groups, of necessity, must be very sensitive to the total dynamics of The University of British Columbia.

Over the past seven years the University has concentrated on both modes of program review and development.

By way of illustration, a new development within the Faculty of Law may be cited as an example of the first mode of review and program development. For a number of years, the Faculty of Law has been actively engaged in examining the feasibility of a program in Japanese law. The response within the faculty, within the University, within the British Columbia legal community, and in Japan, was most encouraging. Of course, the viability of a long-term program was dependent upon the ability of the Faculty to recruit, on a full-time basis, a legal scholar with expertise in the field of Japanese law.

Happily, the Japanese Law Program became a reality in 1981-82, several years in advance of the original predictions. The Faculty of Law was successful in an application to the Max Bell

Foundation of Canada for a grant of \$272,000 to fund a research program and to fund partly a permanent appointment in the field of Japanese law in the person of Dr. Malcolm Smith. The obvious importance of this new initiative for the legal and business community of Canada is widely understood.

It would be presumptuous — and indeed plainly impossible — to try to sum up the gains from external reviews in any simple set of characterizations. The main point I would like to stress is the immense academic progress that a large number of faculties and departments has made over the past seven years as a result of such reviews. Suffice it to say that the following faculties and departments have gained academically from such reviews during the past seven years.

**Faculties:** Applied Science, Education, Dentistry, Forestry, Medicine, Science.

**Departments:** Anaesthesiology, Animal Science, Anthropology and Sociology, Architecture, Health Care and Epidemiology, History, Institute of Animal Resource Ecology, Institute of Applied Mathematics and Statistics, Microbiology, including Medical Microbiology, Nursing, Pharmacology, Political Science, Psychiatry, School of Librarianship, School of Rehabilitation Medicine.

During the past few years, there was strong academic focus on detailed and careful review of proposed new programs, reflecting promising new areas of scholarly and professional significance. The following list of major curricular additions since 1975-76 indicates, in a summary and partial fashion, the introduction of new programs and changes in programs that have added to the University's strength.

**DOCTORAL PROGRAMS:** Ph.D. in Theatre, Ph.D. in South Asian Studies, Ed.D. in Curriculum Studies, Ph.D. in Human Learning, Development and Instruction.

**MASTER'S PROGRAMS:** M.F.A. in Fine Arts, M.Sc. in Dental Science, M.Eng. in Clinical Engineering, Master of Archival Studies, M.A. in Family Studies, M.A./M.F.A. in Film & Television Studies, Master of Architecture, Master of Journalism, M.Eng., Pulp and Paper Engineering.

**BACHELOR'S PROGRAMS:** B.Ed. 5-year Major in Special Education, Bachelor of Medical Laboratory Science, B.E. (Elementary Concentration: French), Bachelor of Landscape Architecture, B.A. in Speech Sciences, B.F.A. in Acting, B.F.A. in Design/Technical Theatre, Combined Honours B.Sc. in Oceanography and Another Subject.

**NEW MAJORS, CONCENTRATIONS:** Major in Coal Engineering, Major in Naval Architecture, Tropical Crop Production, Immunology, Allergy, and Infectious Disease, Avian Wildfowl Biology, Clinical Teaching and Grace Hospital, Construction Engineering, Coordinated Music Programs, Major in Music Theory, Concentration in Chinese and Japanese Studies (B.Ed. Secondary).

**DIPLOMAS:** Post-Graduate Certificate in Periodontics, Diploma in Administration for Foresters.

**OTHERS:** Co-operative Education Program (Agricultural Sciences, Engineering, and Forestry), Four-Year Program in Forestry.

*UBC provides one of the most advanced interactive computing systems in North America for teaching and research purposes.*



**IN PROGRESS:** Ph.D. in Social Foundations of Educational Policy, Ph.D. in Audiology and Speech Sciences, Ph.D. in Education (Social Studies), Ph.D. in Education (Governance and Administration), B.Sc. Majors and Honours in Atmospheric Science, B.Sc. Majors and Honours in Pharmacology, Diploma in Site Planning, Diploma in Meteorology, Four-Year Program in Engineering.

The on-going process of review ensures program vitality and quality, a pivotal aspect of UBC's academic planning.

**LIBRARIES AND COMPUTER RESOURCES.** A University is only as good as its library, which is the common link between all within the university. It has been said that an institution is the lengthening shadow of a man. The library is the lengthening shadow of all the men and women who have recorded their knowledge and of those who have used the library and have profited from that knowledge.

UBC did not begin with a great library. When the University started, the library consisted of 22,000 bound volumes and approximately 7,000 pamphlets. By 1945 the library holdings had increased to 100,000 volumes.

The library took a great step forward in the 1960s when it received a gift of \$3 million from Dr. H.R. MacMillan, which assisted significantly in moving the collection to one and a quarter million. For that time this was a remarkable cathedral of knowledge.

The collection of physical volumes grew from 1,670,370 in 1975 to 2,307,341 in March, 1982. This represents an increase of 38 per cent.

There is a new recognition in North America that any library also contains information stored in other forms than the printed page, such as microfilm and magnetic tape. In fact, our Library now has a larger collection of the latter

than of books or of journals. Supplementary collections, such as microforms, films, videotapes, sound recordings and the like, grew by 65 per cent from 2,210,511 items in 1975 to 3,644,527 in 1982.

By the end of the present fiscal year \$22.5 million will have been spent in the past eight years to purchase library collections at UBC.

Two facts may be helpful in assessing the intellectual strength of our library. Our holdings are the second largest in Canada, the largest being those of the University of Toronto. In comparison with university research libraries in the United States and Canada, our Library ranks thirty-fourth. It should be noted that our Library was fortieth a little over a decade ago.

I began this section by recalling the status of the Library at its origin. Today we can assert that our Library is a major research library in North America. There is, of course, much more that needs to be done. There are many gaps to be filled in order to support fully our graduate research efforts. The era of technological changes also has affected the Library greatly. Technological advances made by the Library since 1975 may be less apparent, but are no less important. Special funding has enabled the Library to acquire capital equipment in order to improve its automated systems.

At the present time there is no aspect of selecting, ordering, cataloguing or circulating that does not touch in some fashion on the computer. The Library now is linked electronically to major data bases for catalogue support. It is also one of a very few libraries to have developed a working on-line system to deal with the complexities of serial management. Computer systems have been developed to produce microfiche records for elusive materials that were not formally catalogued in the past.

The most significant step was taken, however,



in 1978 when the card catalogue was closed and the Library began providing access to the collections through computer-produced microfiche catalogues. From this point on, records of materials catalogued could be made available in multiple locations on and off the campus. Conversion to machine-readable catalogue records also led to the development of a B.C. Union Catalogue. In fact, the University can be proud of the part it played in the creation of a catalogue system for all of the post-secondary libraries in the province.

Computer-assisted bibliographic searching began to flourish after 1975 and is now offered routinely as part of the Library's specialized reference services.

While the Library is the heart of the University, it also provides extensive public service to off-campus users. Our Library plays an important role for the entire province as a source of materials and as a manager of the system.

Clearly, as our collections and services expand, so must the physical size of our libraries expand. Fortunately, library building developments since 1975 have been most impressive: the Marjorie Smith (Social Work) Library underwent stack expansion in 1976; the Data Library moved into its present quarters in 1977; the Crane Library (for the blind and visually impaired) was provided with a physically separate recording studio in 1978; the Library Processing Centre was occupied in 1979; the size of the Biomedical Branch Library at the Vancouver General Hospital was more than doubled in 1979; the new Asian Studies Library was opened in 1981; the Hamber Library in the Children's/Grace/Shaugnessey Hospital complex was opened in 1982; the library at St. Paul's Hospital became part of the UBC library system in 1982.

The library system has undergone almost continuous alteration and renovation to cope with changing requirements.

Fully recognizing that the Library's space situation was grave, a President's Committee on Library Space Requirements was established. The work of this Committee resulted in the Library Development Proposal which was submitted to the Universities Council in the spring of 1981. However, until the Universities Council and the Provincial Government act positively on the proposal, the gravity of the Library's space situation worsens.

Just as there can be little debate about the importance of a library collection, there can be little doubt about the compelling need for an up-to-date computing facility. Twenty-five years ago no one could have foreseen the startling computer developments within the University. However, the electronic information revolution has made our Computing Centre a new nerve centre at UBC. Today, the need for excellent computer support services touches almost every area of teaching, research and administrative activities. UBC's outstanding computing services for faculty and students are unique among North American universities.

A most significant event in our history was the opening of the Computing Centre in 1957 and the installation of a first generation computer, the Alwac III-E. When the Computing Centre celebrated its 25th anniversary in 1982, it was



close to installing its tenth main-frame computer.

From the very beginning, the Computing Centre regularly updated its excellent computer resources and facilities. In March, 1977 the Computing Centre staff moved into the newly renovated offices in the Civil Engineering Building, now known as the Computer Sciences Building.

The years 1978-1982 saw considerably more powerful computing systems being introduced, providing faster service to faculty and students. An Amdahl 470 V/6-II, a fourth-generation computer, was purchased in 1978 to replace the IBM 370/168. During 1981, an Amdahl 470/V8 in turn replaced the V/6, providing once more a more powerful and faster computer.

*UBC's library holdings of more than 2.3 million physical volumes and 3.6 million items on microfilm, videotape and magnetic tape make it one of North America's major research libraries.*

The demand for access to on-line computing facilities for undergraduate instruction has increased very rapidly in the past few years. While in 1976-77 there were 862 undergraduates each active at a computer terminal for 6 hours, 1981-82 saw 3,163 undergraduates each active at a terminal for 35 hours per week. Professors are demanding more and more academic teaching time on computing facilities in order to prepare their students properly for the future. Unfortunately, this creates interference with research activities of the faculty. Thus, the future academic vitality of the University required the purchase of another computer, to be used primarily as an undergraduate teaching facility. An Amdahl 470 V/6-II, with a memory size of 10 megabytes, was purchased and installed in August, 1982. This computer will be used for teaching purposes by all Faculties.

The University of British Columbia provides one of the most advanced interactive computing services in North America, having pioneered in full-scale interactive systems over the past 10 years. I believe that the Computing Centre's goal of providing a research and teaching service that will rate as excellent into the 1980s is being met.

**RESEARCH.** Each year I refer to research as an essential part of the learning process at the University. Research is the cutting edge at the frontier of knowledge. It is this cutting edge of our nation's movement to discovery that distinguishes a university from other educational institutions. In fact, the University believes that its responsibilities for research and scholarship are equal to its responsibilities for teaching.

Moreover, research funding is crucial to graduate education, for it provides the wherewithal for creating a graduate research environment as well as direct financial support for graduate students. It is fair to say that today UBC provides a rich environment for graduate education and research.

Since 1975-76 the University has moved in many substantive ways to fulfill its research obligation to society. Illustrative of the University's increasing emphasis on research in collaboration with teaching are the following:

- UBC has become one of the major research and graduate universities in Canada, second only to the University of Toronto. Since 1974 our research expenditures have increased from roughly \$15 million to approximately \$45 million. Our research expenditures are four times the combined expenditures of the other two provincial universities. In fact, if one adds in the research activities of all the laboratories on the UBC campus, the total research expenditures are close to \$100 million per year.

- Total funds for graduate student support exceeded \$10,000,000 in 1981-82.

- The total number of graduate students has increased from 2,666 in 1974-75 to 3,507 in 1981-82.

- Expansion of the Computing Centre to have two main-frame computers, an Amdahl V/6 and V/8, supporting approximately 1,000 computer terminals and a Xerox 9700 laser printer.

- Expansion of the activities of the Department of Computer Science, with the Ph.D. pro-

gram extended to a full range of academic areas, and the addition of a VAX 370 computer for digital-image processing.

- Establishment of four new centres in the Faculty of Graduate Studies, namely: The Centre for Advanced Technology in Microelectronics, The Centre for Coal Research, The Centre for Molecular Genetics, and The Centre for the Study of Childhood. The Centre for Advanced Technology in Microelectronics has associated with an incorporated society, supported by \$200,000 per year for five years from the Federal Department of Industry, Trade and Commerce.

- Development of facilities for the Imaging Centre, including equipment for: Computer assisted X-ray tomography (C.A.T.), Positron emission tomography (P.E.T.), and Nuclear magnetic resonance scanning (N.M.R.).

- The development of the Acute Care and Extended Care Units on campus, along with the consolidation of a network of six associated downtown teaching hospitals, actively involved in the broad areas of health teaching and research.

- In 1981 the University approved the terms of an agreement providing for the establishment of Discovery Park UBC on a 56-acre site in the south campus research area.

- In 1981 a new patenting and licensing policy applicable to inventions and discoveries by faculty, staff and students was initiated and approved.

- With its strong commitment to research, the University has added significantly to major research equipment over the past seven years. For example, some major new equipment purchases in 1981/82 were: Image analysis system extension for Computer Science — \$400,000; Fourier transform infra-red spectrophotometer for Chemistry — \$200,000; Image Processing work station for Geophysics and Astronomy — \$100,000; Nuclear magnetic resonance data stations for Chemistry — \$136,000; Analytical electron microscope for Applied Science — \$500,000; Protein analytical laboratory for Medicine — \$202,000; Mass spectrometer for Pharmaceutical Sciences — \$303,000; and Laser facility for Chemistry/Physics — \$392,000.

While the University may express pride in the outstanding record of equipment up-dating during the past seven years, needless to say it is concerned with maintaining this thrust.

By national standards, UBC is a large research university. By international standards, however, it is not. It is clear that UBC could and should make major efforts to expand its research and graduate work.

**FACILITIES DEVELOPMENT.** Quality teaching and research cannot flourish in outdated and sub-standard facilities. Superficially, UBC may appear to be well endowed with buildings, but of the 322 buildings on campus only 139 are of the permanent variety. The remainder are temporary huts or semi-permanent buildings which have outlived their usefulness. Some of our permanent buildings are more than 30 years old and such buildings need expensive renovations.

During the past seven years, however, there

has been an impressive record of success in providing first-class facilities for some areas of the University. In other instances, modest improvements have been made to some of the older facilities. To promote academic strength or new developments within the University, often we have to adapt or modify existing buildings.

First-class health care and teaching facilities are essential to the University's goal of medical school expansion. The record of achievement relative to the expansion program is as follows:

### **SPACE ADDITIONS AS A RESULT OF THE MEDICAL SCHOOL EXPANSION**

| <b>LOCATION</b>   | <b>COMPLETION DATE</b> |
|---|------------------------|
| <b>University Campus</b>  |                        |
| Walter C. Koerner Acute Care Hospital   | 1980                   |
| Lecture Theatre IRC Building  | 1979                   |
| Medical Science Block A   | 1979                   |
| Biochemistry and Physiology additions   |                        |
| Medical Science Block B   | 1979                   |
| Anatomy alterations to additional space   |                        |
| Medical Science Block C   | 1982                   |
| Pharmacology renovations to additional space  |                        |
| James Mather Building   |                        |
| Health Care & Epidemiology renovations  | 1982                   |
| Wesbrook Building   |                        |
| Medical Microbiology renovations  | 1980                   |
| Medical Genetics renovations  | 1982                   |
| Sports Medicine Clinic — Owen Pavilion  |                        |
| Department of Family Practice   | 1980                   |
| The New Grace Hospital — Academic Space   | 1982                   |
| The New Children's Hospital — Academic Space  | 1982                   |
| Shaughnessy Hospital  |                        |
| Renovations to Jean Matheson Pavilion including Clinical Pharmacology, Family Practice, | 1979                   |
| Ophthalmology, Psychiatry, and Ear, Nose & Throat.                                      |                        |
| Rehabilitation Medicine   | 1979                   |
| Medical Engineering Resources   | 1980                   |
| Departments of Medicine and Surgery   | 1980                   |
| Diagnostic Radiology  | 1980                   |
| Anaesthesia   | 1980                   |
| Seminar Rooms   | 1980                   |
| <b>St. Paul's Hospital</b>  |                        |
| Phase I — Medical Teaching Space  | 1979 & 1982            |
| T.B. Auditorium   | 1979                   |
| Animal Holding area in the old McGavin Bakery   | 1980                   |
| Offices, Library, Student areas and Biomedical Communications                           | 1978                   |
| Outpatients Department renovations  | 1979                   |
| Eye Centre  | 1983                   |
| Laurel I  | 1982                   |
| Doctors' Residence housing part of Medicine, Psychiatry and Pathology                   | 1980                   |

While the medical school projects were being constructed, major projects and the upgrading of facilities were underway for other academic disciplines on the Point Grey Campus. Between 1975 and the present there was a considerable amount of upgrading of the physical plant, as the following listing indicates.



## SPACE ADDITIONS TO THE CAMPUS SINCE 1975

| NEW BUILDINGS OR MAJOR ADDITIONS   | COMPLETION DATE |
|--|-----------------|
| Aquatic Centre   | 1980            |
| Henry Angus Building   |                 |
| E.D. MacPhee and C.H. McLean additions   | 1976            |
| Asian Centre   | 1981            |
| Anthropology and Sociology: Stage I and II   | 1975, 1976      |
| Bob Berwick Centre   | 1976            |
| Biological Sciences — North Wing   | 1976            |
| Bookstore (in progress)  | 1983            |
| Centre for Coal and Mineral Processing   | 1981            |
| Civil and Mechanical Engineering   | 1976            |
| George F. Curtis Law Building  | 1976            |
| Harry Purdy Extended Care Unit   | 1977            |
| Home Economics   | 1982            |
| Library Processing   | 1980            |
| Museum of Anthropology   | 1976            |
| Parkades: HSC (Acute Care Unit)  | 1980            |
| Fraser River   | 1982            |
| Psychology (in progress)   | 1983            |
| TRIUMF   | 1976            |
| (A meson facility operated by the Universities Alberta, Victoria, British Columbia<br>& Simon Fraser University) |                 |
| Animal Care Units  |                 |
| South Campus   | 1981            |
| Wesbrook Annex   | 1983            |
| Botanical Gardens  |                 |
| Information Centre   | 1980            |
| Public Service Centre  | 1981            |
| Brock Hall Remodelling   | 1981            |
| Cliff Erosion Control  | 1982            |
| Empire Pool Upgraded   | 1982            |
| General Services Administration Building — additions   | 1976            |
| Geography Building Renovations   |                 |
| Ponderosa (for Education)  | 1981            |
| Poultry Science — South Campus   | 1981            |
| SUB Cafeteria Renovations  | 1981            |
| Swine Research Unit  | 1979            |

I have only listed the University's most visible projects. Other major buildings projects essential to our academic programs are waiting for release of funds by the government.



**MISSION STATEMENT OF THE UNIVERSITY.** In an era of rapid social, technological and economic change, any university finds it difficult, if not impossible, to formulate a long-range academic plan. Even a short-range plan for five years has to be viewed as an evolving plan, a challenging outline, not carved in stone. Nevertheless, a flexible academic plan does provide a perspective and a set of explicit institutional aims.

The University of British Columbia was planned from the beginning as a general, comprehensive institution. Today it serves society by providing for the intellectual development of its students, by providing intellectual leadership for society and by encouraging and contributing to the development of Canadian culture.

At the undergraduate level, the University provides its students with a deep sense of intellectual discipline, along with a breadth of knowledge. In order to meet the needs of society the University provides a good distribution of undergraduates among the core disciplines in all the liberal arts and sciences as well as in the professional faculties. Graduate studies and research at UBC are encouraged in order to meet the needs of society in the years ahead. The central goal of the University has been to

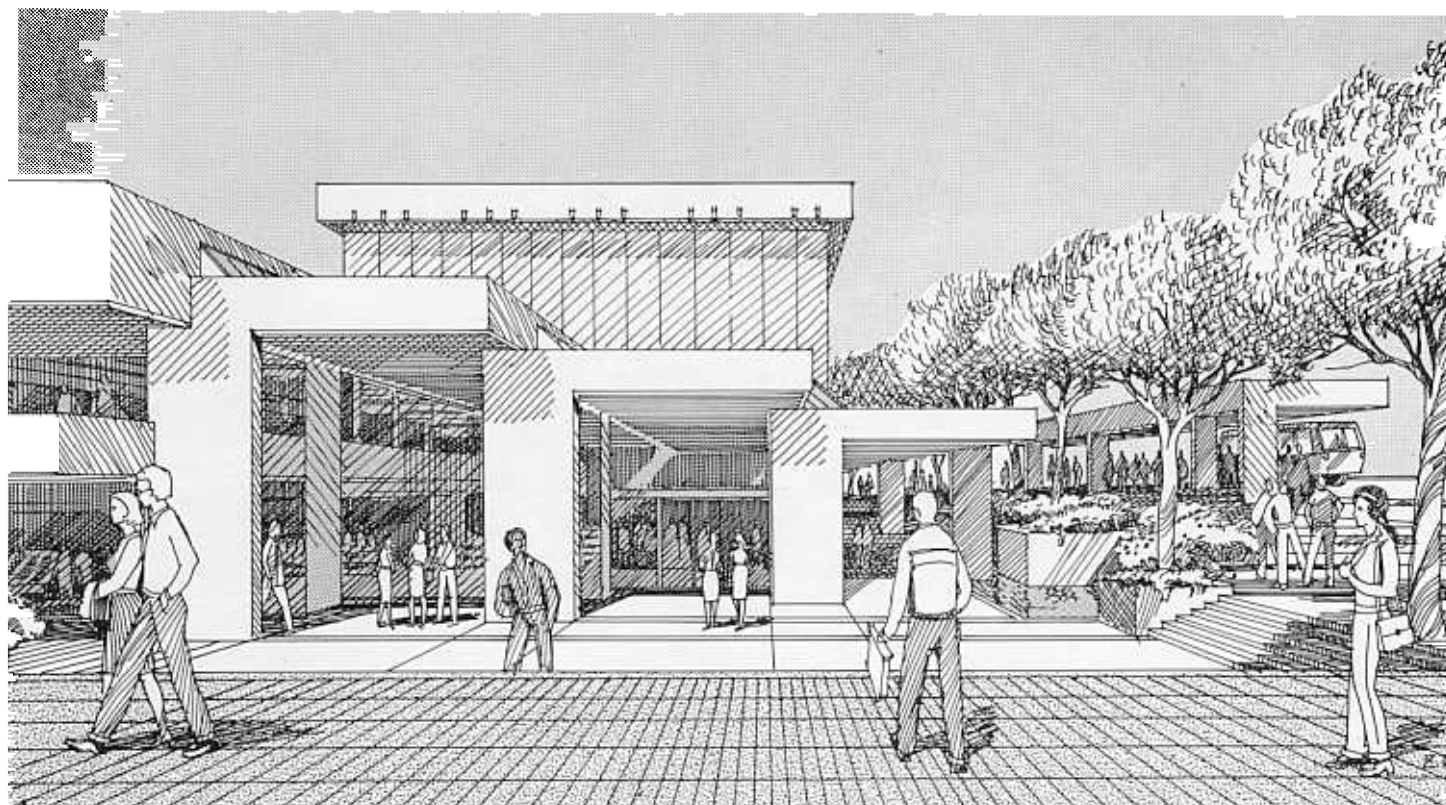
attain and maintain excellence in the teaching and research activities of its students and faculty. In recent years two other goals have been added — to expand senior undergraduate and advanced professional and graduate work, and to strive for balanced growth.

In 1979 UBC issued an overall statement of its mission and a more detailed statement of the goals of the 12 faculties. In January, 1980 the Senate approved in principle the goals and objectives contained in that document, *The Mission of the University of British Columbia*. The document is not a detailed operational plan for the University. Nevertheless, it does provide a chart that has guided the broad educational directions of the University in the last few years.

**UNIVERSITY FINANCES.** While all British Columbians can take pride in the genuine accomplishments of the University, our record must be seen in the context of protracted financial stringency during the past six years. While the University is not a business, it must run its financial affairs in a businesslike fashion. Starting in 1976, it has been threatened with budget deficits each year, but each year it has succeeded in bringing its operating budget into balance.

Since government funding is on a year-to-year basis, financial planning within the Univer-

*UBC's Health Sciences Centre, foreground, is a cluster of buildings on Wesbrook Mall on the eastern edge of the UBC campus.*



*UBC's new Bookstore, scheduled for completion in 1983, will be three times larger than the existing facility.*

sity is based on very poor or questionable predictions about our future financial position. Consequently, from year to year, the University never knows the magnitude of the financial pressures it will face. Thus, any form of commitment or academic planning is becoming increasingly difficult.

In my judgment, government leadership on this problem is long overdue. The government should be prepared to articulate, in consultation with the public universities, a set of objectives for the university system and a level of funding that may be expected for the attainment of these academic objectives. If this does not occur, then the present year by year *ad hoc* adjustments by the University can only result in academic damage. Sound academic planning cannot take place in a financial fog.

Why does the University face severe financial pressures?

*First, inflation.* The University is a victim of inflation, for it is the heaviest tax that it has and a tax over which it has little or no direct control. University costs follow the inflationary spiral upward, and, unfortunately, revenues have not kept pace with this inflation.

To mention just one example, while about 15 per cent of the total cost of running the University is in non-salary items, most of these expenses are virtually non-controllable costs, such as heat, light, water, insurance, telephone, paper, books, periodicals, and so forth. For the current financial year the University has estimated the following inflation factors:

|                          |       |
|--------------------------|-------|
| 1. Utilities             | 25.0% |
| 2. Books and periodicals | 22.5% |
| 3. Scientific equipment  | 17.5% |
| 4. Other supplies        | 13.0% |

If one is to maintain the teaching effectiveness of all faculties, it is necessary to increase the supplies and expenses portion of the budget accordingly. To be very specific, inflationary cost increases are producing severe strains on laboratory teaching activities. Students are forced to share limited resources in both the experimental and descriptive disciplines, to the detriment of their educational experience.

*Second, inadequate government grants.* Over the past seven years, operating grants from government have fallen significantly below what the University has requested, requires, and deserves.

The University of British Columbia has become a great university, largely through its firm commitment to quality. Quality education is expensive. The long-term academic interests of the University, the province and the nation will not be served by letting quality slip. One must ask — what are the costs of mediocre higher education? Without a strong commitment to first-class higher education, British Columbia will be condemned to a second-class future.

The government and the Universities Council have been aware that while operating grants have increased in each of the seven years from 1975 to 1981-82 the increases have been significantly less than the amounts requested by the University. For each of the seven years, the *average* shortfall between grant requested and grant received has been over \$12.6 million. The budgetary shortfall for 1981-82 was \$7.4 million. I know, and I am sure that the Board of Governors knows, that the requested grants have always been on the fiscally prudent and conservative side.





*New Home Economics Building on the East Mall of the campus will be ready for occupancy in the fall of 1983.*

Since the operating grants from government have not met inflationary costs, the University has had to remove from continuing operating expenditures approximately \$12 million between 1976 - 77 and 1981 - 82. Each reduction can only be made once. It is in this respect that retrenchment and reduction in the past few years will have its telling long-term academic effects. There can be no doubt that these repetitive budget reductions have reduced the University's ability to absorb further cuts. In addition, they have necessitated teaching adjustments that are not consistent with academic excellence.

*Third, increased enrolments.* The past seven years were particularly difficult for the University since it is committed to admitting an ever-increasing number of students in the face of budgetary shortfalls. In sum, we have been tightening our financial belt for seven years while at the same time absorbing an increased number of students. To add further to the problem, enrolments have shifted in favour of relatively costly academic programs. The following data indicate how the total head count enrolments have increased significantly over the past few years.

| Fiscal Year | Headcount | Year by year |
|-------------|-----------|--------------|
|             |           | % Increase   |
| 1976/77     | 31,557    | 2.6          |
| 1977/78     | 31,572    | 0.0          |
| 1978/79     | 31,895    | 1.0          |
| 1979/80     | 32,607    | 2.2          |
| 1980/81     | 33,113    | 1.6          |
| 1981/82     | 34,433    | 4.0          |

In my report for the 1980-81 academic year, I mentioned the very real difficulties faced by UBC as the result of an inadequate operating grant. In that report, I said that the University faced an annualized shortfall of over \$7 million

in its operating grant and that the Board of Governors had requested of the government a supplemental grant to offset this shortfall. The government did not act positively on this request.

How did the University cope with the required retrenchment figure of \$7,470,000?

A President's Committee on Fiscal Retrenchment was struck to advise me on how the University could meet this annualized shortfall in operating funds for 1982-83. The recommendations of that committee were endorsed by the Senate Budget Committee and accepted by the Board of Governors. The fiscal retrenchment was accomplished by reductions in the budget base of \$5,202,000, plus an increase in student fees of \$3,192,000 (tuition fee revenues were increased approximately 32 per cent), less a portion of the fee increase set aside for student aid. This exercise involved the elimination of more than 67 full-time equivalent academic staff positions and 94 full-time equivalent support staff positions.

The reduction in non-faculty budgets has curtailed important services to the Faculties. The reduction in faculty budgets has made it impossible to fill required faculty positions, thereby impairing the level of instructional support to students. With respect to the thorny issue of tuition fees, the committee believed that the students should be asked to make this contribution in order to preserve the quality of their higher education. As the committee observed: "Education at UBC is by any measure a bargain."

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# Teaching and the Curriculum

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In past reports, I have drawn attention to the continually changing curriculum of the University resulting from the increase in knowledge through research and the expressed needs of society and students. There was no decline in activity in this area in 1981-82 and the University Senate devoted a substantial part of each of its monthly meetings to consideration of proposals from UBC's 12 faculties.

I should reiterate here that proposals for curriculum change do not originate in Senate, but in the some 125 departments that make up the faculties. Each of these departments has its own curriculum committee which meets regularly to review the existing curriculum. Proposals for changes are then reviewed in most cases by a faculty curriculum committee before being forwarded to the Senate's curriculum committee for further debate. Thus, a proposal, when it reaches the floor of Senate, has had a thorough review at several University levels to ensure that it is academically sound and does not duplicate programs being offered elsewhere.

Having cleared the scrutiny of Senate and the Board of Governors, proposals for change are subject in many instances to investigation by a committee of the Universities Council of B.C. In this connection, the Council approved a number of new post-baccalaureate degree programs in the 1981-82 academic year. These are a Doctor of Education degree program in curriculum studies, a Doctor of Philosophy program in human learning, development and instruction, a Master of Engineering program in pulp and paper engineering, a Master of Journalism program and a Master of Architecture program. It is the University's hope that adequate provincial funding will be provided to

permit these programs to get under way in 1982-83 or soon thereafter.

What follows are extracts from the reports of the deans of UBC faculties dealing with changes in the curriculum in the 1981-82 academic year.

**AGRICULTURAL SCIENCES.** The faculty's new Landscape Architecture program continued to expand its offerings as the first class of students moved through the program. Three new courses at the 400 level were offered for the first time.

**APPLIED SCIENCE.** The energies of this faculty in the academic year have been concentrated on the development of a new four-year program leading to degrees in engineering. This has involved intensive discussion in all of the departments offering engineering degrees, as well as with other faculties which provide courses on a service basis. It is expected that the new four-year program will be debated at the faculty level in the 1982-83 academic year before being forwarded to Senate for further study.

Several departments within the faculty have also undertaken a review of graduate courses in anticipation of an expansion of enrolment in this area in the near future. Worth noting here is the introduction, in the chemical engineering department, of a new graduate course on coal utilization, which deals with many aspects of using coal for energy purposes and as a chemical feedstock. The introduction of such courses reflects the increasing need for highly trained manpower in an area of increasing importance to the B.C. economy.

The nursing school in the Faculty of Applied Science implemented the third year of a revised curriculum in 1981-82 and continued planning

*The curriculum — the whole range of studies taught at the University — reflects the increase in knowledge resulting from research as well as the expressed needs of society and students.*



for a revised fourth year, to be realized in 1982-83. Revisions in the graduate program, developed over a two-year period, will also be implemented in 1982-83.

In May, at the University's spring congregation, the first engineering and forestry students graduated under the Co-operative Education programs, which were instituted five years ago for the purpose of integrating students' academic study with productive, study-related work experiences with co-operating employer organizations.

Dean Martin Wedepohl of the applied science faculty said that the UBC program, which had initially been designed to encourage qualified women students into traditionally non-female faculties, had contributed not only to doubling the number of women enrolled in engineering, but also to implementing the objectives of the professional faculties by providing qualified students with study-related work experience.

In the summer of 1982 a total of 88 students, 75 in engineering and 13 in forestry, were involved in the program with 44 employers in B.C. and Alberta. All the students wrote a required technical report and were visited and advised by professors from the Faculties of Applied Science and Forestry. In their evaluations of the work of students, employers stressed the quality of their work performance and the benefits to them of the interaction with UBC faculty members.

**ARTS.** As expected, the breadth of work offered in the Faculty of Arts resulted in a number of important curriculum changes.

In Anthropology and Sociology, the Master of Arts and Doctor of Philosophy programs were reviewed and revised in the interests of more focussed education and a more standardized evaluation and examination procedure. New courses have been added to the program in archaeology at the undergraduate level and the sociology program has been overhauled extensively in the area of ethnic relations, crime and society, experimental research and applied sociology. The resulting proposals have been forwarded to Senate.

In the Department of English a special major program in English language (as opposed to literature) was approved and will be offered for the first time in 1982-83.

The art history program in the fine arts department was reviewed, leading to proposals for substantial course revisions which are before Senate.

A two-year revision of the Bachelor of Arts program in Geography was approved by Senate and will be offered in 1982-83. The revisions make possible a new emphasis on environmental studies, as well as the traditional areas of cultural-historical geography, economic geography and urban studies. In preparation is a new program in atmospheric science, to be offered jointly by the Departments of Geography and Oceanography.

Other noteworthy changes included the following: a new honors program in Romance languages was introduced in Hispanic and Italian Studies; Psychology introduced a number of special-topic courses in such areas as restricted environment stimulation and televi-

sion and human behavior; five new third-year courses were introduced by the Department of Religious Studies; and an intensive review of the offerings of the Department of Slavonic Studies was carried out, leading to proposals for revision of the Russian language program and the introduction of courses in comparative Slavic literature in translation.

The new Master of Archival Studies program, offered jointly by the School of Librarianship and the Department of History, enrolled its first class of 10 students in September, 1981. During the summer of 1982 most were engaged in the practicum which is an essential part of the program, many of them at the Public Archives of Canada in Ottawa.

Initial planning was completed for a doctoral program in the School of Social Work, to be submitted for approval in the coming year.

**COMMERCE AND BUSINESS ADMINISTRATION.** In addition to the on-going evolutionary development of courses and programs in this faculty, several major revisions are worth noting. A new course in public enterprise and regulated industries deals with an important facet of Canadian economic life, and major changes in a course in organization change were implemented to include the rapidly evolving field of mergers and acquisitions.

**DENTISTRY.** In line with changes made to the curriculum of this faculty in 1980-81, the main task of its curriculum committee has been to provide clinical relevance to many of the basic science subjects and to ensure that dental students are exposed at an early stage in their training to the problems of treating patients. One result of the changes will be to extend by one month the academic year for third-year students, beginning in 1983-84. A pilot hospital dentistry program was initiated in 1981-82 and will be fully instituted in 1983-84.

An innovation in the faculty this year has been the purchase of simulator teaching units, enabling as many as 40 students at one time to practice on dummy patients. The students are able to simulate the giving of local anesthetics, filling teeth, removing impacted teeth, as well as a series of specialized procedures such as straightening teeth, installing bridges and crowns and treating diseased gums or the roots and supporting bone structure of teeth.

**EDUCATION.** The University English composition examination applied to the Faculty of Education for the first time in 1981-82, and all new students who had not already completed the University's English composition requirements were required to pass this exam.

Specific curriculum changes approved by faculty and Senate in 1981-82 included the following: revision of the content and sequencing of the Bachelor of Education program in special education; revision of concentrations and majors in the fields of social studies, following major curriculum revisions in the Departments of History and Geography in the Faculty of Arts; and revisions in the science education major and concentration in the elementary degree program and in the requirements for the concentrations and major in earth and space science and mathematics in the secondary program.

Considerable progress was made toward a



revision of the diploma program in counselling to effect its transformation from a graduate to an undergraduate diploma, and a further important change was permission for students in the adult education diploma program to undertake a number of courses by guided independent study in order to increase the accessibility of the program to practising adult educators.

In the School of Physical Education and Recreation, seven new courses were taught in the 1981-82 academic year, and Senate approved a new aquatic specialization, an undergraduate sport-science seminar and a new course on the Olympics. In the course of the year the school completed and sent forward a thoroughly revised program for the Bachelor of Education degree program with a physical education concentration.

**FORESTRY.** The new four-year degree program approved by Senate for this faculty provides for majors in forest resource management, forest harvesting, forest science and wood science and industry. The first two programs are designed to prepare students for entry into the profession of forestry, the last two for careers in specialized fields.

The forest resources management option is the most general of the four degree programs, involving all aspects of forest biology and management, including timber, range wildlife, recreation, fisheries and water. The student may emphasize economic, social, protection, inventory or other quantitative aspects of resources management and, on graduation, be eligible for registration as a professional forester.

The forest harvesting major is designed to prepare the graduate for professional forestry responsibilities, with emphasis on planning, design and administration of forest road development, planning and supervision of logging operations, and special projects such as camp construction, log handling and transportation facilities. Again, graduates will be eligible for professional forester status.

The forest science majors will be interested in preparation for graduate work leading to careers in research and teaching. Emphasis will be placed on phenomena which influence the establishment, growth and development of trees and other forest resources, including genetics, soils, climate, ecology, and other foundation courses in such fields as entomology, pathology and wood science.

The wood science and industry major is designed to give students a strong technical background in wood as a material and an understanding of wood products manufacture, marketing and utilization. Graduates will be fitted for technical and managerial positions in many facets of the forest industry.

Each of these new majors involves a basic program of required core courses providing a foundation in forest sciences and their application to forestry and utilization problems. This will be supplemented with electives chosen in consultation with faculty, permitting studies in more depth in such diverse areas as biology, business, hydrology, remote sensing and wildlife.

**GRADUATE STUDIES.** The School of Community and Regional Planning in Graduate Studies devoted considerable effort in

1981-82 to evaluation and reorganization of key courses in planning methods. A revised curriculum will be tested in 1982-83 and the final version of this omnibus course will then be submitted for approval. The school offered its first spring intersession course in 1982 in order to meet the demand for study in the field of impact assessment. To test the demand for an urban studies abroad program, the school offered a special section of an academic course in Jerusalem in the summer of 1982, which attracted 20 students. This experiment will be evaluated with a view to continuing development of the studies-abroad option in 1982-83.

Following a survey of prospective employers in government and industry, the Institute of Animal Resource Ecology determined that there was a demand for graduates with a wide spectrum of training in fisheries management. To meet this demand, a tentative curriculum was prepared in 1981-82 leading to the degree of Master of Science, incorporating exposure to economics, law, decision-making, resource conflicts and fish-forest interaction. Students wishing to take this mix are now accommodated within the M.Sc. program in zoology and initial reaction to it indicates that a separate program approved by Senate is advisable.

**LAW.** No general changes were made in the curriculum of this faculty as the total revision of all years of the program which took place over the past three years is now in effect. However, some notable new appointments were made to the faculty as the result of the introduction of new courses. These are noted in the section of my report dealing with faculty appointments.

**PHARMACEUTICAL SCIENCES.** Dean Bernard Riedel points out in his report that while curriculum changes in his faculty appear to be minor, they are really modifications to allow for future developments in the area of pharmacy administration and clinical pharmacy.

**SCIENCE.** Innovations in this faculty for 1981-82 are: Introduction of a new lecture-demonstration program in first-year chemistry courses and computer-assisted instruction in the department's resource centre for these students; the introduction of an honors course in first-year mathematics for students with outstanding records and evidence of special aptitude (a second-year course is being introduced to continue these students at the honors level); approval by the Universities Council, and financial support, of a new combined honors program in oceanography and another subject; and the upgrading of the majors program in physics.

In the section entitled Governing Bodies, I mention the prolonged debate on the subject of limiting enrolment in the Faculty of Applied Science which took place during the academic year. In this section of my report, I wish to draw attention to the fact that the Department of Computer Science in the Faculty of Science also sought and had approved a proposal to limit enrolments in first and second-year courses on the basis of previous academic performance by applicants. It was with the greatest reluctance that the Board and Senate acceded to these requests when they were placed before them.

However, I wish to make it clear to both the academic community and the community at

large that this course of action reflects what is a crisis situation in academic computer science. Budgetary retrenchment is partly to blame for this state of affairs, but what is hurting the discipline even more is the lack of graduates who seek academic posts after completing their degrees.

Prof. Paul Gilmore, the head of the computer sciences department at UBC, together with two eastern colleagues, documented this situation in a report prepared during the 1981-82 academic year. Cited as causes of the current difficulties, which have been building over the last decade, are heavy teaching and administrative loads, inadequate laboratory and computing facilities for teaching and research and a rapid increase in the traditional disparity between academic and industrial salaries. The report states that new master's degree holders in computer science receive offers from industry that easily match a

full year's academic salary for new Ph.D.'s. Canadian production of computer scientists with doctorates has averaged only 19 a year for the past five years, with just 20 produced in 1980-81.

I emphasize here that the problems which Prof. Gilmore and his colleagues have outlined are not UBC's alone; they are phenomena with which every computer science department at every Canadian university is faced.

I have described this situation at some length in order to indicate that if universities continue to be underfunded and are forced into further retrenchment, enrolment restrictions will become commonplace in other disciplines. The result, in a very short time, will be a manpower gap in the human resources which are needed desperately if we are to ensure that Canada is to be capable of competing in a world of high technology.



*UBC's Faculty of Dentistry is the first in the world to introduce a simulation teaching system, which is being reviewed and evaluated at the request of the World Health Organization.*

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## Research

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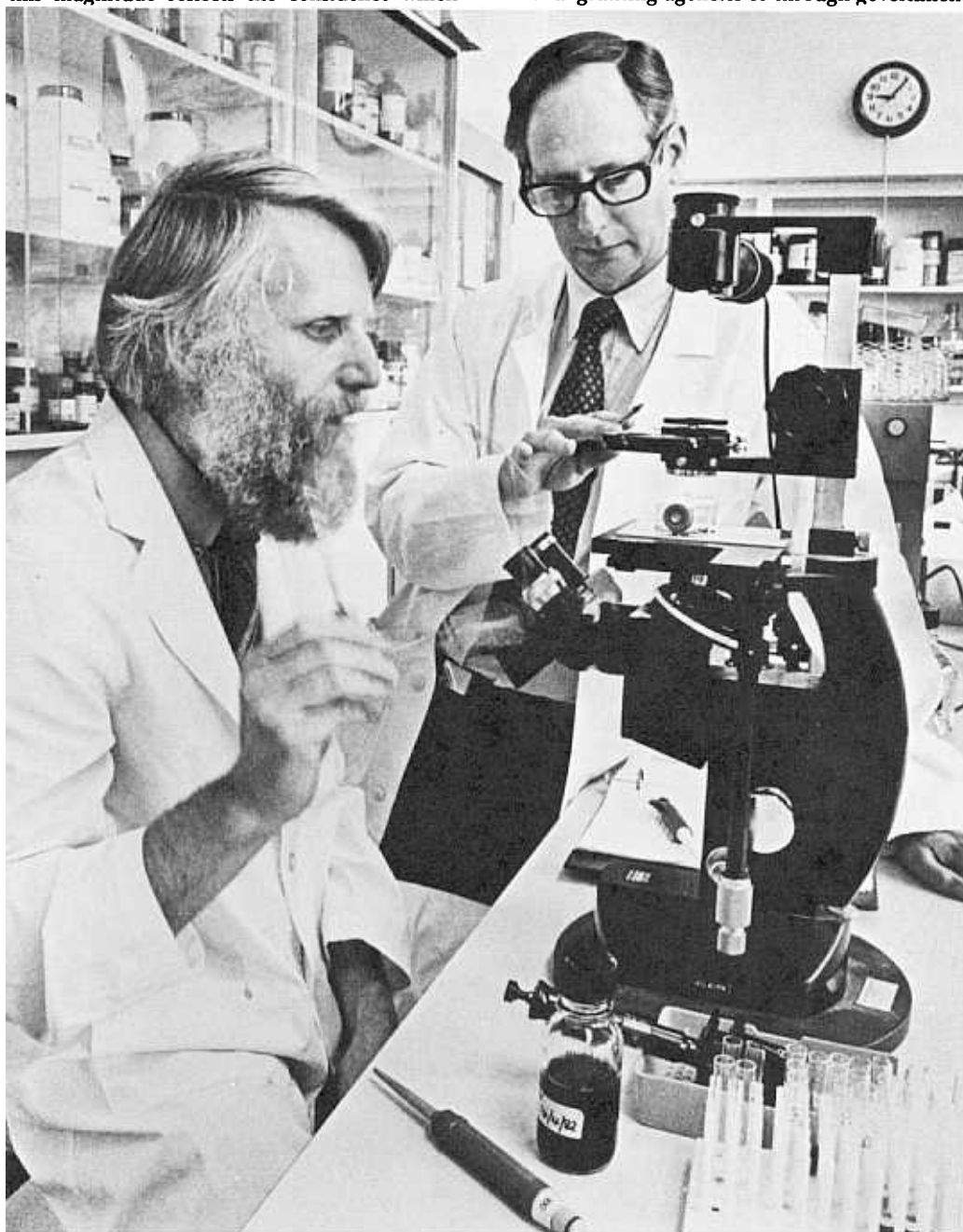
I am pleased to report to you that grants for research at the University increased by almost 15 per cent in the 1981-82 academic year and now total nearly \$45 million, making UBC the second largest research university in Canada. Close to 80 per cent of all the university research funds available in the province were allocated to UBC faculty members. Truly, if it can be said that UBC has a "growth industry," it is in the area of research.

The fact that we are able to attract funds of this magnitude reflects the confidence which

granting agencies have in the quality of the research done by our faculty and graduate students. Clearly, these agencies are endorsing research which has potential for improving the quality of life for Canadians generally and for improving the quality of classroom teaching, for we must never forget that it is through research that new ideas are tested and eventually incorporated into the body of knowledge that is transmitted to students.

The federal government, either through national granting agencies or through government

*Profs. Robert Miller, right, and Douglas Kilburn of the Department of Microbiology will receive \$1 million over five years from the Terry Fox special initiatives program designed to stimulate original cancer research.*



departments, remains the major source of funds for University research, with just over 56 per cent coming from these sources. Funds from provincial and local government sources and from Canadian companies and foundations also increased in the 1981-82 fiscal year compared to the previous year.

Twelve UBC departments each received more than \$1 million for research in 1981-82. The Department of Medicine in the UBC medical faculty led with grants totalling \$3,464,972, followed by Chemistry with \$2,958,624 and Physics with \$2,479,921. On a faculty basis, Medicine had the largest grant total — \$13,420,564 — followed closely by Science with \$13,360,487. I was pleased to note that two of our smaller faculties, Forestry and Pharmaceutical Sciences, each received grants in excess of \$1 million in the fiscal year.

A number of grants made to individuals for specific projects are worthy of note. Profs. Robert Miller and Douglas Kilburn of the Department of Microbiology will receive a total of \$1 million over five years from the Terry Fox special initiatives program designed to stimulate original cancer research. Their research will aim at enhancing the biochemical signals that activate the body's immune system to destroy invading cells. It is believed that this is the largest single grant ever made to a research project at UBC.

Two Canadian foundations — the Donner Canadian Foundation and the Max Bell Foundation — also made significant commitments of funds in 1981-82 for research and training projects at UBC.

The Donner Foundation announced grants to three projects totalling \$700,000. The funds will be used to establish a program of studies and training in correctional education over the next three years in the Faculty of Education (\$275,000); for support of the Native Indian Teacher Education Program in Education (\$200,000); and for a three-year study by a research team in the School of Community and Regional Planning on the impact of mega-projects on the people and the environment of northern Canada and British Columbia (\$225,000).

Three grants from the Max Bell Foundation totalling \$628,500 will support projects in the Faculty of Law, the Institute of Asian Research and the Westwater Research Centre. A \$300,000 grant to the Institute of Asian Research will support seven studies focussing on major components of Canada's economic relationships with the countries of the Pacific and Asia. A second grant of \$275,000 to the Faculty of Law will foster the development of Japanese legal studies over a three-year period. A third grant of \$53,500 to Westwater will enable that centre to finalize a coastal resource management project and to publish a book on Canada's Pacific coastal resources, using studies already completed by centre personnel.

Space limitations do not permit me to make use of all the material on research provided by the deans of UBC's 12 faculties. I have extracted from their very thorough reviews material which provides examples of research which is clearly valuable to a wide range of Canadian life.

**AGRICULTURAL SCIENCES.** Researchers

in this faculty received more than \$3.3 million in 1981-82 for a wide range of basic and applied projects, many of them in centres remote from the campus. Scholarly publication also continued at a high level. Faculty members wrote 11 chapters in books, published 68 papers in refereed journals, prepared 55 reports, review articles or monographs and presented 142 conference papers or abstracts.

Projects of widespread interest include the following: developing and adapting microcomputer software to farm management, by C.C. Short; recovery of oil from biological materials, by Dr. N.R. Bulley; solar energy collection, storage and use in greenhouses, by Prof. L.M. Staley; the rehabilitation of severely disturbed forest land, by Dr. A.A. Bomke; soil erosion measurement in the Peace River region, by Dr. M.D. Novak; as well as a large number of projects on land resource management, animal and food studies and landscape design.

**APPLIED SCIENCE.** The Department of Mining and Mineral Process Engineering is involved in a number of projects closely related to the needs of the Canadian mining industry. These include two projects under the direction of Prof. C.O. Brawner on open pit mines, computer modelling techniques applied to mine design under the direction of Prof. Hamish Miller, major projects under Prof. Jan Leja on Saskatchewan potash ores and the recovery of fine coal at the plant of a major oil company in southeastern B.C., and improvement of the recovery of tin oxide to help ensure that this aspect of Cominco's Sullivan concentrator remains economically viable, under Prof. George Poling.

The Department of Metallurgical Engineering continues to make important contributions to the world steel industry, through its projects on electroslag casting for the manufacturing of high-quality steel products and through an extensive program dealing with the continuous casting of steel. Research in a new area of laser and electron beam technology has been carried out jointly with a faculty member in the physics department, and work has continued on projects in the areas of coal liquefaction with particular emphasis on B.C. coals, the use of fibre composite materials for use in aircraft components and corrosion relative to the pulp and paper industry.

Work in the Department of Mechanical Engineering falls under six main headings: in the field of aerodynamics and fluid mechanics, Prof. G.V. Parkinson and Dr. I.S. Gartshore continue their research on the effects of wind on various types of towers and buildings (Dr. Parkinson has served as a consultant to Vancouver firms involved in the construction of the B.C. Place Stadium), and Prof. V.J. Modi and his students are working on wind-driven irrigation systems suitable for small Canadian farms and in developing countries as well as problems associated with aerodynamics applicable to high-speed aircraft design. In the area of heat transfer, thermodynamics and combustion, graduate students and research engineers working under the direction of Drs. R.L. Evans and P.G. Hill have continued their research on the use of methane for automotive fuels, and Dr. M. Iqbal is studying a number of solar energy



application problems related to building design under Canadian conditions.

In the design area, faculty members and graduate students are involved in projects as diverse as a device to aid hospital personnel to transfer patients to and from x-ray tables and the design of insect traps; Prof. James Duncan continues his important research in the area of automatic machining; and a number of projects are underway in vibration research, including one bearing on so-called "white-finger" disease in the mining industry.

In the area of space dynamics and space science, Dr. V.J. Modi continues work which is pertinent to Canadian interest in communications satellite technology, and Prof. Henry Vaughan has been active in the area of naval architecture and marine engineering on the problem of ice or reef damage to ship's hulls.

There has been a marked increase in faculty research and scholarly activity in the School of Nursing in the past year. Thirty-five articles by faculty members appeared in Canadian nursing journals, and 36 funded projects were underway on clinical and theoretical topics as well as projects relative to student learning and behavior. Research topics included noise levels in hospital patient areas, hospital-related stress of parents of children with long-term disabilities, the effects of beliefs in and attitudes toward infant feeding, and family support systems in response to the diagnosis and treatment of cancer in a family member.

ARTS. I was impressed with the number of scholarly books published by Arts faculty members in the 1981-82 academic year. A few of the titles reported are as follows: Prof. Barrie Morrison of Asian Studies was the co-author and co-editor of *Science, Politics and the Agricultural Revolution in Asia*; Dr. Errol Durbach of the English department wrote a book on the Norwegian playwright Henrik Ibsen, published in London, and the University of Toronto Press published a volume entitled *Beyond Sam-bation* by Moses Steinberg; the first volumes of Dr. Stefania Ciccone's study of the Milanese press in the 19th century are being printed; historian David Breen published two books on the Pacific National Exhibition under the imprint of the UBC Press; Dr. K.G. Banting of Political Science published an important study of social welfare policies entitled *The Welfare State and Canadian Federalism*; and two major books appeared by members of the psychology department — *Judgement Under Uncertainty*, by Prof. D. Kahneman et al, and *Lateral Preferences and Human Behavior*, by Dr. Stanley Coren (with C. Porac); and four books, written or edited by members of the School of Social Work, appeared.

In addition to this, faculty members in Arts are engaged in such diverse research projects as archeological studies in Korea, British Columbia and Turkey, the financing of the Canadian unemployment insurance scheme, the compilation of an historical atlas of Canada, the urban geography of Canada, the biochemistry of the brain, and the impact of modernity on religion.

Much of the research which goes on in the University is dependent on the energies and imagination of our graduate students, and I was interested to note that the Department of

Psychology held a one-day conference at which its graduate students presented descriptions of their research to the faculty and graduate students.

COMMERCE AND BUSINESS ADMINISTRATION. Diversity also marks the research efforts of members of this faculty. In the transportation division, Drs. William Waters and Dean Uyeno are completing a two-volume book on logistics management and coal exports and Dr. Trevor Heaver is completing a study of the provision of capacity by CP Rail through the Selkirk Mountains. The research activities of the urban land economics division encompassed the financing of B.C. schools under the old and the new school financing scheme instituted in 1982, the impact of zoning on property values, the feasibility of mortgage rate insurance protection for residential borrowers financed by the Central Mortgage and Housing Corporation and an analysis of B.C.'s business tax.

In the finance division, notable studies include completion of a textbook on international finance by Maurice Levi, research on property liability insurance premiums by Alan Kraus, and studies on mergers relevant to the formation of laws and takeovers in France by Espen Eckbo. The management science division is involved in projects related to toxic chemical regulation in Canada, energy studies related to modelling, self-sufficiency and export, and an investigation into the optimal design and manufacturing of plywood. The division of accounting and management information systems sponsors projects relevant to the operations of governments at all levels, designers and managers of computerized information systems, financial accounting practitioners and theorists and standard-setting bodies.

In the division of industrial relations management, Gordon Walter published a paper on mergers and acquisitions and initiated a second study of motives in acquisitions. Larry Moore gave a paper at a British conference which represents a portion of his work in association with UBC anthropologist Brenda Beck investigating the management style of Canadian branch bankers.

In the marketing division John Claxton continues his studies on the promotion of energy conservation behaviors, Robert Kelly is involved in an on-going study of how cultural institutions and performing arts associations are perceived by various sub-populations and used for socially symbolic purposes and Doyle Weiss continues research on measuring the impact on sales of advertising and other market variables.

Projects in the policy analysis division which have implications for a wide range of Canadian interests include labor supply and prison industries, electric utility pricing, economic incentives for energy conservation, new competition policy legislation, the effect of rent control on the price of rental housing and the international transfer of Canadian technology to Latin America.

DENTISTRY. This faculty continues to sponsor a wide range of research studies concerned with fundamental biological principles as well as clinical problems associated with malformation of the teeth, restorative materials

and health factors in the environment of the dentist's office.

In the area of oral biology, Dr. Joseph Tonzetich continues his important work on volatile sulphur compounds in human breath, which has led to the development of test systems to measure the onset of ovulation, a test which will have far-reaching implications in family planning; Dr. Alan Hannam is using a computer-based system to develop rational approaches to correcting occlusal abnormalities; and important work on dental implants continues under the direction of Dr. Donald Brunette. Treatment procedures for the reduction of pain in patients with temporomandibular joint dysfunction are being undertaken in oral medicine by Dr. Janet Dorey, who is also co-operating with Vancouver General Hospital physicians to determine the incidence of rheumatic heart disease in patients who seek dental treatment. In the same area, Dr. Colin Price continues his studies of ways to improve the quality of dental radiographs while reducing patient radiation exposure, and Dr. Robert Priddy is establishing a computer data base for an oral pathology biopsy service.

Experts in oral and maxillofacial surgery are continuing their work in the field of jaw bone healing aimed at improving techniques for correcting dento-facial deformities, and in orthodontics Dr. Alan Lowe is conducting an investigation of 80 children with various malocclusions with the aim of providing new information for a greater understanding of this clinically important subject. Faculty members in preventive and community dentistry have completed data analysis of a provincial children's dental health survey and co-authored a report for the ministry of health. In the field of restorative dentistry, Dr. Marcia Boyd is involved in a national study for the selection of dental students who will be good communicators in the delivery of dental care to the public; Dr. Gary Derkson is evaluating various materials used in restoration and with Dr. David Donaldson and Prof. Alan Richardson studied a new local anaesthetic funded by a medical company. Dr. Donaldson has also been involved, through a contract with the federal Department of Health and Welfare, in studying the effectiveness of devices which claim to reduce the levels of nitrous oxide pollution in dental offices. In the same department, Dr. Gary Gibson has completed a five-year analysis of fissure sealants in the prevention of occlusal dental caries.

**EDUCATION.** Dean Daniel Birch, who completed his first year as head of the Faculty of Education in the 1981-82 academic year, reports that an important beginning has been made in linking faculty research expertise with the needs of school districts through the medium of off-campus course work. Suitable school district projects will be identified which will serve as vehicles for both research and instruction in graduate courses. One such project has already been successfully completed in Prince George by the Department of Counseling Psychology.

During the academic year, the former dean of Education, Prof. John Andrews, and Dr. Rodd Rogers of the Department of Education

Psychology and Special Education co-authored a definitive report on the "state of the art" in research and education in Canada on behalf of the Canadian Society for the Study of Education. Other UBC faculty members and academics at other Canadian universities also contributed to this report, which is expected to have a significant impact on the funding policies of the Social Sciences and Humanities Research Council.

The following research projects, completed or ongoing in the Faculty of Education, are selected from Dean Birch's report on his faculty.

Dr. John Dennison continues his extensive studies focussing on B.C.'s community college and institute system; grants to faculty members in the Department of Administrative, Adult and Higher Education have allowed studies to begin on the history of the development of adult education in Canada and to plan, conduct and evaluate a national institute on adult basic education; in the Department of Curriculum and Instructional Studies a proposed metalwork curriculum has been developed by William Logand and P. Preston; Robert Merriam and K. Evans have completed an investigation of hearing loss, noise control and implications for industrial education facilities, and Dr. Hannah Polowy, in association with a Japanese educator, is working on a project entitled "Communication and Interaction Modes with Young Children"; in the Department of Language Education, Drs. J. Belanger and D. Rogers have published the first of a series of textbooks on writing for use in the schools, Prof. Mary Ashworth published six papers on the teaching of English to immigrant children and Dr. Robert Roy published a research study on the order of grammar acquisition by French immersion students and francophones.

In the Department of Mathematics and Science Education, Dr. Walter Szetla has enlisted the co-operation of 65 teachers in three school districts for a project with grade 7 students on problem solving and calculators; in the Department of Social and Educational Studies, Dr. Donald C. Wilson is collaborating with scholars at the Centre for Canadian Studies at Duke University in the eastern United States on a project entitled "Study Canada," which will stimulate Canadian studies curriculum development in Canada and the U.S.; faculty members in the Department of Visual and Performing Arts in Education surveyed B.C. arts and music teachers to evaluate the faculty's graduate and undergraduate course offerings, continued with a project on art and the visually handicapped and the production of music education units related to ethnic groups in B.C. and prepared an overview of arts education in Canada.

In the School of Physical Education and Recreation, research encompasses the biomedical and physiological capabilities of wheelchair performance, the aerobic capacity of humans in a variety of stress conditions, and an on-going assessment of pre-event training for Canadian elite athletes.

**FORESTRY.** Dean Joseph Gardner reports that funds to support research in his faculty increased by about 50 per cent, reflecting the new

emphasis on intensive forest management by government and industry.

A number of interesting developments have taken place in the faculty in terms of the application of computers to forest management. Prof. J.P. Kimmins received a major grant of a third of \$1 million to continue work on his ecosystem based forest management computer simulation model called "Forcyte." The model produces biomass and volume yield predictions, economic performance predictions and energy cost-benefit analysis. The model has aroused interest in U.S., English, Australian, Japanese and European centres. A large field-research program involving two post-doctoral fellows and seven graduate students is under way.

Dr. R.J. Woodham, who holds a joint appointment in Forestry and Computer Science, and Dr. A.K. Macworth of Computer Science have collaborated in a major extension of capabilities in the area of remote sensing, a new discipline that makes use of a combination of the computer and high-altitude satellite photography. This extension was made possible by a major installation grant from the Natural Sciences and Engineering Research Council in support of remote-sensing research groups in a number of UBC departments and faculties, including Oceanography, Geophysics and Astronomy, Soil Science and Pathology, which supplemented the NSERC grant with one from the Medical Research Council of Canada. There were 37 research users of this image analysis facility in the last academic year. This development makes UBC pre-eminent in remote sensing teaching and research in Canada and the broadly based use of facilities attests to the interdisciplinary nature of UBC's program. Drs. Peter Murtha and John McLean are making use of a Science Council of B.C. grant to investigate the use of remote sensing for early warning of insect attack on forest tracks, a development which will result in major savings in the forest industry.

Other notable research in the forestry faculty includes the work of Dr. Gordon Weetman, who has completed a 10-year project based in Quebec on the effect of fertilizer on tree growth and who is involved in similar studies on Vancouver Island and in the Interior of B.C.

**GRADUATE STUDIES.** Most of the research on which I am reporting in this section depends to a significant extent on the contributions of students who are enrolled in the Faculty of Graduate Studies. No university worthy of the name can carry on a comprehensive program of research without enrolling students at the post-baccalaureate level. Most of these students will, in the course of qualifying for master's and doctor of philosophy degrees, be associated with faculty members in research. Thus, in addition to preparing themselves for careers in specialized areas, graduate students are making a contribution to one of the basic functions of a university, that of adding to the sum total of man's knowledge about the world. The high quality of the work performed by our graduate students is reflected in the number who are awarded fellowships by national granting agencies, industry, foundations, voluntary health organizations and the University. A number of schools and institutes come directly

under the administration of the faculty and what follows are brief descriptions of some of the active research programs going on in these units.

The Centre for Human Settlements has been commissioned to prepare the lead paper for the sixth session of the United Nations Commission on Human Settlements, which meets in Helsinki, Finland, in May, 1983. This paper will be based on the results of two invitational seminars held at UBC in November, 1981, and April, 1982. The centre is also continuing its research on aging in relation to Canadian urban settlements. In the last academic year, the centre held a total of nine seminars on such diverse topics as the management of petroleum development, architecture for the Third World, the role of television in the teaching of urban studies and remote frontier settlements. The centre also hosted 13 scholars-in-residence from foreign and Canadian universities and government agencies, who made use of University resources during their stay.

The School of Community and Regional Planning, in addition to receiving a major \$225,000 grant from the Donner Canadian Foundation for research on the impact of mega-projects on the Canadian environment, received funding for research on service-sector employment in the Greater Vancouver Regional District, economic transformations linking Canada and Japan, the continuing education needs of practising planners, the development of curriculum for multi-cultural education and studies related to housing in Vancouver.

The Institute of Asian Research, in addition to launching the project entitled "Canada and the Changing Economy of the Pacific Basin" on a \$300,000 grant from the Max Bell Foundation, is funding five research studies under the Ohira Commemorative Program in Japanese Studies, and a history of the Institute of Pacific Relations by Professor Emeritus William L. Holland, who holds the title of honorary research fellow in the institute.

On-going work in the Institute of International Relations involves research on Canada and international trade by more than 25 faculty members on a 1981 Donner Canadian Foundation grant, which has been supplemented by a grant from the federal Department of Energy, Mines and Resources, and a five-year grant of \$300,000 from the Department of National Defence for research and teaching in the area of strategic and defence studies.

The Institute of Animal Resource Ecology continues to carry on an active research program on a wide range of topics, including the B.C. purse seine fishing fleet, coho salmon populations, courtship and territoriality in populations of fish and birds and the control of knapweed in B.C. A research team from the institute has begun an active program of documenting the acid-rain phenomenon in B.C., a growing problem in all of North America. The group has been working with federal and provincial environmental agencies on the establishment of remote sampling stations. This project is an excellent example of the way in which university scientists provide stimulus and expertise to government agencies,

alerting them to problems on a matter of widespread public concern.

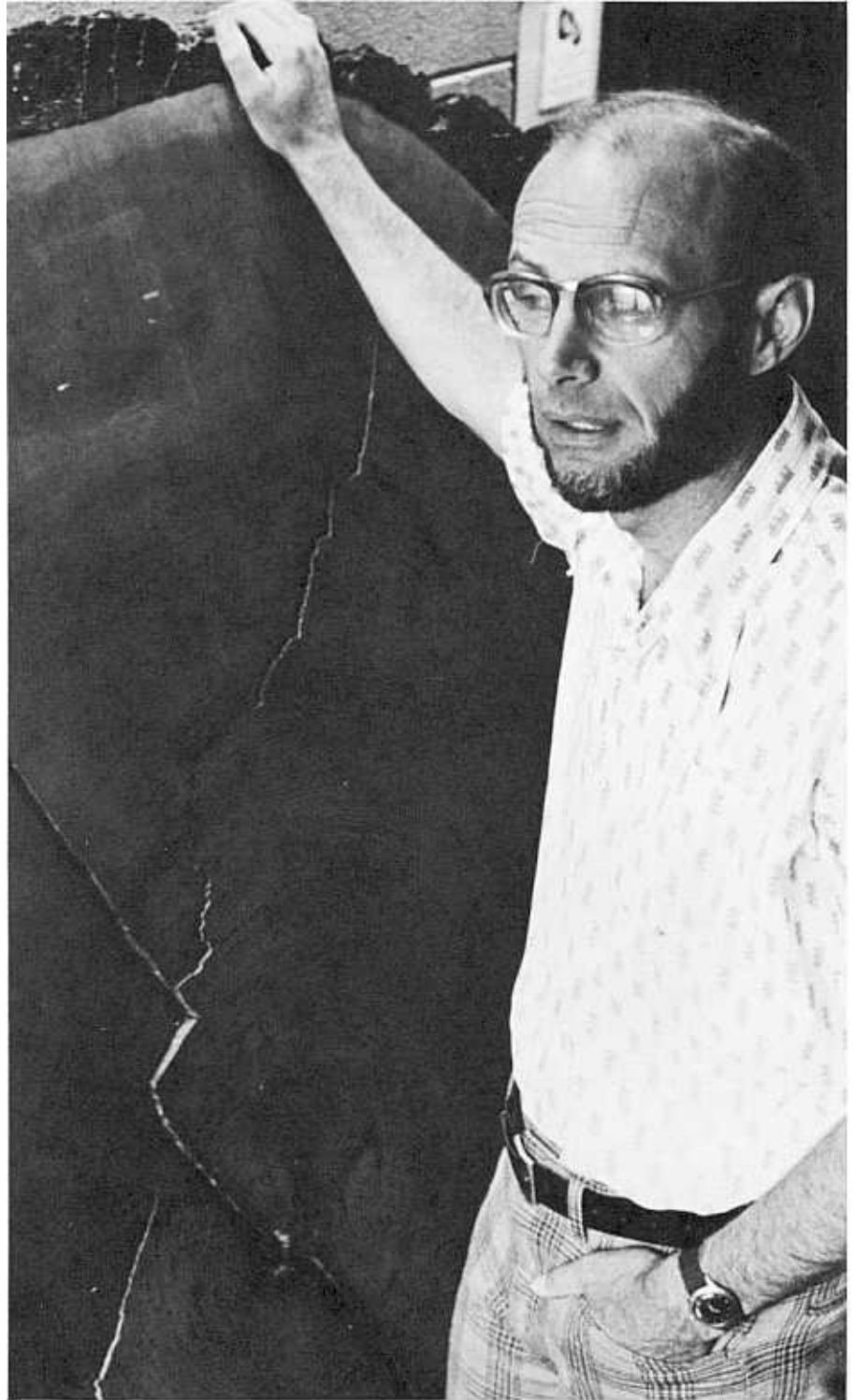
The Westwater Research Centre also continues an active research program on such important topics as management of the Fraser River estuary, environmental conflicts resulting from the growth of recreation and tourism in B.C.'s coastal zone, policies related to the prospect of exploration and development of B.C. off-shore gas and oil deposits and the development of an energy project approval process for B.C. The centre also supports water management programs in the Yukon and in foreign locations, including Peru and Senegal.

The Resource Management Science group sponsors an interdisciplinary research program that touches on such topics as food production in Mexico and Indonesia, the effect of elk migration resulting from coal reclamation in the East Kootenay area of B.C., and oyster management and production in coastal B.C. waters. A similar group in the field of soil dynamics is involved in important studies in the fields of earthquake and ocean engineering and environmental fluid dynamics. Some of the techniques and programs developed at UBC are now used by consulting engineers and oil companies in North America and Norway and by government agencies in Italy, Japan, the Soviet Union, Bulgaria and Mexico. A program designed to analyse free surface flow was successfully tested by the U.S. Army Corps of Engineers and other co-operative research is being carried out with institutes in Japan and Great Britain.

The Centre for Transportation Studies has research projects in such areas as the costs of providing crash, fire and rescue equipment and services at Canada's airports, landing fees at major international airports, coal movements throughout the world and truck transportation to small and remote communities.

Other research activities in Graduate Studies include development of a nutritional appraisal and recommendation program for the federal Department of Supply and Services by a research group associated with the new clinical engineering program and the continuation of work on analytical, numerical and statistical methodology and their application to the life, social and environmental sciences by faculty associated with the Institute of Applied Mathematics and Statistics.

**LAW.** The active research program being carried out in the Faculty of Law is reflected in the wide range of papers published by faculty members in the last academic year. Dean Peter Burns also points to work of importance in the following fields: Prof. Kenneth Lysyk and Robin Elliot on constitutional law; Michael Jackson has completed a book on prisoners' rights in the field of criminal law; under the heading of private rights, Dean Burns and Dr. David Vaver are completing work on interference with economic interest and David Cohen is engaged in research on urea formaldehyde installation; Dennis Pavlich has completed the second edition of his book on the law of condominiums; G.B. Klippert has completed a major work on the Canadian law of restitution, which will be published shortly as will be Prof. Anthony Hickling's work on



picketing, and 12 members of the faculty have published articles in a Japanese periodical introducing Japanese lawyers to Canadian law.

**MEDICINE.** Perhaps the most exciting interdisciplinary project now under way on the campus will lead to the development of a centre for imaging the structure and inner workings of the human body. I have decided to report on

*Dr. Gordon Weetman of UBC's Faculty of Forestry has completed a project on the effect of fertilizer on tree growth in Quebec and is involved in similar studies in B.C.*



this development here because the three major pieces of equipment associated with the project will be installed in the Health Sciences Centre Hospital at UBC.

Faculty members from the disciplines of chemistry, physics, pharmaceutical sciences and medicine are co-operating in the development of the centre, which will bring together the latest in research and diagnostic tools to show what is happening at a microscopic level within the cells of the human body. The diagnostic instruments to be associated with the centre are so sophisticated that biochemical events associated with health or misadventures that accompany disease can be detected while a patient is conscious and alert and without pain or discomfort. Dean Bernard Riedel, the co-ordinator of Health Sciences says the development will make UBC the most advanced centre for human-body imaging in the nation and a leader on this continent.

One of the pieces of diagnostic equipment to be installed in the centre — a positron emission tomograph — is being constructed at the TRIUMF cyclotron project on the campus and will be used for research on such common neurological diseases as stroke, epilepsy, multiple sclerosis and Parkinson's disease. The PET scanner will depend on the production of short-lived radioisotopes, which will be produced at TRIUMF and speeded to the imaging centre in the campus hospital along a 2.4-kilometre pneumatic pipeline now under construction. This project is an outstanding example of how the basic and applied research functions of the University can be made available to the citizens of B.C. for the expansion of knowledge and the treatment of disease.

The total research income to the Faculty of Medicine in 1981-82 was almost \$14.6 million, an increase of 18.3 per cent over the previous year and 43 per cent over 1979-80. I was interested to note in the report of Dean William Webber that research income is about evenly balanced between the basic science departments (\$7.1 million) and the clinical departments (\$6.7 million). Research space in the Health Sciences Centre Hospital has been occupied, planning for a new research institute on Oak Street in association with the new hospital development there is well under way and it is anticipated that additional research space will become available at the other two major centres where medical students and faculty members work — St. Paul's Hospital in downtown Vancouver and the Vancouver General Hospital.

The major increase in research activities over the past five years in the medical faculty reflects the expansion of the school as well as changing attitudes. Attempts to make research more attractive to medical students include the development of summer programs (in 1982, 45 students were supported compared to 27 the previous year). A number of departments encourage medical students to take a year off to do research and residents to undertake research at an early stage in their training.

**PHARMACEUTICAL SCIENCES.** This faculty, although one of the smaller ones at UBC, receives almost \$1.5 million for research and enrolled 30 graduate students and five post-doctoral fellows, who pursued Master of Science

and Doctor of Philosophy degrees in 1981-82. Faculty members published 222 papers and abstracts in the same year and presented research findings at national and international meetings.

Dean Bernard Riedel, in his report on research in 1981-82, lists projects that bear on such diseases as cystic fibrosis, hypertension, the diagnosis and treatment of cancer, sialolithiasis (the second most common disease of the salivary glands), arthritis, kidney dialysis, epilepsy, and heart research in association with investigators at the State University of New York in Buffalo. Drug utilization and metabolism as well as research on radioisotopes are other areas of study within the faculty.

**SCIENCE.** The research activities of the Faculty of Science present an extraordinary array of endeavor in the area of applied studies as well as in basic science. Prof. Laurie Hall of the Department of Chemistry is involved in the groundwork for establishment of the UBC imaging centre mentioned above under the activities of the Faculty of Medicine. Dr. Hall is one of the world's leaders in adapting the principles of nuclear magnetic resonance for use as a chemical microscope to obtain information on cell surfaces and to probe components within cells. In the same department, Prof. Larry Weiler's experiments with pheromones to control forest insect pests has reached the level of commercial development.

The Laser Research Centre staffed by faculty members from the Departments of Chemistry and Physics is an example of a co-operative research effort which has been rewarded with a substantial grant from the B.C. Science Council. The members of the geophysics and astronomy department continue to excel in the design and fabrication of instrumentation and are regarded as being in the forefront of their disciplines. The department is deeply engaged in the development of the proposed network of radio telescopes called the Canadian Long Baseline Array and with the projected space telescope program called Starlab with Australian and U.S. groups.

Microbiologist Dr. Julia Levy continues her efforts to develop sensitive, inexpensive tests for cancer diagnosis, as in the lung cancer early diagnosis program. Members of the Department of Oceanography, in co-operation with government and industrial groups, have completed a study of the living marine organisms of the B.C. coast. The oceanography of coastal inlets and the Strait of Georgia continues to be the main focus of the department producing work of interest to the fishing, mining and marine navigation communities as well as contributing to academic oceanography.

In physics, the radio astronomy group has been active in conducting and publishing material resulting from a conference on the Milky Way. In applied physics, the work of Prof. Rudi Haering on developing a new type of battery, that of Prof. R. Parsons on insulation materials, development of a light pipe system for hazardous areas by Lorne Whitehead and the speech compressor and voice indexer of Andre van Schyndel, have each attracted widespread interest in the academic and industrial communities.

It seems appropriate here to review the activities of TRIUMF, the national cyclotron facility operated jointly by UBC, Simon Fraser University, the University of Victoria and the University of Alberta. One of the basic aims of TRIUMF, which has been in existence since 1968, was to produce high-energy beams of protons of such intensity that they, in turn, would create a thousand times more of the short-lived sub-atomic particles known as mesons or pions than any other laboratory had achieved. The number of mesons produced in 1983 will be two and a half times that of any preceding year, a phenomenon which will mean a corresponding increase in the amount of scientific research which can be carried out.

Using TRIUMF's unique variable-energy proton beams, an international team has just completed a survey of the fundamental interaction between neutrons and protons and between pairs of protons. In the space of six years, this survey has probably doubled our knowledge of the nuclear force. Prof. David Axen of UBC's physics department and associate director of TRIUMF headed a large contingent of scientists, many of them from Great Britain, who participated in the project.

Other research groups, in collaboration with West German, Israeli and University of Toronto scientists, are exploring some of the most important current questions in the field of atomic physics. In May of 1982, the scientists of the B.C. Cancer Foundation and the B.C. Cancer Control Agency began the treatment of large, deep-seated tumors with pions produced at TRIUMF. This work prepares the way for major clinical trials of this new radiation therapy tool, scheduled to begin in 1982-83.

I am pleased to report that Prof. Charles McDowell, who accepted the post of University Professor in the last academic year, has continued his active scholarly career as a teacher and researcher. Former scientific associates from Japan and India came to UBC for collaborative work and a post-doctoral fellow arrived from Japan to replace one who left to take up a position in the United States.

In addition to being awarded a personal NSERC operating grant of \$40,000, Prof. McDowell and three other colleagues received a capital grant of \$132,000 to purchase a special computer data system to enhance the quality of research facilities in the area of nuclear magnetic resonance, a discipline in which Prof. McDowell is known internationally. For his outstanding contributions to the science and profession of chemistry over the years, Prof. McDowell was awarded the Montreal Medal of the Chemical Institute of Canada at that organization's annual meeting in Toronto in June, 1982. In the academic year under review, Prof. McDowell co-authored a total of 21 academic research papers.

Finally, I add a brief review of the activities of the University of B.C. Press, which continues to play an important role in the process of scholarly communication, publishing books which are read and reviewed around the world. It also serves the Canadian community by publishing books on both regional and national interest.

In 1981-82, the press published 15 titles, four of which received particularly widespread

notice: *Canadians Behind Enemy Lines*, by Roy MacLaren and the *RCN in Retrospect*, edited by James A. Boutillier, deal with aspects of Canada's military history; and two books by David Breen and Kenneth Coates of the UBC history department celebrate the 75th anniversary of a local institution, the Pacific National Exhibition. Two other volumes were selected by the Book of the Month Club: *Overland from Canada, the Journal of Mr. Thomas McMicking*, the fourth in a series of pioneer recollections, and *A Flannel Shirt and Liberty*, a book which tells of the lives of early single women immigrants to the west. UBC books were also chosen by the Canada Council and the B.C. ministry of education for inclusion in kits for schools and libraries.

*Graduate students make a significant contribution to research at UBC and the high quality of their work is reflected in the fact that many of them are supported by grants from a variety of sources.*



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# Public Service

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Along with teaching and research, the provision of services to professional and community bodies, governments and voluntary organizations is one of the important functions of the University. In providing these services, our faculty are applying in a practical way the expertise which they accumulate as part of their academic duties at the University. In the widest sense, the provision of teaching and research functions of faculty members can also be regarded as a significant public service, as can the continuing education activities that are a part of the work of every faculty member of the University.

I was impressed with the number of faculty members who were involved in projects and advisory services for foreign governments, many of them in what are commonly called developing countries. I take this opportunity to list the projects reported by the deans for the 1981-82 academic year.

In Agricultural Sciences, Dean Warren Kitts, Dr. L.M. Lavkulich, Dr. V.C. Runeckles and Ms. M.R. Garland visited the new University of Sokoto in Nigeria in March, 1982, to evaluate the undergraduate program in agriculture and to explore possible linkages between UBC and this new institution. Dr. K.V. Lo of the Department of Bio-Resource Engineering was a consultant on the storage of tropical fruit and new research and development to a company in Taiwan in the summer of 1982. Dr. George Eaton of the Department of Plant Science provided consultative services to the UN's Food and Agriculture Organization on fruit production research in Sri Lanka.

In Applied Science, Prof. A.E. Hall lectured on mine ventilation to the China Institute of Mining in Peking. J.L. Rau of geological sciences continues working on the geohydrology and land subsidence around Bangkok for the Royal Thai government, and W.K. Fletcher of the same department is involved in a United Nations international development program in Malaysia. With colleague A.J. Sinclair, Dr. Fletcher gave an intensive two-year course in applied geochemistry for Brazilian geologists in Rio de Janeiro under the Canada/Brazil Scientific Exchange.

In the Faculty of Arts, Prof. David Aberle was an expert witness to a committee of the United States Senate concerned with Navajo relocation; Dr. Hector Williams continued to serve as the first director of the Canadian Institute of Archaeology in Athens; Prof. Peter Simmons of the School of Librarianship was the principal speaker at the International Seminar on Standards in Information held in Budapest in June, 1982; and Dr. H.R. Cohen of the Department of Music was co-director of the International Conference on Music in Paris in the 1830s, sponsored by the U.S. National Endowment for the Humanities.

The dean of Dentistry, Dr. George Beagrie continues to be active in international work concerning dental education and practice through involvement with the Federation Dentaire Inter-

nationale and as a consultant to the World Health Organization.

In the Faculty of Education, Dr. Roger Boshier was a visiting lecturer in a series of training programs for adult educators in Singapore, Kuala Lumpur and Hong Kong, arranged by the Asian and South Pacific Bureau of Adult Education; Prof. Stanley Blank provided consultative services on creative and gifted children to schools in San Diego, California; education psychologist Patricia Arlin was involved in an adolescent development program in New York; and Prof. Bryan Clarke of special education is working on problems associated with the education of the deaf in Pakistan through the Canadian International Development Agency.

Dr. Julien Demaerschalk of the Faculty of Forestry is on leave to direct an inventory of the forests of Zaire in Africa, sponsored by CIDA; Dr. R.W. Kennedy, as a consultant to a project sponsored by the UN, spent six weeks during the summer of 1982 in Bangladesh, where he reviewed the needs of industry and government for forest products research and made recommendations for program changes, and also lectured in six Australian centres at the invitation of the Australian branch of the Institute of Wood Science; and Dr. J.P. Kimmins was on a lecture tour of Japan, sponsored by the Japanese Society for the Promotion of Science.

Dr. Peter Oberlander, director of UBC's Centre for Human Settlements, advised the Canadian delegation to the fifth session of the UN Commission on Human Settlements, held in Nairobi in Kenya in the spring of 1982, acted as a consultant to the Government of Nigeria in the planning and development of that country's new capital, and was invited to join the international consultative committee on Jerusalem chaired by the mayor of that city.

Dr. Thomas Northcote of the Institute of Animal Resource Ecology is involved in a CIDA-supported project on water quality in Lake Titicaca in Peru and a project supported by the Natural Sciences and Engineering Research Council on the water-supply reservoir of Sao Paulo, Brazil; and the Institute's director, Dr. C.C. Lindsey, is an external assessor to the zoology department of the University of Singapore and an advisor to a CIDA-sponsored research and training program for open-water fisheries in Bangladesh.

Too numerous to mention here are the many faculty members who are involved in the work of organizing international conferences, seminars and other types of meetings either abroad, in Canada or at UBC. Meetings held locally make extensive use of the University campus during the summer, thus enabling the University to keep its residences operating during the period when UBC is having its summer recess.

Space does not permit me to mention all the public service projects which involved faculty members during the 1981-82 academic year.

The selection which follows has been extracted from the reports of faculty deans.

**AGRICULTURAL SCIENCES.** In addition to its expanding program of continuing education, which is described in greater detail in another section of this report, faculty members are active in providing expertise through addresses on a wide range of topics to professional groups, young people, industry, community groups and the public at large and through regular interviews on radio, television and in newspapers.

Advice to the B.C. Ministries of Agriculture and Food, Forestry and Energy, Mines and Petroleum Resources was provided by Dr. R.R. Barichello, Dr. R.J. Copeman on raspberry diseases, Larry Diamond on the design of Tumbler Ridge, B.C., F.B. Holl of plant science, and Dr. M.D. Pitt on problems in the East Kootenays. Other organizations that benefitted from faculty expertise were B.C. Hydro and Power Authority, the Canada Wildlife Service, Central Mortgage and Housing Corporation, Shaughnessy Hospital, the National Research Council, Agriculture Canada as well as a wide range of commercial and industrial organizations.

Members of this faculty also play an important role in numerous international, national, provincial and University committees, boards, societies and organizations as editors of journals, executive members of professional organizations and chairmen of advisory and review committees established by governments or government agencies.

In addition to providing information on food and plants through telephone advisory services, the faculty provides free public tours of its Dairy Cattle Research and Teaching unit (3,500 visitors in 1981-82), and promotes communication through regular articles in farming and trade journals and the publication of a bi-monthly faculty newsletter entitled "Food for Thought."

**APPLIED SCIENCE.** In the Department of Mining and Mineral Process Engineering, Prof. A.L. Mular is a member of the board of examiners of the Professional Engineers of B.C.; Prof. Jan Leja published a book on froth flotation, a major contribution to the field of mineral processing; and Prof. G.W. Poling is chairman of the advisory committee to the inspections and engineering branch of the B.C. Ministry of Energy, Mines and Petroleum Resources. In Metallurgical Engineering, J.A. Lund serves as chairman of the Canadian Accreditation Board of the Canadian Council of Professional Engineers.

Dr. N.R. Bulley of the Department of Bio-Resource Engineering serves on the agricultural program development committee of the B.C. education ministry's curriculum development branch.

In the School of Nursing, members of faculty are engaged in the clinical area of maternal and child nursing and are involved in prenatal clinics, as consultants to lay organizations and members of advisory support committees to agencies, or as teachers and consultants to continuing education programs throughout the province.

The School of Architecture was heavily in-

involved in 1981-82 with current developments in downtown Vancouver, particularly on the north shore of False Creek, where students and faculty were involved in area planning for the entire 270-acre site, studies of housing alternatives at various densities and the impact of transportation alternatives, the impact on areas peripheral to the site, the potential for conservation of existing buildings on the site, and the potential and implications of the use of the site for Expo '86.

**ARTS.** Members of the Department of Anthropology and Sociology gave, among other things, 31 public lectures, 20 radio talks, five newspaper and TV interviews and four school talks in 1981-82; Dr. H.J. Rosengarten of the English department served on the B.C. Ministry of Education's language arts advisory committee; Dr. J. Wood-Marsden of Fine Arts was invited to sit on the International Committee for the Architectural Program of the National Gallery in Ottawa; Dr. Walter Hardwick of Geography continued as chairman and president of the Knowledge Network and chairman of the Interprovincial Committee on Educational Communications, and Dr. Olav Slaymaker, the new head of Geography, chairs important research bodies associated with the International Geographical Union and the American Geophysical Union as well as the Council of Geography Department Chairmen of the Canadian Association of Geographers; Keith Ralston and Dianne Newall of the history department are consultants to the Heritage Conservation Branch of the B.C. government; Dr. Anne Piternick of the School of Librarianship chairs the committee on bibliography and information services for the social sciences and humanities for the National Library Advisory Board, and Prof. Basil Stuart-Stubbs, the school's director, chaired the National Library Board's committee on the bibliographic and communications network and is also a member of the B.C. Arts Board, the board of the Vancouver City Archives and a library management board of the Canadian National Institute for the Blind; Dr. R.K. Carty of Political Science directs the Legislative Internship Program, which chooses students who assist MLAs in their legislative work and Dr. Paul Tennant of the same department has brought together the Council of Yukon Indians and the Association of Yukon Municipalities to work together in drafting a new municipal act (he prepared the first draft of this legislation); Dr. Donald Dutton of Psychology established the first North American program of treatment and research for men convicted of wife assault; John A. MacDonald of Social Work served as a consultant to the Spallumcheen Indian Band on band-administered child welfare services; and Norman Young of the theatre department was appointed to the Canada Council, the senior body which makes grants to the performing arts in this country, and to the Vancouver Centennial Commission.

**COMMERCE AND BUSINESS ADMINISTRATION.** Faculty members who put their expertise at the disposal of the community included the following: Donald Fields, who became president of the Pacific Ballet Theatre Society; W.T. Stanbury, who was named a



*Norman Young, an assistant professor of theatre at UBC, was appointed during the academic year to the Canada Council, which makes grants to support the performing arts at Canadian universities.*

# Summary of Revenue and Expenditure

(Excluding Capital Additions to Endowment, Student Loan and Capital Development Funds)  
April 1, 1981 to March 31, 1982

|                                       | GENERAL FUNDS        |              | TRUST FUNDS           |              | TOTAL                |              | 1980-81              |              |
|---------------------------------------|----------------------|--------------|-----------------------|--------------|----------------------|--------------|----------------------|--------------|
|                                       |                      | Per Cent     | For Specific Purposes | Per Cent     |                      | Per Cent     |                      | Per Cent     |
| REVENUE                               |                      |              |                       |              |                      |              |                      |              |
| Province of British Columbia Grants   | \$161,781,475        | 87.4         | \$10,350,170          | 14.7         | \$172,131,645        | 67.4         | \$146,323,783        | 67.7         |
| Canada — Museum of Anthropology Grant | 200,000              | 0.1          | —                     | —            | 200,000              | 0.1          | 200,000              | 0.1          |
| Student Fees                          | 16,363,215           | 8.9          | 160,090               | 0.2          | 16,523,305           | 6.5          | 14,498,655           | 6.7          |
| Investment Income                     | 6,456,187            | 3.5          | 5,385,518             | 7.7          | 11,841,705           | 4.6          | 8,549,420            | 3.9          |
| Sponsored Research                    | —                    | —            | 41,861,299            | 59.6         | 41,861,299           | 16.4         | 36,250,506           | 16.8         |
| Gifts, Grants and Bequests            | —                    | —            | 12,464,156            | 17.8         | 12,464,156           | 4.9          | 10,145,030           | 4.7          |
| Miscellaneous                         | 201,560              | 0.1          | —                     | —            | 201,560              | 0.1          | 205,957              | 0.1          |
|                                       | <u>\$185,002,437</u> | <u>100.0</u> | <u>\$70,221,233</u>   | <u>100.0</u> | <u>\$255,223,670</u> | <u>100.0</u> | <u>\$216,173,351</u> | <u>100.0</u> |
| EXPENDITURE                           |                      |              |                       |              |                      |              |                      |              |
| Academic                              | \$129,741,312        | 72.6         | \$15,925,122          | 25.8         | \$145,666,434        | 60.6         | \$128,918,670        | 60.3         |
| Libraries                             | 14,310,964           | 8.0          | 866,754               | 1.4          | 15,177,718           | 6.3          | 14,294,501           | 6.7          |
| Sponsored Research                    | —                    | —            | 41,084,074            | 66.6         | 41,084,074           | 17.1         | 33,836,465           | 15.8         |
| Student Services                      | 2,511,891            | 1.4          | 870,459               | 1.4          | 3,382,350            | 1.4          | 2,993,207            | 1.4          |
| Scholarships & Bursaries              | 1,890,763            | 1.1          | 2,850,255             | 4.6          | 4,741,018            | 2.0          | 4,515,871            | 2.1          |
| Administration                        | 8,830,839            | 4.9          | 96,827                | 0.2          | 8,927,666            | 3.7          | 8,835,673            | 4.2          |
| Plant Maintenance                     | 20,729,438           | 11.6         | —                     | —            | 20,729,438           | 8.6          | 19,709,323           | 9.2          |
| General Expense                       | 665,932              | 0.4          | —                     | —            | 665,932              | 0.3          | 612,462              | 0.3          |
| Ancillary Enterprises                 | 17,271               | —            | —                     | —            | 17,271               | —            | 86,697               | —            |
|                                       | <u>\$178,698,410</u> | <u>100.0</u> | <u>\$61,693,491</u>   | <u>100.0</u> | <u>\$240,391,901</u> | <u>100.0</u> | <u>\$213,802,869</u> | <u>100.0</u> |
| EXCESS OF REVENUE OVER EXPENDITURE    |                      |              |                       |              |                      |              |                      |              |
| — General Purposes                    | \$ 6,304,027         |              | \$                    |              | \$ 6,304,027         |              | \$( 3,147,072)       |              |
| — Specific Purposes                   | —                    |              | 8,527,742             |              | 8,527,742            |              | 5,517,554            |              |
|                                       | <u>\$185,002,437</u> |              | <u>\$70,221,233</u>   |              | <u>\$255,223,670</u> |              | <u>\$216,173,351</u> |              |

Certain 1980-81 figures have been restated in order to conform with the Financial Statement presentation adopted in 1981-82, with no resultant effect on the fund balances.





*Prof. Finlay Morrison, a member of the Faculty of Pharmaceutical Sciences for 35 years, is widely known for his public service activities in professional pharmaceutical organizations in B.C. and Canada.*

senior program advisor to the Institute for Research on Public Policy and advisor to the federal minister of consumer and corporate affairs concerning the drafting of new competition legislation; Norman Carruthers, who reviewed proposals by the B.C. Ministry of Education on education financing; Michael Goldberg advised a B.C. government cabinet committee on housing policy and was appointed by the minister of consumer and corporate affairs to be a one-man inquiry into pricing and competition in the B.C. brewing industry; Stanley Hamilton served as education advisor to the Real Estate Council of B.C.; and Michael Brennan and Eduardo Schwartz served as consultants to the federal Department of Finance.

**DENTISTRY.** Dr. Robert Priddy and Dr. John Spouge are responsible for the oral pathology biopsy service which provides specialized diagnostic services for all of B.C.; Dr. Douglas Yeo served as a consultant to Red Cross Youth; and Dr. G. Derkson provided dental service at the Children's Hospital in Vancouver.

**EDUCATION.** This faculty makes a major contribution to B.C.'s educational system by identifying teacher needs and designing activities to meet those needs utilizing University resources. In addition to providing 101 credit courses and 90 non-credit programs in 67 communities, faculty members provided the following services: Dr. Ian Housego planned and presented a short course for beginning principals sponsored by the B.C. education ministry; Dr. William Griffith serves on the community liaison committee of Lakeside Correctional Institution; members of the Department of Counselling Psychology helped the Canada Employment and Immigration Commission revise their group counselling programs for the unemployed; and frequent voluntary services were provided to local school districts, teachers' organizations, the provincial government and cultural groups by members of the Department of Educational Psychology and Special Education, including services by faculty and graduate students to the Arrow Lakes and Bella Coola school districts, which do not have their own services; the Department of Mathematics and Science Education operates a diagnostic and instructional centre for elementary and secondary school students who have difficulty with mathematics, and the department also sponsors the annual "Physics Olympics" and "Mathletics" events; Jane Gaskell of the social and educational studies department served on the advisory committee on women's studies of the B.C. education ministry, in the same department Thelma Cook chaired the St. Paul's Hospital Foundation, and Neil Sutherland was president of the Canadian History of Education Association.

Faculty members in the School of Physical Education and Recreation provided consultative services to several Vancouver and Lower Mainland agencies, including the Ministry of Education and school districts with new program developments, including Delta, Richmond, Surrey and Maple Ridge. The Buchanan Fitness Centre continues to provide an important public service by providing a full-scale assessment of physical condition, with

many individuals being referred by their family physicians. The school also participates in the work of the Department of Family Practice in the Faculty of Medicine in the on-going success of the B.C. Sports Medicine Clinic, which now provides a public service unequalled in a university facility anywhere in Canada.

**FORESTRY.** In September, 1982, Prof. Peter Pearse will return to teaching duties in the faculty after leave to enable him to carry out a major study of the west coast fishery for the federal government.

**GRADUATE STUDIES.** Lloyd Baron, a sessional lecturer in the School of Community and Regional Planning, serves as an advisor to the Native Arts and Crafts Association, which assists native artists to become self-sufficient; another sessional lecturer, Peter Boothroyd, is an advisor on B.C. public participation procedures in impact assessment to the West Coast Environmental Law Association; Dr. William Rees serves on the policy and steering committee of the Canadian Arctic Resources Committee, and Prof. Brahm Wiesman played a leading role for the Planning Institute of B.C. and the Canadian Institute of Planners in the analysis and response to the proposed B.C. Planning Act.

Dr. Charles Laszlo, director of the University's new Clinical Engineering Program, has been invited to chair a technical subcommittee of the Western Institute for the Deaf and continues his involvement in providing a public service in the area of health hazard appraisal.

Members of the Institute of Applied Mathematics and Statistics who provided public services included Prof. Colin Clark, who serves on the fisheries and ocean research advisory council and the Council of Associations of Environmental and Resource Economists; and Prof. Don Ludwig, who is on a working group on seal stocks in the northwest Atlantic sponsored by the International Council for Exploration of the Sea.

The Westwater Research Centre published and distributed widely two bulletins on water management in the Yukon and held a public meeting in Whitehorse to discuss the findings of the main report. Andrew R. Thompson, the centre's director, organized and chaired a Fraser River Estuary Forum as part of a federal-provincial study; and Prof. Irving K. Fox served as a consultant to citizen's groups in the Nechako and Bulkley Valleys to offer advice related to their concerns about a proposed project at Kemano.

Prof. Karl Ruppenthal of the Centre for Transportation Studies worked with the government of Alberta on problems associated with the provision of air services to remote communities and provided counsel to members of the parliamentary staff on various legislative questions.

**LAW.** In this faculty, W.W. Black coordinated a continuing legal education course on the federal Charter of Rights and Freedoms and served as chairman of the discrimination committee of the B.C. Civil Liberties Association; D.S. Cohen assisted in the development of teaching materials for the new grade 9-10 consumer education course for B.C. schools; A.F.

Sheppard was a commissioner for the Law Reform Commission of B.C.; and M.A. Hickling and C.L. Smith chaired boards of inquiry under the Human Rights Code of B.C.

**PHARMACEUTICAL SCIENCES.** Dr. Gail Bellward serves on the expert committee on dioxins of Health and Welfare Canada and Environment Canada; Dr. John McNeill was involved in a number of projects, including a community college course on drug abuse and made several appearances on radio open-line shows on this topic; Dr. Finlay Morrison is a member of the legislative committee and the board of examiners of the College of Pharmacists of B.C.; Dr. Frank Abbott continues to perform drug analysis for several community groups and serves as a consultant to the B.C. Alcohol and Drug Commission; and Dr. Marc Levine was instrumental in establishing a community pharmacy residency program, the first of its kind in Canada.

**SCIENCE.** Major events organized in 1981-82 by departments of the Faculty of Science included two international meetings on carbohydrates and fluorine by chemistry, the annual meeting of the Canadian Society of Zoology, a seminar on groundwater and geotechnical engineering by members of the Department of Geological Sciences, and the seventh conference on artificial intelligence by the Department of Computer Science. The chemistry department also organized a series of workshops and symposia for local industries.

In the Department of Geological Sciences, Profs. H.V. Warren, R.E. Kucera and A.J. Sinclair participate in the prospecting school staged annually by the B.C. and Yukon Chamber of Mines.

More than 3,000 people have visited the University during the evening hours in 1981-82 to view the stars and planets through the new 40-centimetre telescope which was installed on the roof of the building which houses the Department of Geophysics and Astronomy. The telescope was also a feature attraction during the University's recent Open House.

In the Department of Oceanography, Prof. S.E. Calvert is chairman of a national committee for oceanic research and Prof. T.R. Parsons served as president of the International Association for Biological Oceanography and as a member of the federal Oceans Research Council. The head of the zoology department, Prof. Geoffrey Scudder, has been appointed chairman of the National Museum of Canada's scientific committee for the biological survey and is a member of the minister's board on ecological reserves.

**CENTRE FOR CONTINUING EDUCATION.** Apart from fulfilling its mandate as a major provider of public service courses and programs, the centre was active in arranging and hosting numerous television programs on public television in Vancouver and for the Knowledge Network, associate director Vince Battistelli continued to chair the Education Information Consortium of the Lower Mainland and became a member of the board of World Literacy Canada; Audrey Campbell, director of the Guided Independent Study Program, was instrumental in organizing the twelfth world meeting of the International Con-

ference for Correspondence Education at UBC; Janet Fraser chaired the management committee of the Immigrant Resources Project and served as a consultant to the regional office of the federal Secretary of State; Anne Ironside chaired the committee on learning and corrections of the Canadian Association for Adult Education; and Gerald Savory served on the national executive council of the United Nations Association and chaired its national development education advisory committee.

In the course of their academic work and as volunteers for numerous community organizations, the students of UBC also provide significant services to the public. Student organizations enhance the wide range of extra-curricular activities on campus by sponsoring speakers and staging events such as World Food Day in the Faculty of Agricultural Sciences and Exceptional Persons Week in the Faculty of Education. Other student activities drawn to my attention by the deans of the faculties are listed below.

In Applied Science, the 1982 graduating class in Chemical Engineering donated \$600 to the University to initiate a bursary fund which has been supplemented by gifts from alumni and faculty members. For the third year in a row, the UBC student chapter of the American Institute of Chemical Engineers has received an award of excellence for the high level of its extra-curricular activities. In each of these years, UBC was the only Canadian university to be honored in this manner and one of only a dozen schools in North America to receive this award. In the School of Nursing, Sally Moore was appointed to the board of directors of the Registered Nurses Association of B.C.

Students in the Faculty of Dentistry also provide significant public services in the field of dental care both on and off the campus. Voluntary emergency dental services were provided two evenings a week at an East Vancouver health clinic by students supervised by Dr. Janet Dorey, and low-cost, quality dental care was provided to some 2,000 persons ranging in age from 3 to 83 at the dental clinic operated by the faculty on campus.

The many awards and honors conferred on students in the 1981-82 academic year are listed in other sections of this report dealing with Awards and Honors and Congregation.

The very extensive public services provided by the Museum of Anthropology, the music and theatre departments and the Fine Arts Gallery are listed under the sections of this report entitled Continuing Education, which should be read in association with this section to gain a full appreciation of the services which the University provides to the community at large.



*Prof. S.E. Calvert, head of the Department of Oceanography in the Faculty of Science, chairs a national committee for Canadian oceanographic research.*

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# Continuing Education

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The continuing education activities of UBC encompass a very wide range of credit and non-credit courses as well as a number of other programs offered throughout the year by such units as the Museum of Anthropology, the Frederic Wood Theatre, the Fine Arts Gallery, the Department of Music and the Botanical Garden. Add to this a rich fare of public lectures, demonstrations, film showings and sporting events and UBC can rightly claim to sponsor one of the most extensive continuing education programs anywhere in the world.

Perhaps the most exciting event in the continuing development of this area of UBC activities was the arrival on campus in the fall of 1981 of the Knowledge Network of the West, the province-wide educational television network established in 1980 as a non-profit society by the provincial government. The network, under an agreement negotiated in the last academic year, rents space in UBC's Library Processing Centre and the adjacent Woodward Instructional Resources Centre, where more than 100 hours of public educational television are beamed weekly to all parts of the province.

In addition to general interest programming, the network is pioneering in the area of educational telecommunications and independent learning systems, areas which will expand learning opportunities and maintain and expand the level of services to remote areas at reasonable cost. UBC's involvement with the network includes the offering, with 13 other B.C. educational institutions, of "telecourses" for academic credit. UBC's profile on the network is highest in the area of "interactive programs," which originate in the network's headquarters in the Woodward IRC and are broadcast live throughout the province. Under this heading the Faculty of Education offered a weekly series on exceptional children; the Faculty of Dentistry broadcast four, two-hour continuing dental education programs for practising professionals; a six-part series on rheumatology for B.C. doctors was prepared by the continuing medical education division; and our School of Social work used the interactive network to communicate with a group of students in Prince George, where the University offers a credit program leading to the degree of Bachelor of Social Work.

Paralleling the development of the network has been the installation by the University of new equipment and expanded services to enable UBC faculties and departments to prepare material for broadcast over the network. I am confident that as various academic units learn how to make the best use of our own equipment and the network's facilities, UBC will make a major contribution to the growth and development of the educational television system.

The University's activities in continuing education are compiled annually in a report for the Senate and the Board of Governors. Jindra Kulich, director of the Centre for Continuing Education, who compiles the report, says that activities in this area were affected in 1981-82 by University retrenchment and the slowdown

of economic activity in the province generally. Retrenchment has made it difficult for many campus educational units to respond to requests for continuing education programs in the community, and the depressed economic situation has meant that many programs in the professions, especially those related to resource-based industries and the public sector, have suffered enrolment declines. However, many continuing education programs, notably in the health sciences, continued to expand their enrolments, and participation in general continuing education in the humanities and sciences held its own.

The composite report shows that continuing education units at UBC recorded 91,073 registrations for credit and non-credit courses in the 1981-82 academic year, a slight decline from the 94,278 registrations recorded in 1980-81. (See table opposite). The table does not record the many thousands of people who come to the campus weekly for lectures, concerts, theatrical performances and to visit campus museums. What follows are extracts from the 1981-82 report of continuing education activities compiled by Mr. Kulich.

**EXTRA-SESSIONAL STUDIES.** The office of Extra-Sessional Studies was established in response to the pressure of the increasing number of students who wanted to take UBC credit courses, but were unable to attend the regular, daytime winter session.

Total extra-session enrolment in 1981-82 was 11,463 students, comprising 3,608 part-time students who were registered for late afternoon and evening courses, an increase of 215 students or 6 per cent over 1980-81; 3,600 students who registered for the 1982 spring session, up slightly over the previous year by 27 students; and 4,255 students who registered for the summer session, an increase of 46 students or 1.9 per cent over 1981.

**CENTRE FOR CONTINUING EDUCATION.** The general deterioration in B.C.'s economic situation and campus retrenchment during the 1981-82 fiscal year had an adverse effect on the centre's programs and on participation. Total participation in centre activities declined by 10.64 per cent in 1981-82, down to 47,386 registrations compared to 53,029 the previous year. The decrease was most noticeable in programs in the professions, where participation was down by almost 38 per cent from 19,752 in 1980-81 to 12,247 in the current year. This decline is due almost solely to the province's difficult economic situation. During years of economic expansion, employers allocated increasing resources to professional development of their employees but, with the recession, company funds for this activity have been severely curtailed.

In other major areas of centre activities, general education programs held their own with a slight increase in registrations from 20,697 in 1980-81 to 21,011; Guided Independent Study (correspondence programs) grew by 16.24 per cent from 1,539 to 1,789 registrations; and the use of the services of the Women's Resources

Centre increased by 14 per cent from 10,012 to 11,414.

The centre received the approval of Senate to phase out two certificate programs. The Certificate in Education for Young Children will be phased out by 1984 and the Criminology certificate by 1986. The students enrolled in these programs, which UBC pioneered, are now well served by other institutions.

The summer of 1982 marked the third year of the centre's effort to expand summer programming, thereby providing learning experiences for entire families, giving them the opportunity of residential accommodation and campus day care. The summer learning program now offers 178 courses (up from less than 100 in 1980) and in 1982 enrolment was up by almost 17 per cent from 4,144 in 1980-81 to 4,836. The most marked increase was in the humanities and daytime program for adults and in science courses for children.

Other general education programs sponsored by the centre continued to enjoy increased audiences. These included educational travel and field study, which attracted nearly 500 registrations for programs in Egypt, the South Pacific, China and Europe; a wide-ranging program of language training for individuals wishing to improve their knowledge of English, French, Spanish and Japanese; daytime programs in downtown Vancouver, which this year had a medieval theme; studio and art appreciation programs in calligraphy, drawing, graphics, the fabric arts, glassblowing and photography, to name only a few areas in the creative arts; as well as programs in energy, the humanities and sciences, public affairs and the social sciences. The Summer Program for Retired People attracted 750 participants, the Reading, Writing and Study Skills Centre continued its valuable work in basic communication skills, and, between January and August,

### THE UNIVERSITY OF BRITISH COLUMBIA STATISTICAL SUMMARY OF PARTICIPATION IN CONTINUING EDUCATION PROGRAMS 1981-82

|   | Credit<br>Enrolment | Non-Credit<br>Enrolment |
|---|---------------------|-------------------------|
| Extra-Sessional Credit Programs   | 11,463              | 45                      |
| Centre for Continuing Education (including<br>Guided Independent Study)                     | 1,457               | 45,929                  |
| Division of Continuing Education in the<br>Health Sciences                                  |                     | 13,442                  |
| Professional Programs of the Faculty of<br>Commerce and Business Administration             |                     | 9,690                   |
| Professional Continuing Education Program<br>of the School of Social Work                   |                     | 898                     |
| Professional Continuing Education Program<br>of the Faculty of Agricultural Sciences        | 42                  | 1,678                   |
| Professional Continuing Education Program<br>of the Faculty of Education                    | 1,758               | 3,434                   |
| Professional Continuing Education Program<br>of the Faculty of Forestry                     | (354)*              | 5                       |
| School of Physical Education and<br>Recreation Community Sports Services<br>(Adult Program) |                     | 1,232                   |
|   | 14,720              | 76,353                  |
| <b>TOTAL PARTICIPATION IN CONTINUING EDUCATION PROGRAMS<br/>CREDIT AND NON-CREDIT</b>       |                     | <b>91,073</b>           |

\*Included in Guided Independent Study



under the heading of special projects, the centre sponsored ten courses on the topic of Communications and the Media.

Despite the decline in enrolment for professional programs, the centre continued its efforts in this area, staging courses for adult educators, librarians, architects, computer scientists, engineers, home economists, gerontologists, urban planners and others.

One of the more important professional continuing education programs offered through the centre's Guided Independent Study program is that of the Faculty of Forestry in view of that discipline's importance for the economy of B.C. Despite the economic downturn in the province, registration for five credit courses, first offered in 1980-81, rose significantly in the 1981-82 academic year to 354 participants from 195.

The forestry program made available to colleges in three B.C. centres is a videotaped lecture course of 34 instalments on forest policy, given by Prof. Peter Pearse of the Faculty of Forestry. Regrettably, other short courses widely advertised during the academic year failed to attract sufficient registrations to be viable and had to be cancelled. In addition, financial exigencies forced a reduction in the staff of the forestry continuing education program, which now consists of a director on a one-quarter time basis and a secretary.

Finally, the Centre for Continuing Education continues to encourage an active program in the southern Interior of the province through an office located in Vernon. Since 1974, when the centre was established, nearly 7,000 registrations have been recorded for general and professional non-credit programs. The program director, located at the Kalamalka campus of Okanagan College, is now regarded as a local link between Interior citizens and the University for need assessment, program planning and implementation and consultation on Interior developments of interest to faculty, Information Services and the Alumni Association. In 1981-82, more than 700 participants participated in 25 programs.

**CONTINUING EDUCATION IN THE HEALTH SCIENCES.** The six divisions making up this area of continuing education registered 13,422 persons in 1981-82, a significant increase over the 10,727 registered in the previous academic year. I have reproduced the statistical summary of continuing health sciences registrations for 1981-82 on this page to indicate that this division provides a wide range of programs both on and off the UBC campus. In short, the division is taking the latest developments in health science education to practitioners throughout the province.

*Satellite transmitter for the Knowledge Network of the West was gently lowered into place atop the Woodward Instructional Resources Centre in the fall of 1982 as part of the network's move to the UBC campus.*



These valuable programs included a concentrated 40-hour program to prepare certified dental assistants and registered dental hygienists to work as assistants to orthodontists; a total of six satellite courses offered through the facilities of the Knowledge Network for dentists and dental assistants, nurses and doctors; an off-campus program on sports medicine at Whistler; a wide range of nursing programs in critical care hospital infection control, long-term continuing care and clinical psychiatric nursing; an independent study program for B.C. pharmacists, which attracted 1,028 registrations for 15 courses; and interprofessional programs on spinal cord injuries and adult diabetes for a range of health professionals, which attracted 641 persons.

**COMMERCE AND BUSINESS ADMINISTRATION.** Professional programs conducted by this faculty registered 9,690 persons in 1981-82, an increase of almost 500 persons over the 9,266 registered in the previous year.

The faculty's executive programs division offered 71 management seminars attended by 1,245 business men and women; the diploma division, which offers five professional development courses in association with various associations, recorded 5,099 registrations; certificate courses for the preparation of notaries public and real property office administration attracted nearly 70 registrations; and the real estate division provided professional training in

**DIVISION OF CONTINUING EDUCATION IN THE HEALTH SCIENCES  
STATISTICAL SUMMARY OF ON-CAMPUS AND OFF-CAMPUS REGISTRATIONS IN 1981-82**

| Program Area                     | No. of<br>On-Campus<br>Courses | Registrations        | No. of<br>Off-Campus<br>Courses | Registrations |
|----------------------------------|--------------------------------|----------------------|---------------------------------|---------------|
| Dentistry                        |                                |                      |                                 |               |
| Courses                          | 44                             | 2,908                | 45                              | 1,411         |
| Lecture Series                   | 1                              | 110                  |                                 |               |
| Satellite Programs               |                                |                      | 1                               | 330           |
| Human Nutrition<br>and Dietetics |                                |                      |                                 |               |
| Lecture Series                   | 2                              | 239                  |                                 |               |
| Satellite Programs               |                                |                      | 1                               | 66            |
| Medicine                         |                                |                      |                                 |               |
| Courses                          | 26                             | 2,064                | 52                              | 1,244         |
| Lecture Series                   | 1                              | 233                  |                                 |               |
| Satellite Programs               |                                |                      | 2                               | 204           |
| Nursing                          |                                |                      |                                 |               |
| Courses                          | 37                             | 867                  | 10                              | 265           |
| Satellite Programs               |                                |                      | 1                               | 56            |
| Pharmacy                         |                                |                      |                                 |               |
| Courses                          | 22                             | 815                  | 47                              | 837           |
| Independent Study                |                                |                      | 15                              | 1,028         |
| Rehabilitation<br>Medicine       | 4                              | 124                  |                                 |               |
| Interprofessional                | 3                              | 641                  |                                 |               |
|                                  | 140                            | 8,001                | 174                             | 5,441         |
| <b>TOTAL ON-CAMPUS COURSES</b>   | <b>140</b>                     | <b>REGISTRATIONS</b> |                                 | <b>8,001</b>  |
| <b>TOTAL OFF-CAMPUS COURSES</b>  |                                | <b>174</b>           | <b>REGISTRATIONS</b>            | <b>5,441</b>  |
| <b>TOTAL COURSES</b>             |                                | <b>314</b>           | <b>TOTAL REGISTRATIONS</b>      | <b>13,442</b> |

four subject areas to more than 3,200 students.

**SOCIAL WORK.** The continuing education program in social work has the objectives of enhancing the knowledge and skills of social workers who have a university degree and the provision of educational opportunities for those employed in social services who lack professional education. In 1981-82 the program enrolled 898 participants — 513 for 27 continuing education courses and 385, an increase of almost 33 per cent over the previous year, for the 1982 Conference on Family Practice, sponsored jointly by the five western Canadian schools of social work.

**AGRICULTURAL SCIENCES.** Since the creation of a division of continuing education and communications in this faculty, an increasing number of British Columbians have had access to continuing agricultural education programs in all parts of the province. In 1981-82, 1,720 persons attended academic and short courses, symposia, workshops and seminars in the Interior, on the Lower Mainland and on Vancouver Island. During the year the program expanded to include the Peace River area and faculty members in Kamloops and Prince George co-ordinated the development and delivery of the program.

Six credit courses were offered in non-metropolitan areas, two each in Kamloops, Prince George and Williams Lake; four symposia and conferences were held in three B.C. centres; and among professional development off-campus short courses and workshops were the following — nutritional management for horses and greenhouse propagation in Prince George, genetics and beef breeding in Kamloops, advances in soil fertility in Dawson Creek and the successful "Financial Management Workshop," which attracted almost 600 persons in 41 B.C. centres.

**FACULTY OF EDUCATION.** One of the commitments of the Faculty of Education is to make the University's instructional and research resources available to communities throughout the province. Most of the faculty's educational and technical assistance activities are co-ordinated by the Field Development Office, which identifies community needs, designs activities that respond to the needs and brings together community needs and University resources. The ways in which services are provided can be summarized in three categories — credit courses, non-credit workshops, seminars and institutes, and credit and non-credit special projects.

Seventy-three Education credit courses, which attracted 1,268 registrations were offered in 28 locations in 1981-82. Six of these were offered through innovative collaboration among the three public universities, while an additional three represent collaboration between two of the universities. In addition to the courses noted above, 28 were offered in the Yukon and two were offered via the Knowledge Network, resulting in a total of 1,758 registrations for credit courses.

Non-credit activities for professional development were offered in 38 locations, attracting 3,434 participants who received a total of 1,169 hours of instruction. These activities included a number of special projects, such as ten credit

and 18 non-credit programs attracting 676 enrolments at 19 locations on the topic of microcomputers and their application to education and 13 workshops for 119 participants in the Native Indian Teacher Education Program.

An important area combining continuing education and community service is co-ordinated through the faculty's Education Clinic, which provides a number of services, including test reviews for psychologists in local districts, training in psycho-educational assessments and direct service to the public through counselling, remedial reading and assessments. In 1981-82 the clinic sent 400 test reviews to school districts and served 20-25 clients weekly with direct counselling, remedial-reading and psycho-educational assessment services. A one-week symposium on psycho-educational assessments attracted 110 participants.

**COMMUNITY SPORTS SERVICES.** A valuable service offered annually by the University through the School of Physical Education and Recreation is a spring and summer program of instruction for adults in golf, ice hockey and tennis. Utilizing the University's unique facilities and instructional personnel, these classes are created to provide adults with excellence in sport skill development. A total of 1,232 persons took part in the 1981-82 program.

Further to the programs outlined above the University fosters continuing education activities through a wide variety of programs carried on in conjunction with its museums, the Frederic Wood Theatre, the Fine Arts Gallery, its annual Open House, and its faculties, which sponsor a multitude of lectures, workshops and symposia.

In addition to attracting almost 129,000 visitors to see exhibits, including art and travelling displays at the Museum of Anthropology some 48,581 persons came for 26 single lectures; 1,656 attended lecture series, seminars, workshops and excursions; 6,750 came for demonstrations; 1,195 registered for conferences; 19,700 attended public events; and 18,000 took advantage of the museum's program of escorted visits.

An important aspect of museum activity is the production of exhibits based on UBC collections and borrowed materials, which are lent to institutions in North America and Europe.

The University's Botanical Garden continued its active service to the community at large and to professional groups. One of the garden's major projects has been in the field of horticultural therapy, in which the garden has collaborated closely with the UBC Health Sciences Centre in the development of a program for seniors and patients in hospitals and extended care units. This year, the UBC garden provided more than 20 consultation/workshops in B.C. and Washington State and hosted the 10th annual meeting of the National Council for Therapy and Rehabilitation, which attracted 150 registrants from North America and Britain. The garden also continued its involvement with the B.C. Nursery Trades Association, including nine specialized workshops and establishment of an Education Certification Program within the association; exhibited at two major shows, one of which, the Vancouver Home and Garden Show, was visited by 85,000 people; arranged 47



tours of the garden through its active companion organization, the Friends of the Garden; and answered some 5,000 horticultural queries through the Hortline service operated in association with the Department of Plant Science. These activities continued despite severe budget cuts.

The Department of Music offers an extensive and varied program of public concerts and recitals, both on and off the campus. Sixteen faculty concerts, 110 student recitals and 47 ensemble concerts were given on campus; the UBC Chamber Singers gave 17 off-campus concerts in the Vancouver metropolitan area and conducted choral workshops and gave concerts to 4,880 persons in the Okanagan and the Kootenays in April and May, 1982. Unfortunately, the touring activities of the past involving the University Wind Symphony and the Choral Union had to be curtailed in 1981-82 because of retrenchment.

The music department also sponsored a number of special concerts by distinguished artists as well as lectures by musicologists. It continued its association with the Vancouver Society for Early Music, now offering one of the major summer courses of its kind on this continent.

Some 22,000 people saw a total of nine theatrical productions staged in the Frederic Wood Theatre and the Dorothy Somerset Studio. Major productions included Harold Pinter's *The Caretaker*, *King Lear* by Shakespeare, and a musical adaptation of *Ten Lost Years*, by Canadian author Barry Broadfoot.

The UBC Fine Arts Gallery staged six exhibits

in 1981-82, three of them major travelling displays from other Canadian centres and from the Arts Council of Great Britain; the Asian Centre sponsored musical performances and three art exhibits; and the Centre for Continuing Education mounted two exhibits, including one on Chinese calligraphy.

Visitors to the campus under the aegis of the Cecil H. and Ida Green Visiting Professors program included Prof. Ronald Dore, one of the west's leading experts on Japan, historian and journalist Connor Cruise O'Brien, and Dr. Gerald Wasserburg of the California Institute of Technology, an international authority on the application of mathematics, physics and chemistry to problems of the earth and the solar system. Visiting professors under this program gave 16 public lectures to more than 4,000 people. Similarly, 22 visitors took part in 50 events sponsored by the Faculty of Arts Distinguished Visitor Program.

Other useful and interesting activities for the University and the general public in 1981-82 included the following: 36 courses offered by the Computing Centre enrolled 1,386 persons; the Institute of Applied Mathematics and Statistics held 75 seminars and workshops and published 15 technical reports; the Department of Asian Studies and the Asian Centre attracted hundreds of people to the campus for lectures, recitals and tea-ceremony performances; and various departments continued series such as the E.S. Woodward Lectures (Department of Economics). The Department of English organized a centenary conference on James Joyce and Virginia Woolf, and the Department

*More than 175,000 persons visited UBC's Museum of Anthropology during the academic year to see exhibits and watch performances, including dancing by Native Indians.*

of Fine Arts staged its 7th annual symposium for graduate students as well as a seminar on health safety for artists.

I take this opportunity to extend the thanks and congratulations of the University to those who organized the 1982 Open House in early March, 1982. This year it was the turn of the liberal arts and sciences, commerce and business administration, law and education to exhibit their work to the public, which turns up in thousands to see and experience the work of the University. Other visitors to the campus in the course of the year included 3,000 persons, young and old, who visited the Dairy Cattle Research and Teaching Unit operated by the Faculty of Agricultural Sciences; 2,800 persons

who visited the facilities of the Department of Geophysics and Astronomy to see the seismograph station and to view the night sky through its two telescopes; and numerous visitors to the M.Y. Williams Geological Museum in the Geological Sciences Building and to the Botanical Garden, where no record of attendance to this outdoor facility is maintained.

Finally, the UBC Speakers Bureau, funded and staffed by the UBC Alumni Association, sent 310 volunteer speakers to fill 423 engagements during the academic year. A grant from the Leon and Thea Koerner Foundation enabled the service to be extended beyond the Greater Vancouver Regional District.

*UBC's library system felt the impact of retrenchment in 1981-82, even though the amount of money available for the purchase of new materials was not reduced.*

## The University Library



No university worthy of the name can meet the needs of its faculty and students without an outstanding library. It is essential to the health of the academic enterprise. This is particularly true for the disciplines which fall under the heading of the humanities. Library resources are, in a sense, the laboratory in which ideas are recorded and tested. Over the years UBC has also prided itself in being able to provide services to other universities and colleges in the province and to the general reading public, many of whom use the library for reference purposes and for recreational reading.

In previous reports I have drawn attention to the erosion of financial resources available to the library as a result of inflation and the declining purchasing value of the Canadian dollar in foreign markets. To these factors in the last academic year were added the problems of dealing with the immediate effects of the 1981-82 financial shortfall and planning for retrenchment in 1982-83.

In order to attain savings of \$202,000 in the 1981-82 fiscal year, the Library had to freeze more than 30 positions. Unfortunately, this resulted in an increased backlog of work in the divisions concerned with the processing of books and other material. Although collections funding has not been reduced, long-term prospects forced the Library to cancel an additional \$40,000 in duplicate subscriptions to journals and other serials. Despite these difficulties the Library managed to maintain normal hours of operation by keeping the most critical public-service positions filled.

In order to meet its 1982-83 retrenchment target of \$379,000 while keeping its collections budget intact, Library administrators identified a number of positions in the administrative, reference and processing areas for elimination. Fortunately, no layoffs were required since most of these positions became vacant in the course of the 1981-82 fiscal year.

However, major programs cuts were inevitable. At the end of August, 1982, the Ecology Library was changed from a branch library to a reading room and the Reading Rooms Division was disbanded, eliminating three positions. Certainly, those departments which have relied

heavily on reading room services in the past will regard this as a retrograde step. The burden of providing adequate reading rooms for students will now fall on those departments that wish to maintain them.

Library responsibilities have continued to grow, even during this period of radical adjustment. In April, 1982, the Library accepted responsibility for the operation of UBC's Film Library, previously a function of the space and audio-visual department, and in June for the Centre for Human Settlements audio-visual library. The summer of 1982 saw the extension of branch library services to St. Paul's, Children's, Grace and Shaughnessy Hospitals in order to provide services for medical school faculty members and students carrying out their clinical work in those settings. Funds for this latter development were provided through the budget for expansion of UBC's undergraduate medical class.

In spite of retrenchment and staff shortages, the Library was well used during this academic year. Circulation transactions, the measure of loan activity, totalled 2,181,794, a modest decline of 1.7 per cent from the previous year. The number of reference questions declined by 4.5 per cent, which should not obscure the fact that reference librarians answered more than 50,000 queries for clients. These figures testify to the very high use made of Library collections by members of the University community and by the public at large.

You will recall that in my last report I outlined a redevelopment plan for the Main Library which involved construction of two new wings linking that building with the nearby Sedgewick Library and, in a second stage, the reconstruction of the Main Library to provide more efficient and useable space for book collections. This plan, approved by Senate and adopted by the Board of Governors early in 1981, is the result of a study which shows that unless additional library space is provided, the Main Library will run out of space for new acquisitions early in the 1990s. The proposal for expansion of the Library has been submitted to the Universities Council of B.C., but no decision has been made.

I am pleased to report that Douglas N. McInnes, a UBC graduate who joined the UBC library system in 1963, was appointed University Librarian on June 1, 1982. He succeeds Basil Stuart-Stubbs, who resigned to become head of the University's School of Librarianship on July 1, 1981. Mr. McInnes, who was the gold medalist of the 1963 library science class at UBC, has served with the Library's special collections division, as Biomedical Librarian for three years and as assistant librarian for public services before his appointment as acting librarian. We were indeed fortunate to have on our own staff a capable and experienced librarian to provide leadership during this critical period in the University's history.



*UBC graduate Douglas McInnes, who joined the library in 1963, was appointed University Librarian in the 1981-82 academic year.*

## The Student Body

Student enrolment at the University for both the 1981-82 fiscal and academic years stood at an all-time high. Fiscal year enrolment totalled 34,433 students, a 4 per cent increase over 1980-81, when 33,113 students were registered. Academic-year enrolment was up 1.6 per cent from 33,963 in 1980-81 to 34,506 in 1981-82.

The fiscal-year enrolment total was a result of increases in our major academic sessions, particularly in the 1982 spring session, which registered an 18.5 per cent increase from 3,015 students in 1980-81 to 3,573 in 1981-82. The percentage increase in the daytime winter session enrolment in 1981-82 over the previous year was 1.6 per cent and that for the evening winter session was 2.6 per cent.

Our fiscal-year enrolment, which is the basis for the University's submissions to the Universities Council of B.C. for operating grants, is the sum of the following enrolments in the period April 1, 1981 to March 31, 1982 (comparable 1980-81 figures appear in brackets): 1981 spring session — 3,573 (3,015); 1981 summer session — 4,209 (3,917); daytime winter session — 23,879 (23,604); winter evening session — 1,315 (1,282); guided independent study (correspondence) — 1,457 (1,295). Total — 34,433 (33,113).

Our academic year enrolment in the period from Sept. 1, 1981 to Aug. 31, 1982 (the period covered in this report), is the sum of the following sessional enrolments: daytime winter session 1981-82 — 23,879 (23,604); evening winter ses-

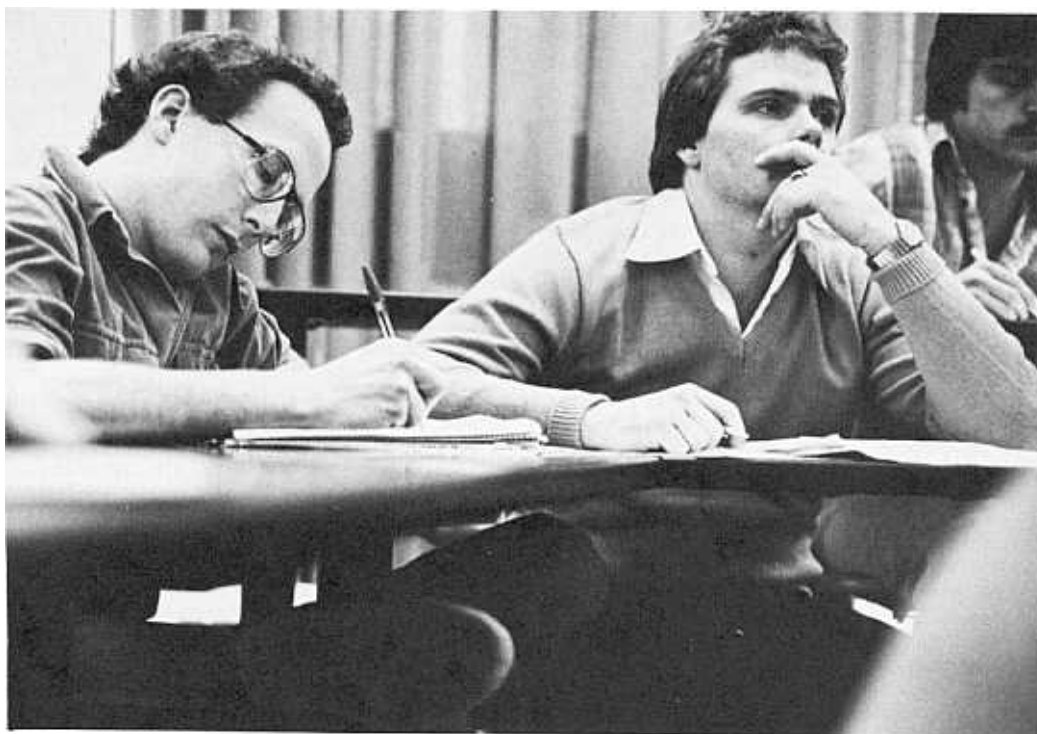
sion — 1,315 (1,282); guided independent study (correspondence) — 1,457 (1,295); 1982 spring session — 3,600 (3,573); 1982 summer session — 4,255 (4,209). Total — 34,506 (33,963).

It is interesting to note that in our largest session, the 1981-82 winter session, enrolment in the Faculty of Arts continued to increase and stood at a record 6,521 students, including a 25 per cent increase in registrations in the School of Social Work, enrolment in the engineering programs of the Faculty of Applied Science was up more than 7 per cent and in the same faculty the School of Nursing recorded an increase of more than 11 per cent. Another interesting aspect of our winter session enrolment is the continuing increase in the number of part-time students. In 1981-82, 41.9 per cent of our students were in this category, compared to 40.3 in the previous winter session.

The students entering the University for the first time in September, 1981, were the first which were subject to the full impact of the University's new entrance requirements, which have been phased in since 1978. The fears expressed at the time the new entrance requirements were approved that they would significantly reduce our first-year enrolment proved groundless. Enrolment at this level in 1981-82 was 3,565, a decrease of only 52 students from the previous year. I remain convinced that good students are attracted to quality education and that the long-run prospects are



*Student enrolment at UBC stood at an all-time high in both the fiscal and academic years.*



that the new requirements will have a positive effect on enrolment.

In the last academic year, following the resignation of Prof. Erich Vogt as vice-president of faculty and student affairs, a reorganization of administrative responsibilities in the President's Office was carried out. The rearrangement called for the appointment of a vice-provost for student affairs, reporting to Vice-President Michael Shaw, who assumed the title of vice-president, academic, and provost.

The search for a vice-provost for student affairs ended successfully in May, 1982, with the appointment of Dr. Neil Risebrough, assistant dean of the Faculty of Applied Science and director of the engineering core program of that faculty, who has a long involvement with student affairs at the University.

In his new post, Dr. Risebrough will be responsible for liaison with the directors of University residences, the Women Students' Office, the Student Counselling and Resources Centre, the Student Health Service, campus day care, the Awards and Financial Aid Office and International House. He will take up his new position on Jan. 1, 1983, when he returns from a year's leave of absence as a consultant on metallurgical problems for a Vancouver firm of consulting engineers.

I take this opportunity to express my personal thanks and that of the University community to Mr. Kenneth Young, UBC's registrar, who has ably served as acting vice-provost for student affairs while the search was on for a permanent occupant of the post.

The balance of this section of my report outlines the activities of various administrative units providing services to students and some of the awards and honors conferred on our students in the 1981-82 academic year.

#### STUDENT COUNSELLING AND

**RESOURCES CENTRE.** This unit complements the educational objectives of the University by providing counselling services to enrolled students and to those considering returning to or entering the University. In addition, the resources section includes a wide range of educational and vocational material, audio and video career cassettes as well as printed material that enables students to cope with a university environment.

The centre sponsors workshops in study skill development, career exploration and development, personal growth and assertiveness training. A stress management program is offered annually in association with other campus units, such as Health Services, Nursing, sports and recreation and the Acute Care Hospital.

The director of the centre, A.F. "Dick" Shirran, reports that 9,357 persons received counselling appointments in 1981-82, an increase of almost 19 per cent over the previous year. A number of factors account for this increase, Mr. Shirran believes, including the centre's new location in Brock Hall, the deteriorating job market and uncertainty about future career opportunities, and the trend in some faculties to place limitations on enrolment, which meant that many students had to reconsider their educational objectives.

The centre also promotes an active program involving visits to the campus by prospective secondary school students and visits to high schools in association with the B.C. Secondary School Liaison Committee, which represents provincial universities and colleges and arranges co-ordinated visits to high schools throughout the province. Under these two programs, 40 schools arranged visits to the campus and UBC counsellors visited 206 secondary schools.

Another useful service offered by the centre in co-operation with Speakeasy, the student ad-

visory and referral centre located in the Student Union Building, is the co-ordination of opportunities for students to volunteer their services to community organizations, where they provide a wide spectrum of free services stemming from their academic training at the University. The first Volunteer Fair was organized in SUB in January, 1982, and following this event a new referral and information service called "Volunteer Connections" was organized. Beginning in September, 1982, seven senior students will be available to assist interested students in selecting appropriate volunteer jobs and will make agency contacts on their behalf. Apart from the valuable services provided to the community by students, this scheme will also enable students to gain valuable experience with community problems to fit them for future employment.

In co-operation with the President's Committee on the Concerns of the Handicapped, the centre continued to provide services to disabled students and provided assistance to the University on improving the campus environment for those with physical disabilities. Specialized counselling, orientation and personalized registration procedures were provided and disabled students are aided in planning their programs and schedules by a publication entitled "Accessibility Guide for Disabled Students," the result of a campus-wide survey of building and facilities accessibility.

Other important functions carried out by the centre include the administration of a wide range of tests of individual aptitude, English evaluation and evaluation of mature applicants, administration of the summer student employment program utilizing provincial government and University funds, administration of a contract between the University and the Canadian International Development Agency related to the Canadian government's scholarship plan for overseas students and responsibility for the Participation Project, initiated to increase the participation rate of students from schools in selected areas of B.C.

**STUDENT HEALTH SERVICE.** UBC's Student Health Service is one of the most extensive of its kind at any university. In 1981-82, more than 30,000 patients were seen in the service's new quarters in the Acute Care Unit of the Health Sciences Centre Hospital. The number of primary care visits to the unit represents an increase of seven per cent over the previous year. One reason for this increase is that clinic doctors are able to see more patients immediately in the new quarters in the Acute Care Hospital.

Specialist services offered by the health service continue to flourish, including an orthopaedic clinic which forms a bridge with the recently organized sports medicine clinic at UBC.

An innovation in the work of the Student Health Service in 1981-82 was initiation of an outreach program in the Student Union Building to inform students of the facilities available to them in the clinic.

I cannot let the opportunity pass to express the thanks of the University community to Dr. Archie M. Johnson, who retired in March, 1982, after 21 years as director of the Student

Health Service. In large measure, he is responsible for the expansion of the service over the past two decades and for the high standard of care which has won him recognition in his profession and among his colleagues at UBC and elsewhere. He was succeeded by Dr. Robin K.L. Percival Smith, an able physician and medical researcher who has been with the health service since 1971.

**WOMEN STUDENTS' OFFICE.** The Women Students' Office in Brock Hall continues to strive toward its goal of supporting women students at the University in realizing their optimum educational and vocational potential by providing specialized services.

Recognition by the office of the fiscal restraints which are being felt throughout the University has led to a review of existing programs with the aim of terminating those which are no longer relative and developing new ones more appropriate to changing needs.

Emphasis during the 1981-82 academic year has focussed on individual counselling and referrals. The impact of the current economic recession and access to programs where enrolment is being restricted have dramatically increased student demand for services. Student contacts per counsellor during the year were up 27 per cent over the previous year. The resources of the centre were strengthened by the presence of two graduate students from the Department of Counselling Psychology in the Faculty of Education, who obtained field work experience.

Despite financial restraints, the Women Students' Office was able to introduce a number of new services in the academic year. These included publication of a handbook entitled "Survival Handbook for Mature Women Students," a publication designed to facilitate the return of mature women to the academic environment; a series of three lecture-workshops to assist women in job-search strategies; public forums on women in science, writing careers and architecture; and consultative services to a number of UBC units and off-campus institutions on job interviews, stresses associated with exams and workplace assertion.

In January, 1982, M. June Lythgoe, who has been associated with the work of the centre for a number of years, became its director. She succeeds Dr. Lorette Woolsey, director of the office since its inception, who has joined UBC's academic ranks in the Faculty of Education.

**INTERNATIONAL HOUSE.** Rorri McBlane, the director of International House, reports that the number of services provided to international students in the 1981-82 academic year nearly doubled, links with various volunteer agencies were established and maintained and a number of informative publications, useful to both students and the public at large, were issued. The increased services provided for international students are founded on the philosophy that the prevention of problems is preferable to their treatment, and while crisis intervention is necessary on occasion, the aim is to reduce situations in which crises arise.

The future priorities of International House centre on increasing the quality of services to international students and the Canadian public. The IH resource centre needs reorgani-



*Dr. Neil Risebrough, assistant dean in the Faculty of Applied Science, will take up a new position as vice-provost for student affairs in the President's Office on Jan. 1, 1983.*



*Laura Lee Richard, a graduate student in UBC's School of Community and Regional Planning, was honored by the American Planning Association for the best student planning report submitted in a nationwide competition.*

zation and updating and a program to utilize international students as resource persons in B.C. public schools will be initiated in the fall of 1982. Another priority is to increase UBC faculty and staff awareness and support of and involvement with international students. To this end a booklet on advising such students is being prepared.

Mr. McBlane also draws attention to the need to create a foreign student advisor's position, using existing staff, and to mount a concerted effort to recruit, train and effectively utilize and evaluate Canadian volunteers in many capacities in International House in order to broaden community support and increase Canadian involvement in its operations.

It is interesting to note that International House has also fostered a number of research activities associated with the presence of international students here. A Survey of Student Needs and Campus Services was completed in this academic year and a master's degree student in the Department of Counselling Psychology is planning to undertake a survey of international students' needs. In conjunction with the same department, a research project on the subject of re-entry — the readjustment process of students returning to their native countries — is proposed.

In the 1981-82 academic year, seven students associated with International House were the recipients of awards with a total value of more than \$10,000. Vechibala (Chinu) Das, a Doctor of Philosophy candidate in Community and Regional Planning, was awarded the \$500 William Armstrong Scholarship in International Education to aid her in field work relevant to her thesis topic. Six other students received or shared \$2,000 International House Leadership Awards.

The deans of faculties and heads of other administrative units have brought to my attention various awards won by students for the excellence of their academic work in the 1981-82 academic year. I know that the Board and Senate and the academic community generally join me in congratulating the following persons on their achievements.

A number of students in the Faculty of Agricultural Sciences distinguished themselves in international competitions. Janet E. Fulton won the Poultry Science Association Graduate Student Certificate for Excellence; S. Miller was the winner, with Dr. Shuryo Nakai and A. Kato, of the American Egg Board Research Award for a study presented at the annual meeting of the Poultry Science Association in California; V. Molund won the Graduate Student Paper Award at the Canadian Institute of Food Science and Technology annual conference; and T. Tautorius and A. Chan were among the top three students in graduate and undergraduate research paper competitions of the Institute of Food Technology.

In Applied Science, T. Brine, a graduate student, won first prize in a student paper competition for a study entitled "Global and Diffuse Spectral Irradiance under Cloudless Skies," and C. Choi, another graduate student, won second prize in the same competition with his paper on heat pumps for residential heating. Jim Langman, a fourth-year student in chemical

engineering, was the first winner of the Canadian Society for Chemical Engineering Sarnia scholarship, an award of \$1,000 to a student who combines high marks with contributions to extra-curricular activities, and Clive Brereton, another fourth-year chemical engineer, won second prize at the Pacific Northwest Student Chapter Conference in Banff in May. In the Department of Bio-Resource Engineering, A. McConnell was the first recipient of the B.C. Hydro and Power Authority Scholarship for environmental and resource sciences, a major new award in this area. In the School of Architecture, Pat Balfour was the recipient of the Architectural Institute of B.C. Medal, Linda Moore won the Alpha Rho Chi Medal, Douglas Gifford and James Burton were the recipients, respectively, of the Henry Adams Medal and the Certificate of Merit of the American Institute of Architects.

Students in the Faculty of Arts who earned distinctions in the 1981-82 academic year were: Michael Day and Constance Lim of the Department of Asian Studies, who were awarded exchange program scholarships by the Association of Universities and Colleges of Canada; John W. Tak of the same department, who won a scholarship from the Interuniversity Japanese Language Centre; Shirley Buswell, of Creative Writing, winner of the University of Toronto's Norma Epstein Award for the best work of fiction written by a Canadian student, for her novel *Garden of Exiles*, written for her master's thesis, and Cecilia Mavrow of the same department, who won second prize in the Ottawa Little Theatre's national play writing contest for her play *The Cookiemaker*; R. Holliston of the Department of Music who placed first in the piano competition of the B.C. Music Festival; and theatre department students Attila Bertalan and Marco Ciccone, who were the first and third prize winners in the 1982 student film festival, Karen Firus, who won first prize in the 1981 student film festival, and Nettie Wild, recipient of the Silver Lion award at the East German Film Festival.

In the Faculty of Dentistry, John Oleson, a third-year student, was the recipient of the Jessie MacCarthy Scholarship.

In the Faculty of Education, doctoral student David M. Guy was awarded the Coolie Verner Prize in recognition of his performance and potential in the systematic study of adult education.

Laura Lee Richard, a graduate student in UBC's School of Community and Regional Planning, was honored by the American Planning Association for the best student planning report submitted in a nationwide competition.

Vincent Nealis of the Institute of Animal Resource Ecology was honored by the B.C. Entomological Society as the author of the best student paper in 1981-82.

A quintet of UBC law students was victorious in the Canadian Bar Association's annual moot competition at Osgoode Hall Law Courts in Toronto, where teams from 14 Canadian law schools competed. The UBC team won the G.A. Gale Trophy, the first time in the history of the competition that it has been awarded outside Ontario. In addition, third-year law student David Church was judged the leading speaker in



the competition. Other members of the team were third-year law students Kathy Kelly and Robert Cheney and second-year students Glen Purdy and Dennis Evanson.

Dr. Mary Jane Mitchell, a resident in anaesthesia in the UBC medical school, was awarded first prize in the Canadian Anaesthesia Society annual residents competition.

In the Faculty of Pharmaceutical Sciences, third-year student Ray Scherrer was named the Centennial Scholar Award winner by the Canadian Pharmaceutical Association, and third-year student Susan Grant was the recipient of a Pharmaceutical Manufacturers of Canada Industrial Summer Studentship to work with G.D. Searle and Co. of Canada in Toronto.

Space does not permit me to list the large number of students who received awards for graduate study from the Natural Sciences and Engineering Research Council, the Social Sciences and Humanities Research Council, the Medical Research Council of Canada and the Science Council of British Columbia. I take this opportunity to congratulate each of the students who were honored by these granting agencies and to wish them well in their future studies.

Each year UBC awards three scholarships to students who combine academic excellence with involvement in UBC and community affairs. In 1981, the \$3,000 Sherwood Lett Memorial Scholarship, named for a former UBC chancellor and chief justice of B.C., was awarded to

second-year medical student Michael McCann. Fourth-year Chemical Engineering student James Langman was the recipient of the \$2,000 Amy E. Sauder Scholarship, made possible by a bequest by the late Amy E. Sauder and by contributions from the Sauder Foundation. Susan Oliver, a student in Rehabilitation Medicine, won the \$1,500 Harry Logan Scholarship, named for the former head of the classics department.

Congratulations are due also to Mark Crawford, winner of the Sherwood Lett Memorial Scholarship in 1980, who was named B.C.'s Rhodes Scholar for 1982 during the academic year.

Before summarizing the achievements of UBC athletes in 1981-82, let me offer the congratulations of the University community to the energetic group of young men and women who have successfully organized and brought to fruition the long-standing plans of the student Radio Society to obtain a public broadcasting license. On April 1, 1982, station CITR began broadcasting on an FM frequency (FM 102) under a licence granted by the Canadian Radio and Television Commission in September, 1981. The non-commercial station is largely financed by the Alma Mater Society and depends on the voluntary services of some 60 UBC students, who in addition to their studies are acquiring useful experience in the electronic media. The

*This quintet of UBC law students swept to victory in the spring of 1982 in the Canadian Bar Association's annual moot competition in Toronto. They won the G.A. Gale Trophy in competition with 14 other Canadian universities. Third-year student David Church, centre, won a \$100 prize as the leading speaker in the competition. On his right are Kathy Kelly, Law 3, and Glen Purdy, Law 2. At right are Robert Cheney, Law 3, and Dennis Evanson, Law 2.*

*The UBC Thunderbird football team, led by running back Glenn Steele, capped a successful 1981 season by defeating Simon Fraser University 33-1 in the annual Shrum Bowl.*



successful completion of this project is another example of the industry and imagination which have characterized the actions of students since UBC opened its doors in 1915.

The Department of Athletics and Sports Services, under the leadership of Dr. Robert Hindmarch, made some notable progress in 1981-82 toward its goal of providing a complete range of services to meet the University community's needs for physical activity. The University's athletic teams were in the forefront of national and international competition and the intramural program continued to provide men and women students with opportunities for recreation and relaxation.

The highlight of the Thunderbird rugby team's year was a three-week tour of Ireland, where coach Donn Spence's charges won four, tied one and lost one match against very strong Irish competition.

The Thunderbird football team had an extremely successful year, finishing with an 8-3 record overall and first place in league play. The team lost to Alberta in the western final, but beat Simon Fraser 33-1 in the annual Shrum Bowl before 9,500 fans at Empire Stadium. The highlight of the year was freshman running back Glenn Steele becoming the nation's top collegiate rusher and being named to the all-Canadian team. Two other members of the team, Mike Emery and Jason Riley, were accorded a similar honor.

UBC hosted the Canadian university swimming and diving championships in March, an event which saw the UBC team improve their performance considerably over last year. The Thunderbird women came second in the competition and the men a respectable fifth. Swimming coach Jack Kelso was named the Canadian

women's swim coach of the year and his assistant, Don Lieberman, the women's diving coach of the year. Rhonda Thomasson, a student member of the swim team, was named female athlete of the year and the entire women's swimming and diving team was designated the top women's team of the year at the annual Women's Big Block banquet in March.

At the men's Big Block banquet, Thunderbird basketball player Bob Forsyth, who set an all-time scoring record in 1981-82, was the recipient of the Bobby Gaul Memorial Trophy as UBC's top male athlete.

In gymnastics, Patti Sakaki won her third consecutive women's individual all-round championship at national university competition in March and the UBC team missed the championship by an eyelash, .931 points behind Manitoba.

Other athletic efforts of 1981-82 which deserve recognition are the following: the men's ski team finished second in the American championships and John Hilland was named an "all-American"; the women's curling team won the Canada West university championship and the gold medal at the B.C. Winter Games; volleyballers Brad Willock and Tara Senft were named all-Canadian and a Canada West all-star, respectively; and two members of the Thunderbird ice hockey team, goalie Ron Paterson and centre Bill Holowaty, were named to the all-Canadian university team.

More than 7,000 students participated in more than 30 different sports and events under the umbrella of the University's intramural program in 1981-82. The men's championship went to students in engineering and the women's to students in the Faculty of Forestry. The top intramural athletes during the year



were Steve McMurdo of Phi Delta Theta and Marna Mueller of Forestry.

The highlights of the year included the Arts '20 Relay from the Vancouver General Hospital (the starting point is the site on which the University was located in 1915) to the Cairn on the Main Mall at Point Grey, which saw 1,000 students representing 122 teams participate; and the Storm the Wall competition with 179 teams and 900 participants.

Special thanks go to the hundreds of student volunteers who undertook unpaid tasks associ-

ated with the intramural program. Joanie Pilcher was named the top intramural administrator and Robert Lindsay of Delta Kappa Epsilon and Kathy Kerr and Moira Teevan of Forestry were named the top men's and women's unit managers, respectively.

The general campus recreation program was an unqualified success in 1981-82 with over 90 sections enrolling 1,700 participants for a wide range of activities, including yoga, karate, women's self-defence, kayaking, mountain climbing, and modern and jazz dance classes.

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## Capital Financing and New Construction

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The University has continued its efforts to improve and expand its physical plant in order to provide optimum conditions under which its academic program can flourish. Despite some impressive accomplishments in recent years, however, many of our facilities remain overcrowded and, in some cases, are only marginally suitable for the high-level teaching and research program that is necessary to maintain and enhance higher education.

Early in the academic year, the Board approved a new five-year capital plan for building projects in the period 1982-87 to be funded under the Educational Institutions Capital Finance Act, the chief source of funds for major projects at the University. The document was submitted to the Universities Council as a planning guide, but those projects listed for 1982-83 were submitted as requests for funding.

These were the Faculty of Medicine's share of the new Eye Centre at the Vancouver General Hospital; the Laurel II Project at VGH, part of a major clinical redevelopment of that hospital; the Faculty of Medicine's share of research space at the new Shaughnessy Hospital; additional space for the Faculty of Dentistry; and public works and renovations. Under the category of Special Projects for 1982-83 — i.e., projects which can be used for both community and academic purposes — is a new Fine Arts Gallery.

The "first-priority" items listed in the five-year capital program include the following projects: new space for Chemical Engineering, Biochemistry, Physiology, Geophysics and Astronomy, a Studio Resource Building for the Faculty of Arts; replacement of sub-standard space now occupied by the life sciences disciplines; and public works and renovations. Provision for the proposed expansion in enrolment in the Faculty of Applied Science has also been made in the construction plan.

Some projects previously submitted to Victoria via the Universities Council have made substantial progress in the direction of construction, but the current state of the B.C. economy has made it doubtful that early approval will be forthcoming. For example, the new building projected for the Departments of Physics and Chemistry at the corner of the East mall and University Boulevard could proceed immediately to the construction stage, but our request to ex-

pedit this project was denied in July, 1982. Funds have also been released to allow us to proceed with the pre-construction stage of a new Physical Plant Service Building, but we have no assurance that the funds necessary to construct the building will be available when working drawings have been completed.

Our proposals for construction of new facilities to expand teaching and research in the Faculties of Forestry and Agricultural Sciences have been recommended to Victoria, but no action has been taken to release planning funds. Similarly, we await word on our proposals to expand our Main Library, expand space for the engineering program in Applied Science and provide new space for the Faculty of Dentistry.

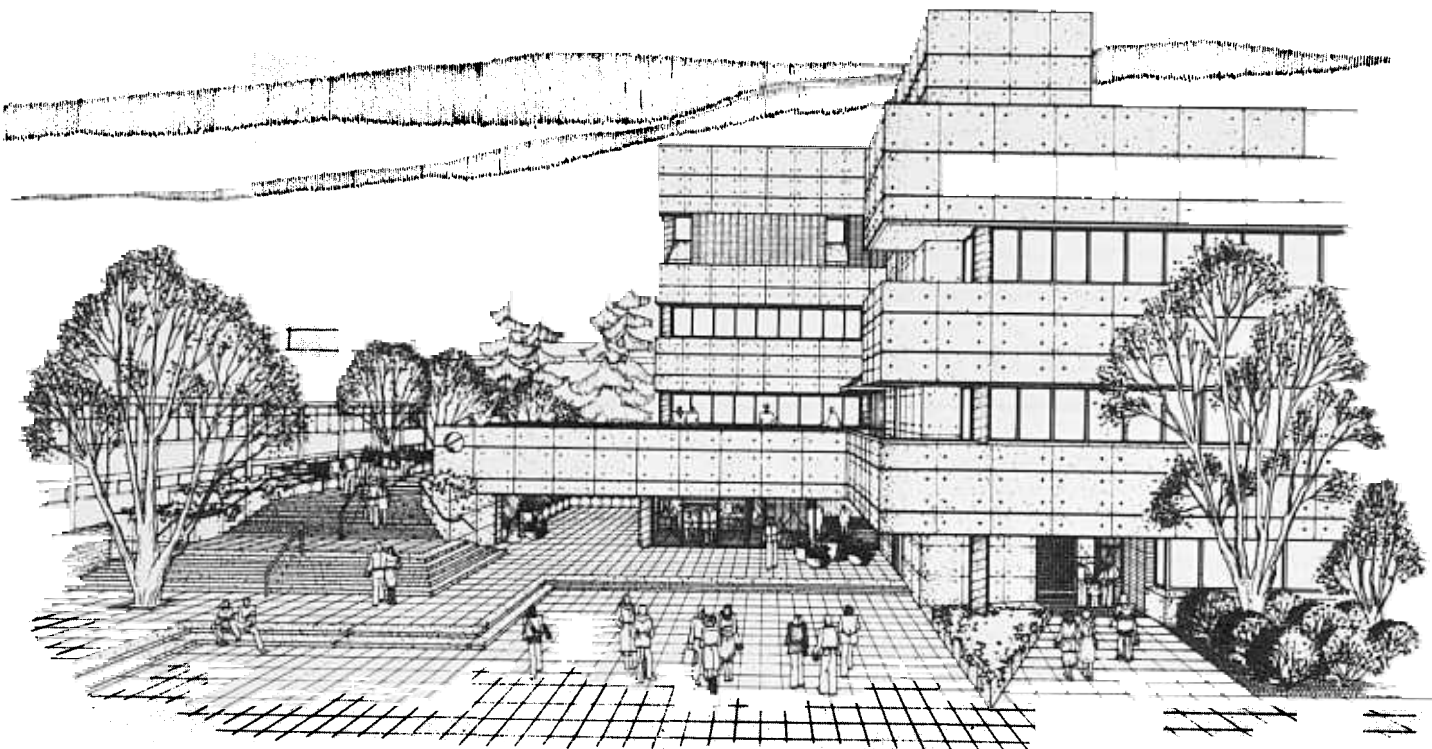
What follows are brief descriptions of projects substantially completed during the academic year and projects which were started in the same period.

Construction on the new Psychology Building necessitated the provision of replacement space for some units of the Faculty of Education, which occupied old army huts on the site of the new building. This replacement space — a new lightweight building and renovations to Block F of the Ponderosa complex of buildings — was completed in November and December of 1981, to enable construction of the new Psychology Building to commence early in the new year.

The new Fraser River Lot Parkade in the northwest quadrant of the campus adjacent to the Asian Centre was completed in May, 1982. This part of the campus is one of the most intensively used sections on a year-round basis, containing as it does the Museum of Anthropology, the Music Building, the Frederic Wood Theatre and the Asian Centre. The parkade, which was constructed with "cash capital" funds left over from grants made to the University before 1976, is a welcome addition to the facilities at this end of the campus.

The renovation of Empire Pool in order to make it conform to current Health Act standards was completed in May, 1982. This upgrading means that the Aquatic Centre, which includes both Empire Pool and the adjacent covered swimming pool, gives UBC one of the largest and most extensive aquatic facilities anywhere for academic and recreational purposes.

Renovations to the Wesbrook Building at the corner of the East Mall and University



*A new building to house UBC's Department of Psychology is currently under construction on the West Mall of the University.*

Boulevard were completed in mid-June, 1982, providing new teaching and research space for the Department of Medical Genetics and other medical school departments.

A short distance away, on the East Mall, a handsome new building for the School of Home Economics was completed early in August, 1982. The completion of this building will enable the school to expand its already active programs of teaching and research in the areas of family science and human nutrition under the vigorous leadership of Prof. Roy Rodgers.

Another important facility completed early in the academic year was a new building to house the Centre for Coal and Mineral Processing. I

fully expect the work which will take place in this unit will have a significant impact on the expanding coal-mining industry of the province and will bring new knowledge and techniques to the mining industry generally.

During the academic year, construction continued on the new University Bookstore on the southwest corner of the East Mall and University Boulevard. This building will replace our present cramped Bookstore on the central campus and eliminate the need to convert the University Armoury each year into a huge book "supermarket" in order to provide students with needed textbooks and other supplies early in the academic year.

# Awards and Honors

I am always impressed with the number of awards and honors which are conferred annually on our teaching and research staff. These awards reflect the high regard in which our faculty is held by professional and other organizations in Canada and elsewhere. I know I speak for the entire University community when I extend my congratulations to all those named below.

UBC's annual award for outstanding research — the Professor Jacob Biely Faculty Research Prize — this year went to Prof. Edwin Pulleyblank of the Department of Asian Studies in the Faculty of Arts. As the recipient of the \$1,000 Biely Prize, Prof. Pulleyblank was honored for his contributions to the disciplines of Chinese history and linguistics, fields in which he has a reputation as one of the world's leading scholars. He is one of the frontier thinkers in speculation about how man went about creating language, which is an outgrowth of his research on Chinese linguistics, particularly his pioneering studies in reconstructing ancient Chinese, which he began while teaching at Cambridge University in England before joining the UBC faculty in 1966.

In 1982, eight UBC faculty members and a ninth person closely associated with UBC affairs were named fellows of the Royal Society of Canada. The society, which is Canada's most prestigious academic organization, elects to membership those who have made outstanding contributions to academic and University life. The faculty members elected to the society were: Prof. Erwin Diewert, of the Department of Economics; Profs. Laurance Hall and Brian James, both of the chemistry department; Prof. Paul LeBlond, Oceanography; Prof. Michael W. Ovenden, Geophysics and Astronomy; Prof. John Walsh, Mathematics; Prof. John Dirks, the head of the Department of Medicine in the medical faculty; and Prof. R.C. Harris of the geography department. The ninth person elected to the society was Dr. Walter Koerner, a former member and chairman of the University's Board of Governors, who has also been associated closely with the development of the Health Sciences Centre on the UBC campus.

Concrete evidence of the quality of research being done at UBC was reflected in the fact that five members of UBC's faculty received medal awards from the Science Council of B.C. and the Royal Society of Canada. Prof. Clayton O. Person of the Department of Botany was honored by both organizations, receiving the Science and Engineering Gold Medal from the B.C. Science Council and the Flavell Medal from the Royal Society for his contributions to improving the resistance of agricultural crops to parasites.

Other Royal Society medals went to Prof. John Brown of the physiology department, discoverer of two gastrointestinal hormones, who was named the winner of the MacLaughlin Medal; and Dr. William G. Unruh of the Department of Physics, who won the Rutherford Medal for his work in theoretical physics.

The other Science and Engineering Gold Medals from the Science Council of B.C. were awarded to Prof. David Suzuki of Zoology for his work in contributing to the understanding and appreciation of science by the public; and to Professor Emeritus of Physics John Warren, one of the fathers of nuclear physics in Canada who was closely associated with the development of the TRIUMF Project located on the UBC campus and operated by four western Canadian universities.

I am always impressed, too, with the number of faculty members who each year head the professional organizations representing their disciplines. What follows is a partial list for 1981-82.

Prof. Darrell Bragg of Agricultural Sciences is president of the Poultry Science Association; Douglas Paterson was elected president of the Canadian Society of Landscape Architects; Prof. J.P. Duncan of Mechanical Engineering was elected president of the Central Committee of the Canadian Congress of Applied Mechanics and director of the Western Foundation for Advanced Industrial Technology; Dr. R.A. Freeze of Geological Sciences is the president-elect of the hydrology section of the American Geophysical Union; Dr. Gordon Walter of Commerce and Business Administration became president-elect of the Western Academy of Management; Dr. Douglas Yeo of Dentistry served as president of the Canadian section of the International College of Dentists; five members of the Department of Curriculum and Instructional Studies in the Faculty of Education were elected to executive positions on the board of the Canadian Industrial Arts Association, including the post of president, which is occupied by Robert F. Merriam; Dr. Eric Broom of Physical Education and Recreation is president of the B.C. Recreation Association and his colleague, Dr. Inge Williams, is president-elect of the B.C. Community Education Association; Prof. Norman Wilimovsky of Animal Resource Ecology was named president of the Canadian Committee for Fisheries Research; Prof. Fred Wan was elected president of the Canadian Applied Mathematics Society; and Neville Smith, the director of Physical Plant, was appointed chairman of the Public Construction Council of B.C., an organization made up of representatives from government, industry and related professions, which is devoted to developing procedures that will result in the construction of effective and economical buildings in B.C.

In the FACULTY OF AGRICULTURAL SCIENCES the following were honored: Dr. A.A. Bomke was named Agrologist of the Year by the B.C. Institute of Agrologists; Dr. Shuryo Nakai received the W.J. Eva Award of Excellence at the annual meeting of the Canadian Institute of Food Science and Technology, and with co-authors S. Miller and A. Kato was awarded the American Egg Board Research Award for a centrifugal study; Prof. William Powrie was elected a fellow of the Institute of Food Technologists; and Prof. Leonard Staley



*James Fankhauser of UBC's music department conducted the Vancouver Cantata Singers, who placed first in an international competition staged biennially by the British Broadcasting Corporation.*

UBC agricultural scientists honored in the 1981-82 academic year were, back row, left to right: Doug Paterson, acting director of the Landscape Architecture program, elected president of the Canadian Society of Landscape Architects; Prof. Victor Runeckles of Plant Science, re-elected chairman of the peer review panel, Air Ecology Program, U.S. Environmental Protection Agency; Dr. Shuryo Nakai of Food Science, winner of the W.O. Eva Award of Excellence from the Canadian Institute of Food Science; and Prof. Len Staley, head of Bio-Resource Engineering, recipient of the American Society of Agricultural Engineers 25-year service award. In the front row, left to right, are: Dr. Art Bomke, named Agrologist of the Year by the B.C. Institute of Agrologists; Prof. William Powrie, head of Food Science, elected a fellow of the Institute of Food Technologists; and Prof. Darrell Bragg, head of Poultry Science, elected president of the Poultry Science Association for 1982-83.



received the 25-year Service Award of the American Society of Agricultural Engineers.

**APPLIED SCIENCE.** Prof. C.O. Brawner was the recipient of a publications award from the American Institute of Mining Engineers and also received the Distinguished Member Award from the same organization; Prof. A.L. Mular was named the Distinguished Lecturer for the Canadian Institute of Mining and Metallurgy and was also the winner of a Book Publication Award of the American Institute of Mining Engineers; and Dr. Ricardo Foschi, adjunct professor in Civil Engineering and Forestry in support of the timber engineering program, was the recipient of the \$100,000 Marcus Wallenberg Prize given by the Swedish government for forest and wood product research.

**ARTS.** Dr. Daniel Overmyer of the Asian studies department was invited to Princeton University for the period January to June 1983 as the Virginia and Richard Stewart Lecturer, visiting senior fellow in the Council of the Humanities and visiting professor in that university's Department of Religion; Dr. James Russell and Dr. Anthony Barrett, both members of the classics department, were respectively reappointed a senior fellow in the Dumbarton Oaks Centre for Byzantine Studies in Washington, D.C., and elected a fellow of the Royal Society of Antiquaries; Dr. Diana Brydon of the Department of English was the recipient of the George Drew Memorial Trust Fund Award for a study tour of the Commonwealth Caribbean; Prof. J. Ross Mackay received the Kirk Bryan

Award of the Geological Society of America; Dr. R.M. Flores of Hispanic and Italian studies was awarded a Guggenheim fellowship for 1982-83 to enable him to continue his outstanding work on the Spanish author Cervantes; Dr. Christopher Friedrichs of the history department was the recipient of the Wallace Ferguson Prize of the Canadian Historical Association for his book *Urban Society in an Age of War: Nordlingen, 1580-1720*, and the head of the department, Prof. Robert Kubicek, was awarded a Smuts Commonwealth Fellowship for research at Cambridge University; Prof. James Fankhauser of the music department conducted the Vancouver Cantata Singers, who placed first in the mixed voices category of the International Choral Competition staged biennially by the British Broadcasting Corporation; and in the psychology department, Prof. Peter Suedfeld was elected to the Academy of Behavioural Medicine Research, Dr. J. Steiger was elected to the Society for Multivariate Experimental Psychology, Dr. A. Treisman was awarded a James McKeen Cattell Sabbatical Award and with Dr. D. Kahneman of the same department was invited to give the 1983-84 Paul Fitts Memorial Lecture, Dr. K.D. Craig was invited to give the plenary address at the World Congress on Pain in Edinburgh, Dr. P. Smith was invited to give the opening address at the second international Conference on Language and Social Psychology at Bristol in England in 1983, and Dr. Anthony Phillips was invited for a two-month visit to the Hebrew University of Jerus-

alem as Lady David Professor.

Schools associated with the Faculty of Arts had their share of award winners. In Home Economics, Dr. I.D. Desai received the 1981 pediatric research award of the Brazilian Pediatric Society for his research on vitamins, and Joan Staniszkis, one of Canada's best known weavers, was elected to the council of the Royal Canadian Academy of the Arts and was the recipient of the 1981 Saidye Bronfman Award for Excellence in the Crafts, which carries with it a cash award of \$16,000. In the School of Social Work, Prof. Richard Splane was honored by the University of Toronto for his work as a "teacher, author, researcher, volunteer and administrator," and for his "countless valuable contributions to the development of social work and social welfare."

**COMMERCE AND BUSINESS ADMINISTRATION.** Prof. R.V. Mattessich, who occupies the Arthur Andersen and Co. Alumni Chair of Accounting, was credited as one of the 20 significant contributors in the 20th century to theoretical writing on accounting in *The Development of Accounting Theory: Contributors to Accounting Thought in the 20th Century*, published in 1982; and Michael Brennan and Eduardo Schwartz of the finance division were awarded first prize by the Institute for Quantitative Research for their paper "Bond Pricing and Market Efficiency."

Dr. George Beagrie, the dean of the FACULTY OF DENTISTRY, was elected a fellow of the American College of Dentists, was appointed chairman of the Commission on Dental Education and Practice of the Federation Dentaire Internationale, and was named a member of the Expert Panel on Oral Health of the World Health Organization.

**EDUCATION.** Vallory Friesen was made an honorary graduate of the Native Indian Teacher Education Program in 1982 in recognition of his outstanding service to the program over the past four years; Dr. Myrne Nevison (Counselling Psychology) was the recipient of the first honorary life membership in the B.C. Counsellors Association; in the Department of Curriculum and Instructional Studies Dr. Glen Dixon received the outstanding service award of the Association for Childhood Education International for 1982, Dr. Hannah Polowy received the award for "International Co-operation in Infant Education" in Tokyo in August, 1982, and Prof. George Tomkins was honored twice as the first recipient of a new award of the Canadian Association for Curriculum Studies for "distinguished contributions to Canadian curriculum theory and practice," and as the recipient of the Canadian Education Association's Whitworth Award for distinguished service to education; in educational psychology and special education, Dr. Margaret Csapo received the Hazel Davey Award for outstanding services to special education in B.C., Dr. Perry Leslie gained the award of the International Students' Council for Exceptional Children, and the award of the Canadian Council for Exceptional Children for the best publication in special education was won by the *B.C. Journal of Special Education*, edited by Dr. Csapo and an editorial board made up of Dr. Bryan Clarke and Dr. David Kendall, both members of the

same department. The Canadian Association of Second Language Teachers established an annual award of excellence in the teaching of French called the Dr. Robert Roy Award, in recognition of the outstanding contribution of this UBC educator to French-language education in Canada. In the faculty's Department of Social and Educational Studies, Dr. Marvin Lazerson was invited to Harvard University as a visiting professor in that university's School of Education, and Dr. G. Chalmers of the Department of Visual and Performing Arts in Education was the recipient of the Communication Award for educational materials from the Heritage Canada/Canada Council Conference.

Several members of the School of Physical Education and Recreation received recognition by national bodies as coach-of-the-year in their respective sports: Alana Branda from the Canadian Interuniversity Gymnastics Coaches Association; Dr. Jack Kelso as women's swimming coach from the Canadian Intervarsity Athletic Union; and Frank Smith from the Western Intercollegiate Football League. In addition, Dr. Robert Hindmarch received the Gordon Juekes Award from the Canadian Amateur Hockey Association and Robert Laycoe was the recipient of the Gold Star Award of the International Amateur Wrestling Federation. The Physical Education Undergraduate Society honored two faculty members in the school — Jean Cunningham and Gary Sinclair — with Excellence in Teaching Awards.

**GRADUATE STUDIES.** Prof. V.S. Pendarur of the School of Community and Regional Planning was honored at the national conference of the Roads and Transportation Association of Canada in 1981 in recognition of his contributions to the association and to the betterment of transportation in Canada over a number of years. A member of the same school, Prof. Clyde Weaver, was the recipient of the Alumni Award for Academic Distinction from the University of California at Los Angeles and as a finalist for the North American Regional Science Dissertation Award has been invited to give a paper at the association's 1983 meeting.

Prof. Terrance McGee, director of the Institute of Asian Research, gave the 13th annual Flinders Lecture in Asian Studies in Australia under the title "Urbanization and Proletarianization in Southeast Asia."

Prof. Frank H. Clarke of the Institute of Applied Mathematics and Statistics was named the 1981 Coxeter-James Lecturer of the Canadian Mathematical Society.

Prof. Irving Fox of the Westwater Research Centre was the recipient of the Marguerite and Vernon Heaslip Award for Environmental Stewardship in the field of education. These awards were in recognition of the 10th anniversary of the United Nations Conference on the Human Environment and were administered by the National Survival Institute.

Prof. Liam Finn, who heads the soil dynamics group in the faculty, was recognized widely in 1981-82 as a state-of-the art speaker at a geotechnical engineering meeting in Chicago, as an invited keynote speaker at an international conference on numerical methods and geomechanics in Edmonton and was invited to the



*Dr. Robert Flores of the Department of Hispanic and Italian Studies was the recipient of a prestigious Guggenheim fellowship to enable him to continue his work on the Spanish author Cervantes.*



*Wallace Ferguson Prize of the Canadian Historical Association was awarded to Dr. Christopher Friedrichs of UBC's history department.*





*One of UBC's basic medical sciences buildings was renamed in 1981-82 for Prof. Sydney Friedman, the first professor appointed to UBC's Faculty of Medicine in 1950 and head of the Department of Anatomy until his retirement in 1981.*

Rutherford Laboratory in England to present recent findings of the research group.

In the FACULTY OF LAW, Prof. Peter Burns received fellowships to enable him to visit the Centre for Socio-Legal Studies and Wolfson College at the University of Oxford; Prof. R.G. Herbert was appointed to Queen's Counsel, and other faculty members received research and travel awards, including one to enable James Taylor to write a biography of former Chief Justice Wilson of British Columbia.

**MEDICINE.** Prof. Sydney Friedman, the first professor appointed to UBC's Faculty of Medicine when it was organized in 1950 and the head of the Department of Anatomy until his retirement from administrative duties in the 1980-81 academic year, was honored twice in the current academic year. His name is now attached to Block B of the basic medical sciences buildings in the McCreary Health Sciences Centre (appropriately, Block B houses the department he headed for more than 30 years), and he was presented with the J.C.B. Grant Award of the Canadian Association of Anatomists "in recognition of meritorious service and outstanding scholarly accomplishments in the field of

anatomical sciences."

**PHARMACEUTICAL SCIENCES.** Prof. Glen Moir was the recipient of the \$1,000 Ortho Award in recognition of his contribution to the founding of the Canadian Society of Hospital Pharmacy; Dr. James Axelsson was named a Medical Research Council of Canada visiting professor to Dalhousie University; Dr. John McNeill was awarded an MRC Research Professorship, the first ever awarded to a scientist in a pharmacy faculty, and was also MRC visiting professor to the University of Montpellier in France, where Dr. Sydney Katz was on sabbatical as an MRC/Canada/France exchange scholar; and Lynne Pollock and Dr. Jack Diamond shared the Good Teacher Award made annually by the Pharmaceutical Sciences Undergraduate Society.

**SCIENCE.** Prof. Rudi Haering of the physics department was awarded the gold medal of the Canadian Association of Physicists for his research on intercalation batteries and a colleague in the same department, Lorne Whitehead, was the recipient of the Edwin F. Guth Memorial Lighting Design special citation for his light pipe design from the Illuminating Engineering Society of North America. Drs. A.J. Sinclair and W.K. Fletcher, both of the Department of Geological Sciences, were made honorary members of the Geological Society of Brazil, and a colleague, Dr. Douglas R. Piteau, was the recipient of the Burwell Award of the Geological Society of America for excellence in engineering geology.

Dr. Clayton Person, mentioned earlier as the winner of two major scientific medals, received the award of excellence of the Genetics Society of Canada and has been named a fellow of the American Phytopathological Society in recognition of his work on host-parasite interactions. A second member of the botany department, Prof. Vladimir Krajina, received the Douglas H. Pimlott Award of the Canadian Nature Federation for his pioneering work in conservation. In the Department of Chemistry, Prof. David Frost was elected a fellow of Great Britain's Royal Society of Chemistry and the American Institute of Chemistry.

**CENTRE FOR CONTINUING EDUCATION.** Dr. A. McGechaen, director of the instructor's diploma program, and B. Lund received an award from the Canadian Association for Continuing Education for writing and producing for the B.C. Ministry of Education the *Continuing Education Programmers Manual*. Two members of the centre associated with special programs for women — Eileen Hendry and J. Fraser — received an award from the Canadian Association for University Continuing Education for establishing the Vancouver Women's Network.

And finally, I congratulate our chancellor, the Hon. J.V. Clyne, who was the recipient of the honorary degree of Doctor of Laws at the annual Founders' Day Congregation of McGill University in November, 1981. In his address to the graduating students, Chancellor Clyne pointed out that UBC was, in effect, founded by McGill, which provided classes leading to academic degrees in Vancouver between 1906 and 1915, when UBC opened its doors to students.

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# Governing Bodies

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Once again I wish to record the debt I owe to many members of the Board of Governors and the Senate of the University, who give unstintingly of their time to take part in the governance of the University. The citizens of B.C. have cause to be grateful to the men and women who are prepared to take time from business and academic careers, without monetary reward, to further the cause of higher education. I frequently call on members of both bodies for advice and counsel on problems facing the University. The willingness with which they provide counsel is a heartening experience.

Appointments to the Board of Governors and changes in personnel are recorded below.

At its meeting on Dec. 1, 1981, the Board was informed that David G.A. McLean had been reappointed to the Board by the Lieutenant-Governor in Council for a three-year term commencing Oct. 29, 1981. Mr. McLean was first appointed to the Board in November, 1980, for the remainder of the term of Alan M. Eyre, who resigned to become a member of the Universities Council of B.C.

At its meeting on April 6, 1982, the Board was informed that Richard Stewart of Westbank, B.C., had been reappointed to the Board for a three-year term commencing March 15, 1982. At the same meeting a declaration of vacancy on the Board was entered in its minutes as required under the *University Act*. As a result of the separation of the Health Sciences Centre Hospital from the University on April 1, 1982, Neil Boucher, a hospital employee, was no longer eligible to sit on the Board. Mr. Boucher was the Board member elected by and from the full-time employees of the University who are not faculty members. During the academic year this category of UBC employee elected William Morrison, senior technician in the Department of Physics, to succeed Mr. Boucher. Mr. Morrison will serve on the Board until Jan. 31, 1984.

In January, 1982, the students of the University elected Ronald Krause, a second-year student in the Faculty of Medicine, and David Dale, a fourth-year student in the Faculty of Commerce and Business Administration, to serve on the Board for one year. They succeed Chris Niwinski and Anthony Dickinson.

At its final meeting of the academic year on July 6, 1982, the Board re-elected Dr. Leslie R. Peterson as chairman of the Board for the period Sept. 1, 1982 to Aug. 31, 1983. Mrs. Joy McCusker will continue to serve as honorary secretary of the Board for the same period.

The remainder of this section of my report on the 1981-82 academic year outlines the major decisions and debates by the University Senate and Board of Governors.

At its first meeting of the academic year on Sept. 16, 1981, Senate approved a proposal from the Faculty of Applied Science calling for the control of enrolment in its engineering programs, commencing in September, 1982. The applied science proposals called for a limit of 450 students to be admitted to first-year

engineering in 1982 and a limit of approximately 100 students to be admitted from outside the faculty to the second-year engineering program. In its presentation to Senate, the faculty said that the increase in enrolment in engineering programs to 1,744 students from 844 the previous year had "seriously impaired" the teaching programs in larger departments such as Civil, Electrical, Mechanical and Chemical Engineering. One result of the enrolment-control proposal would be that some students may not be able to enrol in their first-choice engineering program and may be required to specialize in an alternative program.

This proposal did not receive immediate approval when presented to the Board of Governors at its October meeting. The Senate recommendation to approve the applied science proposals was defeated by the Board and the matter was referred back to Senate for further consideration. It was not until December, 1981, that Senate again considered the faculty's enrolment proposal, which had once again been the subject of intensive discussions in Applied Science. Senate re-endorsed the enrolment limitation proposals, which were then approved by the Board at a meeting in late January, 1982.

At its October meeting the Board approved a five-year capital plan for building projects in the period 1982 to 1987. This plan, as well as a description of other construction projects underway or pending, is dealt with at greater length under the section of this report entitled Capital Financing and New Construction.

During the 1981-82 academic year the University administration received the report of a Hearing Committee established under the terms of the Agreement on Conditions of Appointment to consider the case of Prof. Julius Kane, professor of zoology and a researcher in Institute of Animal Resource Ecology.

The establishment of the Hearing Committee was the result of the initiation of proceedings for the termination of Prof. Kane's appointment at the University. The recommendation of the Hearing Committee was that Prof. Kane should be suspended without salary or benefits from the University for a period of 18 months starting on March 1, 1982, and ending on Aug. 31, 1983. My action imposing this award was approved by the Board at its meeting on March 2, 1982. Prof. Kane appealed my action to the Board at an open hearing on July 6. Subsequently, the Board informed Prof. Kane that his appeal had been denied and that his suspension had been upheld.

During the 1981-82 academic year I informed the Board of Governors that I intended to step down as president of UBC on June 30, 1983. The Board, at its meeting in December, 1981, approved the establishment of a broadly based committee to advise on suitable candidates for president. The members of the advisory committee include representatives of the Board, the Senate, the faculty, the deans, the students, the Alumni Association and the non-academic ad-



*William Morrison, senior technician in the Department of Physics, was elected by the full-time employees of the University who are not faculty members to serve on the Board of Governors until Jan. 31, 1984.*



*UBC's chancellor, Hon. J. V. Clyne, who was the recipient of an honorary degree from McGill University in the fall of 1981, will chair a committee to advise the Board of Governors on suitable candidates to succeed Dr. Douglas Kenny as president of the University.*

ministration. Chancellor J. V. Clyne is serving as chairman of the committee. Its terms of reference are to adopt criteria to guide it in the selection of presidential candidates and to recommend a short list of candidates to the Board's staff committee. That committee, in turn, will make its recommendations to the full Board, which has responsibility for appointment of the president under the *University Act*.

Other matters related to Board decisions, such as student fees and financial aid, are described in greater detail in other sections of this report that bear on the University's financial situation during 1981-82.

In the course of the academic year the University Senate agreed to expand membership on its budget committee, which assists the president annually in the preparation of the University budget. This decision arose out of a motion passed at the February meeting of Senate which resulted in an expansion of the terms of reference of the committee to empower it "to make recommendations to the president and to report to Senate concerning academic planning and priorities as they relate to the preparation of the University budget." As a result, the budget committee was expanded by four persons to a total of 10.

The Universities Council of B.C. came in for heavy criticism at the April, 1982, meeting of Senate in the course of a discussion on operating grant allocations for the 1982-83 fiscal year. Council was criticized in the report of the budget committee for not indicating the principles used in allocating 1982-83 operating grants among the three universities of B.C. and for ignoring the high cost per student of UBC's professional and graduate programs. The committee's conclusion was the UCBC "is in effect encouraging the University to compromise its

commitment to high quality and essential professional graduate programs."

At its meeting in May, 1982, Senate approved a new four-year curriculum for the Faculty of Forestry. The debate gave rise, however, to a discussion on how the University can ensure that students acquire a liberal education in an era of increasing emphasis on professional and work-oriented programs. Although the new forestry program had the approval of the Senate curriculum committee when it arrived on the floor of Senate, chairman James Richards indicated that one of the issues discussed in considering the program had been whether it "required or allowed sufficient breadth of experience in intellectual pursuits."

At the conclusion of the debate Prof. Peter Suedfeld, who is a member of the curriculum committee, served notice of motion asking that a Senate committee "draw up recommendations as to minimum breadth requirements in the pre-baccalaureate programs of the University" for discussion at Senate. The same motion, which will not be debated until Senate meets in the 1982-83 academic year, asks the curriculum committee "to suspend approval of new programs or major program changes pending the acceptance of recommendations as to minimal breadth requirements by Senate."

The issue raised by Prof. Suedfeld goes beyond the immediate issue of the new Forestry curriculum. If the motion passes and a vehicle is found for introducing curriculum changes, the University's 12 faculties will have to review their programs with a view to broadening opportunities for students to take courses outside their immediate field of study. Motions such as this should be welcomed; it behooves the University, from time to time, to take a critical look at its curriculum to determine whether it is meeting all the needs of its students.

## Support Services

Several University departments and centres provide valuable support services which enhance the University's academic programs. What follows are brief notes on developments in 1981-82.

**COMPUTING CENTRE.** The need for additional computing services in the 1981-82 academic year continued. Demand for services increased by more than 25 per cent and an even greater increase in the use of terminals was recorded.

Despite retrenchment, the centre proceeded with its plan to develop a computer network which will enable designated terminals to be connected directly to any computer on the network or to major computer facilities throughout the world. Other notable developments during the year were the installation of a second major host computer for on-line use by undergraduates, and the continued co-operation of the UBC centre with industry, mainly through research and development contracts with the Amdahl Corporation on projects of mutual interest.

**FACILITIES PLANNING.** The department

completed a review of the overall campus plan, which is designed to guide the order of campus development while not restricting future development options. The review and recommendations arising from it will be presented to the Board of Governors in the 1982-83 academic year.

Other notable activities in the 1981-82 academic year included the following: approval by the Board of a master plan and developmental guidelines for the lands leased to Discovery Parks Inc.; preparation of a facility development plan to accommodate an expanded Faculty of Applied Science, including space for a proposed Pulp and Paper Research Institute of Canada; and the commissioning of consultants to prepare design and development guidelines for housing in the Acadia Park area of the campus.

**TRAFFIC AND SECURITY.** In addition to the opening of the Fraser River Parkade, providing 400 new parking places on the northwest campus, the traffic and security department has taken steps to define more carefully the central campus pedestrian area with the aim of enforcing



*UBC took steps during the academic year to initiate planning to upgrade campus day care facilities to meet fire-code standards.*

ing the "walking-campus" concept approved some years ago by the Board of Governors. More and more frequently in recent years, a wide range of vehicles, including some driven by members of the University community, have penetrated this central area in violation of regulations. Steps will be taken in the 1982-83 academic year to enforce the walking-campus in order to ensure a quiet, traffic-free area. One step taken to this end in 1981-82 was to approve a recommendation from the director of traffic and security to increase substantially the fines which violators of the pedestrian area will have to pay in future.

**PHYSICAL PLANT.** The department continued its campus energy conservation program which aims at implementing projects which will result in energy-cost avoidance of \$180,000 a year. Work has started on the establishment of a computerized data base for energy use in major buildings to assist the work of this program.

The department also originated and managed the design and construction of an attractive new campus green space, the Patient Park at the rear of the new Acute Care Unit of the Health Sciences Centre Hospital for the enjoyment of hospital patients and visitors to the campus.

Physical Plant also supervised the demolition in 1981-82 of the old Mineral Engineering Building at the corner of the West Mall and University Boulevard, three huts on University Boulevard and seven temporary buildings on West Mall as the result of completion of new campus facilities.

Physical Plant director Neville Smith also reports that most custodial work at the University is now being done on the day shift, which has resulted in higher productivity and the elimination of the night-shift differential. Efforts to economize have resulted in reducing custodial resources by 14 per cent over the last decade, even though the building area to be serviced in-

creased by 37 per cent in the same period.

**AUDIO-VISUAL SERVICES.** The audio-visual services department was reorganized during the academic year following the appointment of a new director, Ian Franks, who formerly headed a similar department in the Faculty of Education. Among other things, he will be responsible for co-ordinating the University's programming with the Knowledge Network. All services of the department will remain under his jurisdiction, with the exception of room bookings, which moves to the Registrar's Office, and the Film Library, which is now under the jurisdiction of the University Librarian's office.

**DAY CARE SERVICES.** Day care for the children of students, faculty members and staff at UBC is provided by 11 separate, parent-run, non-profit societies financed totally by parent fees. More than 200 children aged 18 months to 11 years are cared for in these facilities located in the Acadia Park area of the campus.

Unfortunately, the permanent licences of these centres were revoked by provincial fire authorities and interim licenses were issued pending renovations which will bring the buildings up to fire-code standards. As a result of this action, the University's Day Care Council underwent some reorganization, which saw the appointment of Prof. Nathan Divinsky, an alderman of the City of Vancouver, as the council's chairman. I am hopeful that the council will be in a position to initiate actions which will enable us to either upgrade these essential support buildings or replace them with new units.

In addition to the role they perform in providing services to children, the centres serve as the focus of teaching for students in the University's early childhood education program and are also used as observation centres for students in Education, Psychology, Recreation and Architecture.

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# Congregation

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The University's annual Congregation for the conferring of honorary and academic degrees took place on May 26, 27 and 28 in the War Memorial Gymnasium. This traditional ceremony, one of the most important in the University year, is attended each year by thousands of relatives and friends of graduating students and honorary degree recipients. The Hon. J.V. Clyne, UBC's chancellor, presides at the ceremony and confers on students and those honored the degrees approved by the University Senate.

In the 1981-82 academic year, the University Senate approved the awarding of a total of 4,463 academic degrees, 871 in the fall of 1981 and 3,592 in the spring of 1982. In addition, the Senate approved the award of five honorary degrees to individuals who have distinguished themselves in the academic world, in public service and in industry.

On May 26, honorary degrees were conferred on S. Robert Blair, president and chief executive officer of NOVA, the Alberta energy corporation, and on R. Gordon Robertson, president of the Institute for Research on Public Policy and a former leading civil servant in the federal government.

The following day, honorary degrees were conferred on Professor Emeritus of Botany Vladimir Krajina, a pioneer forest ecologist who was instrumental in the establishment of ecological reserves in B.C., and on Ray G. Williston, chairman and president of B.C. Cellulose and a member of the B.C. Legislature from 1953 to 1972.

On May 28, the final day of Congregation, the University honored George F. Curtis, dean emeritus of UBC's Faculty of Law, who was the founding dean of that faculty, which he headed with much distinction from 1945 until 1971.

One of the highlights of the ceremony is the awarding of medals and prizes to students who have distinguished themselves academically and who head their respective graduating classes. Those who received honors in the spring of 1982 are as follows.

Association of Professional Engineers Proficiency Award (Engineering) — Randy Brent Osborne, Port Coquitlam.

Helen L. Balfour Prize (Nursing) — Kathleen Marie Houston, Penticton.

Dr. Maxwell A. Cameron Memorial Medal and Prize (Elementary) (Education) — Donna Lynn Miller, Summerland.

Dr. Maxwell A. Cameron Memorial Medal and Prize (Secondary) (Education) — Peter S. Luitjens, Vancouver.

Ruth Cameron Medal for Librarianship (Librarianship) — Karen Viola Marotz, Burnaby.

College of Dental Surgeons of British Columbia Gold Medal (Dentistry) — Linda Marion Taylor, Vancouver.

College of Dental Surgeons of British Columbia

Gold Medal in Dental Hygiene (Dental Hygiene) — Sharon Toni Foster, Coquitlam.

Governor-General's Gold Medal — Bruce A. Lowden (B.Sc.; Computer Science), Cranbrook.

Hamber Medal (Medicine) — Catherine Ann Harvey, Vancouver.

Horner Prize and Medal for Pharmaceutical Sciences (Pharmaceutical Sciences) — Karmen Ka Men Chan, Vancouver.

Kiwanis Club Medal (Commerce and Business Administration) — Sarah Alyson Morgan, Victoria.

Law Society Gold Medal and Prize (Law) — Hywel Rhys Davies, Vancouver.

H.R. MacMillan Prize in Forestry (Forestry) — Robert Brownlow Kennett, Lavington.

Dean of Medicine's Prize (School of Rehabilitation Medicine) — Susan Patricia Oliver, Vancouver.

Physical Education and Recreation Faculty Prize in Physical Education — Catherine Elizabeth Jordan, Vancouver.

Recreation Society of British Columbia Prize — Linda June Watkinson, Burnaby.

Royal Architectural Institute of Canada Medal (Architecture) — Edward H. Murray, Chase.

Wilfrid Sadler Memorial Gold Medal (Agricultural Sciences) — Judy Mary Luniw, Armstrong.

Special University Prize (Fine Arts) — Ingrid Charlotte Koenig, Vancouver.

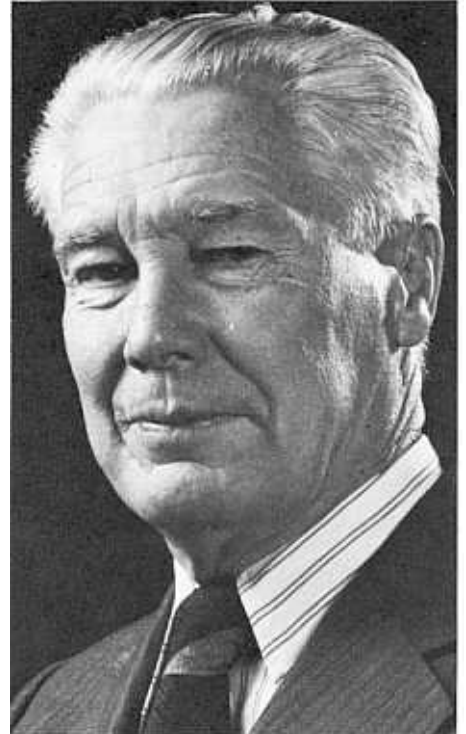
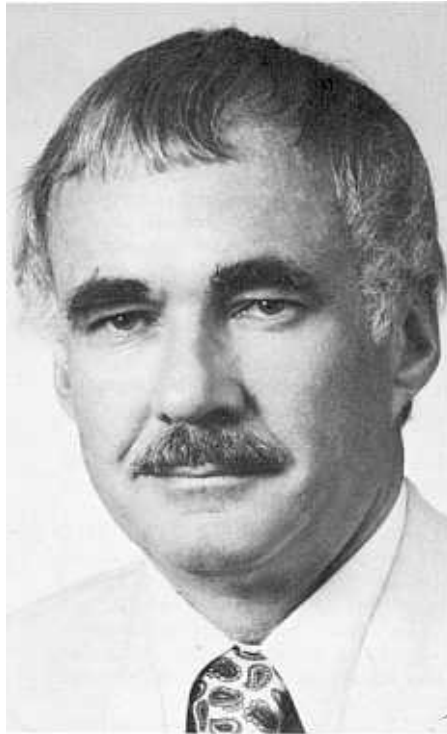
Special University Prize (Home Economics) — Erica Kaur Dhillon, Brentwood Bay.

Special University Prize (Licentiate in Accounting) — Sheila Anne Parton, North Vancouver.

Special University Prize (Music) — Neil Alan Currie, Vancouver.

University Medal for Arts and Science — Ian Ralph Weir (B.A.; English), Kamloops.





*Honorary degree recipients at UBC's 1982 spring congregation were, top row, left to right, UBC Professor Emeritus of Botany Vladimir Krajina, a pioneer forest ecologist who was instrumental in establishing ecological reserves in B.C.; S. Robert Blair, president of NOVA, the Alberta energy corporation; Ray Williston, chairman and president of B.C. Cellulose Co. and a former provincial government cabinet minister; second row, left to right, R. Gordon Robertson, president of the Institute for Research on Public Policy and a former leading federal civil servant; and Dean Emeritus of Law George Curtis, the first dean of Law at UBC and widely known for his work on the law of the sea.*

# Appointments, Resignations and Retirements



*Prof. Martin Silverman was appointed head of the Department of Anthropology and Sociology during the academic year.*

In an institution as labour-intensive as the University, there is always a significant number of appointments, resignations and retirements in any given year. The more significant personnel changes for the 1981-82 academic year are listed below.

**ADMINISTRATION.** In the administrative area, I have dealt with the appointment of Dr. Neil Risebrough as vice-provost for student affairs in an earlier section of this report entitled *The Student Body*. The University lost a valuable administrator in Dr. William Tetlow, who resigned as director of the Department of Institutional Analysis and Planning, and who also held an appointment in the Faculty of Education.

**FACULTY APPOINTMENTS AND RESIGNATIONS.** In Agricultural Sciences, appointments at the associate professor level were those of Dr. George Chrysomilides and Ralph G.J. Lattimore, both to the Department of Agricultural Economics. Dr. John D. Graham was named acting head of the same department.

In Applied Science, the appointment of Prof. J.S. Laskowski was critically important to the new program in coal preparation engineering in the Department of Mining and Mineral Process Engineering. Important appointments in Mechanical Engineering were those of Dr. Dale Cheras to work in design and control with special applications to robotics, and Dr. Farrokh Sassani to work in manufacturing engineering. Dr. Alan D. Russell joined Civil Engineering at the rank of associate professor to teach construction management economics.

In the Faculty of Arts Dr. Martin Silverman was named head of the Department of Anthropology and Sociology, succeeding Prof. Kenelm Burridge, who remains a faculty member; and Dr. Olav Slaymaker became head of the Department of Geography, succeeding Prof. Robert Smith, who is now associate vice-president, academic. Dr. S.J. Rachman was appointed director of the clinical program in the Department of Psychology at the rank of full professor. Prof. George Hougham, who has been head of the School of Social Work since 1967, announced his resignation as head of the school effective June 30, 1983, and will remain at UBC as a professor.

In Commerce and Business Administration Dr. George Gorelik was appointed chairman of the Division of Accounting and Management Information Systems; Prof. Maurice Levi was named head of the Division of Finance and Bank of Montreal Professor in International Finance; Catherine Vertisa became director of the undergraduate program, succeeding Prof. Stanley Oberg, who has accepted an appointment in the office of the Faculty of Graduate Studies; and Dr. Bruce Fauman was named director of executive programs and adjunct associate professor in marketing.

In the Faculty of Education a number of appointments were made as the result of the departmentalization of the faculty: Prof. Bryan

Clarke became head of the Department of Educational Psychology and Special Education, Prof. David Robitaille was appointed head of the Department of Mathematics and Science Education; and Dr. Jorgen Dahlie is the head of the Department of Social and Educational Studies. Other notable appointments in Education are: Dr. I.E. Housego was named coordinator of the newly established Centre for the Study of Teacher Education; Dr. L.W. Downey is chairman of the educational administration division in the Department of Administrative, Adult and Higher Education and Prof. John Dennison is chairman of the higher education division of the same department; Dr. James Sherrill is the associate director of graduate studies in Education. Academic appointments included the following: Dr. Kjell Rubenson, a world-class scholar in adult education joined the administrative, adult and higher education department; and Dr. Ronald MacGregor, senior art educator in Canada and one of the leading figures in his field in North America, was appointed a full professor in the Department of Visual and Performing Arts in Education. In the school of Physical Education and Recreation Robert Laycoe was appointed chairman of the Department of Sport and Dr. Eric Broom now chairs the Department of Recreation.

In the Faculty of Forestry Dean Joseph Gardner announced his intention to retire as dean on June 30, 1983, but will continue as a professor. As a result of the faculty's decision to departmentalize, the following appointments as acting heads were made: Dr. R.W. Kennedy of Harvesting and Wood Science, Dr. J.H.G. Smith of Forest Resources Management and Dr. Oscar Sziklai of Forest Sciences.

In the Faculty of Graduate Studies the appointment of Anthony H.J. Dorsey as assistant director of the Westwater Research Centre and an assistant professor in the School of Community and Regional Planning further consolidates the relationship between these two units, which have common interests in resource policy analysis.

In the Faculty of Law the appointment of Prof. Malcolm Smith is related to the faculty's on-going commitment to the expansion of Japanese legal studies.

Notable appointments in the Faculty of Medicine included the following: Dr. A.D. Forward became head of the Department of Surgery; Dr. J. Smith heads the division of medical microbiology; Dr. D.E. Vance is the new head of the Department of Biochemistry; Dr. I. Michelson was named head of the family practice department at Shaughnessy Hospital; and the following professorial appointments will strengthen the work of the faculty — Dr. J. Hall in Medical Genetics, Dr. D. Calne in Medicine and Dr. R.E. Rangno in Pharmacology and Medicine.

In the Faculty of Pharmaceutical Sciences Dr. Gail Bellward was elected chairman of the division of pharmacology and toxicology; Dr.

FRANK ADDOTT was elected chairman of the division of pharmaceutical chemistry; and Dr. James Orr was elected chairman of the division of pharmaceuticals. Dr. David Fielding was appointed chairman of the division of pharmacy administration and continues as director of pharmacy continuing education, and Dr. John McNeill was named associate dean of graduate studies and research.

In the Faculty of Science Prof. Larry Weiler became head of the Department of Chemistry, succeeding Prof. Charles McDowell, now University Professor; Prof. Robert C. Miller succeeded Prof. J.J.R. Campbell, who remains as a professor, as head of the Department of Microbiology; and Prof. David L. Williams succeeds Prof. Roy Nodwell, who had completed a five-year term of office, as head of the Department of Physics.

A total of 18 members of the UBC faculty reached retirement age during the academic year. I know that all members of the University community join me in extending to each of those retiring our thanks for their contributions to teaching and research over the years. In some cases, these retiring members will continue to carry out duties at the University. Those who reached retirement age are as follows:

Leslie F. Ashley, a teacher in the Faculty of Education since 1966 and an expert on children's literature;

Inglis F. "Bill" Bell, UBC's associate librarian since 1964 and a member of the library staff for 30 years;

Edward A. Bird, a 24-year member of the Department of French and the author and editor of numerous publications on French language and literature;

Helen E. Cawston, who retires after 22 years as a member of the School of Nursing, where she was undergraduate academic advisor;

Lloyd F. Detwiller, administrator of UBC's Health Sciences Centre Hospital until its separation from the University on April 1, 1982, and a member of the UBC faculty since 1962;

Henry G. Dunn, a member of the Department of Paediatrics since 1954 and the chief investigator in a massive, 15-year study of children of below-average weight at birth;

James S. Forsyth, a member of the Department of Chemical Engineering since 1957 and head of the department from 1957 to 1969;

James Foulks, the first head of the pharmacology department in the Faculty of Medicine from 1951 to 1971, when he resigned his administrative duties to devote full-time to teaching and research;

Irving K. Fox, who joined the UBC faculty in 1971 as director of the Westwater Research Centre and who was laterally a professor in the School of Community and Regional Planning;

Colin C. Gourlay, who retires after 33 years as a member of the Faculty of Commerce and Business Administration and its assistant dean until 1977;

Archie M. Johnson, who retires after 34 years at UBC, initially as a clinical instructor in the Faculty of Medicine and laterally as director of the University's Student Health Service;

Elizabeth K. McCann, who retires after 35 years as a teacher in UBC's School of Nursing,

where she was the first instructor to work with University students in hospitals;

Myrne B. Nevison, a guidance and counselling expert who joined the UBC faculty in 1960;

Alfred V. Parminter, a member of the teaching staff of the Faculty of Education since 1961;

James Polglase, a 30-year member of the Faculty of Medicine almost from its inception and head of the Department of Biochemistry since 1976;

Joseph I. Richardson, an expert on Indian religions and religion and cultural change and a member of the Department of Religious Studies since 1967;

Eugen Ruus, a 25-year member of the Department of Civil Engineering in the Faculty of Applied Science;

Richard B. Splane, an expert on social policy and a professor in UBC's School of Social Work since 1973; and

Douglas Whittle, who retires after 37 years as a member of the School of Physical Education and Recreation, which he joined in 1945.



*Two basic science departments at UBC got new heads during the academic year. Prof. Larry Wieler, top, became head of the Department of Chemistry, and Prof. David Williams, centre, was appointed head of the Department of Physics. A long-time member of the faculty, Prof. Douglas Whittle, bottom, retired in 1982 after 37 years as a teacher in the School of Physical Education and Recreation.*

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# Deaths

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It is with deep regret that I record the names of active and retired members of the UBC faculty who died during the 1981-82 academic year.

Active members who died were:

Linda E. Headley, a member of the UBC faculty from 1970 to 1973, initially as an instructor in the Faculty of Dentistry and latterly as director of the Continuing Dental Education program, on March 16, 1982;

Louis Moran, professor of psychology and associate dean of the Faculty of Graduate Studies, a member of the UBC faculty since 1969, on June 13, 1982.

Charles F.A. Culling, professor of pathology and one of Canada's leading cancer researchers, on July 13, 1982; and

James M. Robinson, assistant professor in the Department of Health Care and Epidemiology and a consultant to the University's Health Sciences Centre Hospital, on Aug. 23, 1982.

Retired members of faculty who died were:

Marion Gilroy, associate professor in the School of Librarianship from 1963 to 1969, on June 22, 1981;

Everton A. Lloyd, a noted poultry scientist and one of the earliest appointments to the UBC faculty who retired in 1951, on July 19, 1981;

Edro Signori, professor of psychology at UBC from 1949 until his retirement in 1981, on Oct. 2, 1981;

Aubrey F. Roberts, who helped to raise million of dollars for construction of UBC buildings as director of the UBC Development Fund from 1957 to 1963, on Nov. 15, 1981;

Mabel Lanning, a long-time member of the University's senior library staff from 1926 until her retirement as head of the circulation division in 1961, on Nov. 28, 1981;

John M. Turnbull, the last surviving member of the UBC faculty that was on hand when UBC opened its doors to students in 1915 and first head of the mining department in the Faculty of Applied Science until his retirement in 1945, on Jan. 2, 1982 at the age of 104;

Phyllis Schuldt, a member of UBC's Department of Music from 1960 to 1978, on Jan. 16, 1982;

Leonard C. Marsh, author of the famed "Marsh Report" of 1943, which advocated a system of family allowances instituted in 1944 and which became a pivotal document in the development of Canadian social security programs, and a member of the UBC faculty from 1947 to 1972 as a teacher in Social Work and Education, on May 10, 1982;

Robert Wellwood, a member of the Faculty of Forestry from 1946 until 1977 who was widely known for his work in the field of wood science and utilization, on June 8 in a traffic accident near Lytton, B.C.;

Brock M. Fahrni, organizer of UBC's School of Rehabilitation Medicine and head of the school from 1961 to 1978 and a pioneer in the field of chronic care for the elderly, on June 9, 1982;

Kenneth A. Evelyn, a noted researcher in UBC's medical school from 1958 to 1976 and

director of the G.F. Strong Laboratory, on July 23, 1982; and

F. Henry Johnson, who played a major role in the development of the curriculum of the Faculty of Education from 1956 to 1982 as director of elementary teacher education and professor of the history of education, on Aug. 23, 1982.