

# UBC REPORTS

Volume 30, Number 3

February 1, 1984

## Universities, industry get more NSERC \$\$\$



Scott Fraser



Stephen Crowley



Martin Gleave

Winner of \$3,500 Sherwood Lett Memorial Scholarship this year is 3rd-year Commerce student Scott Fraser of Richmond, who hopes to work in Japan for a period after graduation. The Amy E. Sauder Scholarship, worth \$2,750, goes to Stephen Crowley of West Vancouver, who is in 2nd year Dentistry. Martin Gleave, who won the Bobby Gaul Trophy as UBC's outstanding male athlete last year, has now been awarded the \$1,850 Harry Logan Scholarship. He's from Vancouver and is in 4th year Medicine.

Closer research co-operation between industry and university is the aim of an increase in research programs of the Natural Sciences and Engineering Research Council of Canada.

NSERC is the largest single source of research funding in Canada. More than one-third of the \$47 million UBC spent on research last year came from NSERC in the form of 613 different awards to faculty members.

NSERC president Gordon MacNabb says he expects to be able to make awards under the expanded initiatives during this fiscal year ending March 31.

Among the new activities of the council:

Industrial Research Professorships to provide support to a senior research professor and possibly a number of research associates for five to 10 years;

Co-operative Facilities and Equipment to provide financial incentives for companies to share with or provide new equipment to university researchers;

Industrial Associate Memberships to help disseminate research information between universities and industry through research and development seminars, publications and access to consulting and other services;

Co-operative Research: an expansion of the existing Project Research Applicable in Industry (PRAI) program;

Workshops and Seminars. A program to help defray costs.

Service Workshops. To defray some of the costs involved in bringing together a team consisting of a number of faculty, students and company representatives to engage in analysis of a particular problem presented by the company;

Visiting Industrial Professorships. A contribution to the salary and other expenses so that an industrial researcher can spend time at a university.

In addition to established and new programs, NSERC welcomes any suggestion for co-operative research "that provides a suitable challenge within the University research environment and which entails a reasonable industrial contribution."

The contribution can be in the form of money, researchers, or equipment.

NSERC has also established a university-industry task force as part of its expanded activities.

The council was also the largest single source of outside scholarship support for UBC graduate students last year, a total of more than \$2 million for 180 students.

Forty-two UBC researchers have received strategic grants from NSERC worth about \$2.4 million this year.

About \$1.4 million of that amount were renewed grants for 24 scientists.

Approximately \$1 million in new grants was shared by 18 UBC faculty members.

The largest single grant was a renewal of \$153,700 to Prof. Jochen Meyer of the physics department. His work concerns some of the problems associated with containing plasma — super-heated gas sometimes referred to as the fourth state of matter — within a sphere of laser beams.

For more detailed information, faculty members should contact the Office of Research Services.



Senator Jack Austin escorts Premier Zhao Ziyang of China to lunch at MacKenzie House. Chinese delegation of 89 government officials and journalists spent the afternoon of Jan. 21 at UBC and visited the Museum of Anthropology. Food services catered to the official luncheon which featured beef tenderloin.

## Tuition fees go up 33 per cent

The University has raised student tuition fees and imposed enrolment restrictions to help balance the UBC budget.

The Senate voted Jan. 18 to limit first-year enrolment in September to approximately 3,250 students, 447 fewer than were admitted in September of 1983. Criterion for admission will be a student's academic record in Grades 11 and 12.

On Jan. 19, the UBC Board of Governors approved increases in student tuition fees for 1984-85 averaging 33 per cent.

This is expected to bring in about \$7 million, but \$1 million will be returned to students in the form of financial aid.

The Board also established differential fees for foreign undergraduate students who enrol at UBC for the first time in

1984-85. They will pay 1.5 times the regular fee. The 256 undergraduate international students already enrolled at UBC will not be affected for the next two fiscal years.

On the enrolment limitation, the Senate Admissions Committee reported that "without adequate funding the University can no longer admit all applicants to first year who meet the minimum entrance requirements and at the same time maintain the quality of education that has been provided in the past."

New Tuition Fees, Page 2

# NEW TUITION FEES

## SCHEDULE OF TUITION FEES, 1984/85

Winter Session	Present	New	% Change
<b>AGRICULTURAL SCIENCES</b>			
B.Sc. (Agriculture)			
1st Year	\$1035	\$1400	35.27%
Other years	1102	1500 <sup>1</sup>	36.12
B.L.A.			
1st year	1035	1400	35.27
Other years	1102	1500	36.12
<b>APPLIED SCIENCE</b>			
Architecture	1208	1500	24.17
Engineering	1208	1500	24.17
Nursing - 1st year	930	1300 <sup>3</sup>	39.78
Other years	998	1390 <sup>3</sup>	39.28
<b>ARTS</b>			
B.A., B.F.A., B.H.E.			
1st year	882	77/unit <sup>2</sup>	30.95 <sup>6</sup>
Other years	919	77/unit <sup>2</sup>	25.68 <sup>6</sup>
Diploma Programs	919	77/unit <sup>2</sup>	25.68 <sup>6</sup>
Librarianship	1208	1208 <sup>3</sup>	0.
Music	1260	1550	23.02
Social Work			
3rd and 4th years	945	1300 <sup>3</sup>	37.57
5th year (concentrated)	1323	1800 <sup>3</sup>	36.05
<b>COMMERCE AND BUSINESS ADMINISTRATION</b>			
1st year	998	77/unit <sup>2</sup>	15.73 <sup>6</sup>
Other years (B.Comm.)	1155	77/unit <sup>2</sup>	20.00 <sup>6</sup>
Licentiate in Accounting	1155	77/unit <sup>2</sup>	20.00 <sup>6</sup>
<b>DENTISTRY</b>			
D.M.D.	1523	2000	31.32
Dental Hygiene	1129	1550	37.29
Diploma Programs	2000	2000	0.
<b>EDUCATION</b>			
B.Ed. - 1st year	882	77/unit <sup>2</sup>	30.95 <sup>6</sup>
Other years	919	77/unit <sup>2</sup>	25.68 <sup>6</sup>
Diploma and Teacher Training	919	77/unit <sup>2</sup>	25.68 <sup>6</sup>
Industrial Education	1436	77/unit <sup>2</sup>	28.69 <sup>6</sup>
B.P.E. - 1st year	945	77/unit <sup>2</sup>	34.44 <sup>6</sup>
Other years	972	77/unit <sup>2</sup>	30.71 <sup>6</sup>
B.R.E. - 1st year	945	77/unit <sup>2</sup>	34.44 <sup>6</sup>
Other years	972	77/unit <sup>2</sup>	30.71 <sup>6</sup>
<b>FORESTRY</b>			
	1103	1500 <sup>1</sup>	35.99
<b>LAW</b>			
	1155	1550	34.20
<b>MEDICINE</b>			
M.D.	1523	2000	31.32
Residents and Interns	105	145	38.10
Rehabilitation Medicine			
2nd and 3rd years	1024	1400	36.72
4th year	1034	1410	36.36
B.M.L.Sc.	1155	1550	34.20
<b>PHARMACEUTICAL SCIENCES</b>			
	1155	1550	34.20
<b>SCIENCE - 1st year</b>			
	882	77/unit <sup>2</sup>	30.95 <sup>6</sup>
Others	919	77/unit <sup>2</sup>	25.68 <sup>6</sup>
Unclassified	\$ 882	\$ 77/unit <sup>2</sup>	30.95 <sup>6</sup>
<b>GRADUATE STUDIES</b>			
<b>Doctoral Degrees</b>			
1st year	1344	1750	30.21
2nd year	1006	1307	29.92
3rd year	676	876	29.59
Each subsequent registration	150	250	66.67
<b>Masters Degrees</b>			
1st year	1344	1750	30.21
2nd year	676	876	29.59
Each subsequent registration	150	250	66.67
12 month fee	1344	1750	30.21
18 month fee	1682	2188	30.08
Candidates paying on a unit basis - per unit	136.50	180	31.86
<b>Masters Degree and Diploma in Dentistry</b>			
Each year (3 years)	2000	2000	0.
Each subsequent registration			
-Clinical Studies <sup>a</sup>	362	362	0.
-Thesis	150	250	66.67
<b>Part-Time Students (except Graduate Studies) Winter Session<sup>c</sup></b>			
per-unit-fee programs	67/unit	77/unit	14.93
Essay only	105	140	33.33

# GRANT DEADLINES

Faculty members wishing more information about the following research grants should consult the Research Administration Grant Deadlines circular which is available in departmental and faculty offices. If further information is required, call 228-3652 (external grants) or 228-5583 (internal grants).

### Grant Application Deadlines: March 1984

- Alberta Heritage Fdn. for Medical Research
  - Medical Research Fellowships (1)
- Alberta Oil Sands Technology & Research Authority
  - Research Contract (1)
- American Chemical Society: PRF
  - Research Type AC (1)
- Atlantic Salmon Federation
  - Fellowship (15)
- AUCC: International Relations
  - Poland/UNESCO Copernicus Fellowships (1)
  - Poland/UNESCO Fellowships in Slavonic Studies (1)
- B.C. Health Care Research Fdn.
  - Development & Training Fellowship (1)
  - Research (1)
  - Research Scholar Award (1)
- Banting Research Foundation
  - Research (1)
- Bell, Max Foundation
  - Research (1)
- Bronfman Foundation
  - Seagram Business Faculty Award (15)
- Canada Mortgage & Housing Corp.
  - Research Contract Type B (over \$3500) (1)
- Canadian Foundation for Ileitis & Colitis
  - Research (30)
- Canadian Heart Foundation
  - Symposia (1)
- Damon Runyon-Walter Winchell Cancer Fund
  - Cancer-directed Fellowship (15)
  - Postdoctoral Fellowship Grant (15)
- Dept. Education, Dublin, Ireland
  - Fellowship in Science, Engineering & Architecture (31)
- Donner Canadian Foundation
  - Program and Research (1)
- Fitness & Amateur Sport: Sport Canada
  - Applied Sport Research (31)
  - Sport Science Support Program (31)
- Heighway Fund (Florence & George)
  - Research (15)
- Huntington's Chorea Fdn. (U.S.)
  - Research (1)
- International Development Research Centre
  - Education Research Awards Program (1)
- Juvenile Diabetes Fdn. (US)
  - Research (1)
- Koerner, Leon & Thea Foundation
  - Foundation Grants (15)
- March of Dimes Birth Defects Fdn. (US)
  - Intensive Course in Maternal Nutrition (1)
- National Cancer Institute of Canada
  - Terry Fox Special Initiatives Program (15)
- National Inst. of Education (US)
  - NIE Research Grants (25)
- North Atlantic Treaty Organization
  - International Collaborative Research (31)
- NSERC: Intl. Relations Division
  - CIDA/NSERC Research Associates: LDC's (15)
  - Exch: Braz., Czech, Jap, Bulg, UK, Suisse, Ger (15)
  - International Collaborative Research (15)
  - International Scientific Exchange Awards (15)
  - NSERC-Royal Society Exchange (15)
- Science Council of B.C.
  - BC Science & Engineering Awards (31)
- Scottish Rite Schizophrenia Prog.
  - Research Grant (1)
- SSHRC: Intl. Relations Division
  - Travel to Int'l Scholarly Conferences (1)
- SSHRC: Research Commun. Div.
  - Aid to Occasional Conferences (30)
- U.S. Dept. of Health, Educ. & Welfare
  - NIH Grants to Foreign Institutions (1)
- University of British Columbia
  - UBC: Biely Faculty Research Prize (7)
- University of Cambridge
  - Visiting Fellowship in Commonwealth Studies (23)
- Von Humboldt Fdn. (W. Germany)
  - Research Fellowship (1)
- Woodward's Fdn. (Mr. & Mrs. P.A.)
  - Foundation Grants (1)

Note: All external agency grant applications must be signed by the Head, Dean, and Dr. R.D. Spratley. Applicant is responsible for sending application to agency.

Spring and Summer Sessions			
3 unit course	219	240 <sup>4</sup>	13.70
2 unit course	146	166 <sup>4</sup>	13.70
1½ unit course	110	125 <sup>4</sup>	13.64
1 unit course	73	83 <sup>4</sup>	13.70
½ unit course	37	42 <sup>4</sup>	13.51
Change of course	10	10	0.

Special Course Fees			
Biology 323	263	292	11.03
Chinese 180	664	737	11.00
Chinese 280	664	737	11.00
Japanese 180	664	737	11.00
Japanese 280	664	737	11.00
Music Education 400	78	87	11.54

Guided Independent Study			
3 unit course	219	249 <sup>4</sup>	13.70
Refunds (i) within 30 days	186	212	13.98
(ii) after 30 days	0	0	

Plus non-refundable materials fee of \$15 per G.I.S. course

<sup>a</sup>Refund \$181 if work completed in first term.

### Notes

<sup>1</sup>Third-year Agricultural Science students will be assessed a field trip fee of \$200. Forestry students taking either Forestry 351 or Forestry 451 will be assessed a field trip fee of \$350 per course in 1984/85.

<sup>2</sup>Fees will be charged on a per-credit-unit basis of \$77 beginning April 1, 1984. Typical normal load fees for programs on a per-credit-unit basis are:

		1984/85
Arts (BA, BFA, BHE)	1st yr.	\$1155
	Other years	1155
Commerce	1st yr.	1155
	Other years	1386
Education (B.Ed.)	Licentiate	1386
	1st yr.	1155
(BPE/BRE)	Other years	1155
	Diploma & Teacher Training	1155
Science	Industrial Education	1848
	1st yr.	1270.50
	Other years	1270.50
	1st yr.	1155
	Other years	1155

<sup>3</sup>Fees will be charged on a per-credit-unit basis beginning April 1, 1985.

<sup>4</sup>Fees will be charged on a per-credit-unit basis of \$83.

<sup>5</sup>Part-time students not in per-unit-fee programs will be assessed on the basis of a percentage of the normal full program fee.

<sup>6</sup>Percentage changes have been calculated assuming a normal program load in 1984/85.

## David Thompson closing

The David Thompson University Centre in Nelson, operated jointly by the University of Victoria and Selkirk College of Castlegar, will close permanently as of May 1, 1984, after a life of seven years less a month.

"It is no longer possible to fund the centre, with its limited enrolment and relatively high costs," Education Minister Jack Heinrich said on Jan. 4 when he announced the closure.

The closure is expected to save the government about \$2.7 million a year.

This year there are 75 UVic students taking third and four-year courses at the centre, and approximately another 400 are Selkirk students.

More than 90 faculty and support staff will lose their jobs, including 12 seasonal faculty with University of Victoria appointments.

Approximately 50 fulltime students at the centre who still have a year to go on two-year career programs will get government assistance to enable them to complete their programs elsewhere. No such assurances have been given the remaining students.

The provincial government bought the campus and other assets of the former Notre Dame University in Nelson on June 1, 1977, and renamed the campus the David Thompson University Centre.

It was to have been the first of a number of advanced educational centres for the province, for the delivery of senior academic and professional programs. The centres were going to be phased in as rapidly as possible, the government said then.

## B.C. Research hosts seminar

A seminar on Technology Protection and Transfer will be given Feb. 16 at B.C. Research, 3650 Westbrook Mall, by Canadian Patents and Development Ltd., starting at 2 p.m.

Canadian Patents and Development is a federal crown corporation which reports through Industry, Trade and Commerce. Its function is to receive technology and exploit it commercially.

University faculty and staff are invited.

## UNIVERSITIES AT RISK: AN UNCERTAIN FUTURE

Is tenure essential to academic freedom? Should the provincial government play a role in shaping the university — and does it have a vision of the university's mission?

These and other questions will be explored in a series of discussions organized by the Education Committee of the SFU Faculty Association. Called Universities at Risk: An Uncertain Future, this series begins Thursday, Feb. 2, and runs five Thursdays, through March 1. Sessions will be held from 11:30 - 1:30, in B9200 at SFU.

Speakers from UBC include Prof. Dennis Pavlich (Law) and Prof. Gideon Rosenbluth (Economics).

For further information, contact Kelleen Toohey at 291-4397 or the SFU Faculty Association at 291-4584.

## Grad Centre looks for business

The Graduate Student Centre has extended an open invitation to all faculty, administrative and support staff to use the centre's "dramatically improved" food and beverage service.

The Grad Centre is open Monday

through Friday, with lunch available from noon to 1:30 p.m. and dinner from 5 p.m. to 6:30 p.m. The Fireside Lounge is open from 5 p.m. to midnight.

Says the centre's executive director, Jim Shea:

"The increasingly wide range of menu selections such as stuffed leg of pork, sole Florentine, seafood Newburg and roast baron of beef, and prices of \$3.50 and lower, make the Graduate Student Centre cafeteria the 'in' place to dine at on campus.

"The Fireside Lounge, the coziest drinking spot on campus, has an exciting new menu, reflecting a wide range of flavorful potables and special coffees."

Faculty, administrative and support staff, although they may use the facilities as non-members, are eligible to join the Grad Centre, at \$40 a year. Members receive a continuing 10-per-cent discount on food.

## UBC lamp acclaimed

A new type of lamp developed at UBC has been chosen as one of the 100 most significant technological advances of 1983 by the magazine *Industrial Research and Development*.

The "Vortek arc-lamp" was developed in UBC's physics department and is now being manufactured and distributed by Vortek Industries of Vancouver, a new company formed as a result of the development.

The high-intensity lamp may also be used to illuminate the waterfront portion of Expo 86.

## Med school students tops in Canada

Successful applicants to UBC's medical school have higher scores in an international admission test than students admitted to any other Canadian medical school.

And in North America, they are surpassed only by students admitted to medical schools at Harvard and Stanford Universities.

The test is the Medical College Admission Test written by all students applying to medical schools in North America. Such tests are standard entrance requirements to a number of professional schools such as medicine, law and business administration.

The latest figures compare results of applicants who wrote the exam between April, 1979 and September, 1982.

UBC applicants have scored consistently high in the tests since the Faculty of Medicine admitted its first class in 1950.

## A reminder to graduands

A reminder to students who expect to graduate this May or November that 'Application for Graduation' cards must be returned to Mrs. Donna Anderson of the registrar's office by Feb. 15 (for May graduation) or Sept. 15 (for graduation in November).

Cards have been sent by mail to students in the following degree programs: BA, BFA, BPE, BRE, BMus, BComm, BEd (elementary, secondary and special ed), BSc and LicAcct.

Graduating students in the programs listed above who have not received a card should confirm with the registrar's office (228-4455) that their local mailing address is correct.

Students in their final year of all other degree programs can get application cards from the office of the dean of their faculty. Students enrolled in Graduate Studies can get them from their graduate advisor or departmental secretary.

# UBC CALENDAR

### Calendar Deadlines

For events in the weeks of Feb. 19 and 26, material must be submitted not later than 4 p.m. on Thursday, Feb. 9. Send notices to Information Services, 6328 Memorial Road (Old Administration Building). For further information, call 228-3131.

### The Vancouver Institute.



**Saturday, Feb. 4**  
Canada and the Pacific Potential. Thomas Arai, president, Tokyu Hotels International, and chairman, Systems International Incorporated.

**Saturday, Feb. 11**  
Buddhism: Compassion and Wisdom. Prof. Jeffrey Hopkins, Religious Studies, UBC.

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

### MONDAY, FEB. 6

#### Immunology Group Seminar.

The Pathology of Graft Versus Host Disease. Dr. Keith Sullivan, Fred Hutchinson Cancer Research Centre, Seattle. Pathology Seminar Room, Heather Pavilion, VGH. 9 a.m.

#### Time Management Workshop.

The Office for Women Students offers a one-session workshop on Time Management for Women. Group size limited. Pre-registration necessary in Brock 203. Room 106A, Brock Hall. 12:30 p.m.

#### Mechanical Engineering Seminar.

Why Tokamaks Leak. Dr. L.C. Woods, Oxford University. Room 1202, Civil and Mechanical Engineering Building. 3:30 p.m.

#### Chemical Engineering Seminar.

Modern Concept of Thermal Analysis. Dr. K.C. Teo, Chemical Engineering, UBC. Room 206, Chemical Engineering Building. 3:30 p.m.

#### Applied Mathematics & Statistics Seminar.

Summation of Series Using Baker-Gammel Approximants. Prof. John Paine, Mathematics, SFU. Room 229, Mathematics Building. 3:45 p.m.

#### Biochemical Discussion Group Seminar.

Analysis of Lipid-Binding Proteins in the Small Intestine using Recombinant DNA Techniques. Dr. Jeff Gordon, Washington University School of Medicine. Lecture Hall 4, Woodward Instructional Resources Centre. 4 p.m.

### Immunology Group Seminar.

Experimental Aspects of Graft Versus Host Disease. Dr. Keith Sullivan, Fred Hutchinson Cancer Research Centre, Seattle. Salons B&C, Faculty Club. 8 p.m.

### Student Recital.

Howard Bashaw, composer. Recital Hall, Music Building. 8 p.m.

### TUESDAY, FEB. 7

#### Botany Seminar.

Plant Pathosystems. R. Robinson, Biological Science, SFU. Room 3219, Biological Sciences Building. 12:30 p.m.

#### Forestry Seminar.

China Revisited: Trends in Chinese Forestry. Dr. O. Sziklai, Forestry, UBC. Room 166, MacMillan Building. 12:30 p.m.

#### Oceanography Seminar.

The Arctic Ocean. Dr. L. Lewis, Institute of Ocean Sciences, Sidney, B.C. Room 1465, Biological Sciences Building. 3 p.m.

#### Modern Chemistry Lecture.

1983 - 84 Merck Frosst Lecture. Tumor Promotion: The Search for Pharmacophores; Synthetic Expertise and the Mode of Action. Prof. Paul A. Wender, Chemistry, Stanford University. Room 250, Chemistry Building. 3:30 p.m.

#### Immunology Group Seminar.

Induction of CTL Responses by Antigen-Specific Helper Factors. Dr. Linda Pilarski, Immunology, University of Alberta. Room 201, Westbrook Building. 4 p.m.

### International House Film Series

*The Land is Our Culture, Our Land is Our Life* and *Circle of the Sun*. Free admission. International House. 7:30 p.m.

### WEDNESDAY, FEB. 8

#### Pharmacology & Therapeutics Seminar.

The Mechanism of Active Calcium Transport in Human Erythrocytes: Regulation of the Ca<sup>2+</sup> Pump by Calmodulin and Related Anions. Dr. B.D. Roufogalis, Pharmaceutical Sciences, UBC. Room 317, Block C, Medical Sciences Building. 12 noon.

#### Poetry Reading.

Ron Butlin, Scottish Writer-in-Residence in Canada, will read from his work. Room D230, Buchanan Building. Sponsored by the Canada Council and the English Department. 12:30 p.m.

#### Noon-Hour Concert.

*Winterreise* by Schubert. James Fankhauser, tenor and Philip Tillotson, piano. Recital Hall, Music Building. 12:30 p.m.

#### Discussion/Seminar.

Stress Management for Women Students. Learn to recognize the sources and signs of stress. Identify and practise stress reduction methods fitted to individual students' situations. Pre-register in Brock 203. B334, Buchanan Building. 12:30 p.m.

*Continued on Page 4*

