

Drug firm studies UBC site

By GREG DICKSON

One of the world's largest drug companies is considering UBC as the site for a \$35-million toxicology research facility.

However, university officials are worried that the firm will go elsewhere unless Victoria develops a strategy to attract multinational drug companies.

Health Sciences Coordinator Dr. Mort Low said the multinationals plan to spend billions of dollars in Canada in the next ten years. But without a coordinated provincial effort the investment will end up in central Canada, he predicted.

"We have the opportunity to attract European and Japanese drug companies to establish major components of their operations in B. C.," said Low.

"And from all our discussions with senior officials of the drug companies, it's very attractive to them to build next to the university."

Low said the toxicology research facility would have an annual payroll of more than \$7-million. The same company is looking for a Canadian site to build a biotechnology plant of about the same size.

Drug companies are spending the money as part of a promise to increase research and development in Canada in exchange for patent drug protection. Spending nation-wide in the next ten years will be more than \$3-billion.

Low is urging the provincial government to form a task force to develop the strategy for attracting the companies to B.C.

"It will require government encouragement and probably initiatives like tax incentives," he said.

Low said pharmaceutical companies tend to be good corporate citizens and could provide B.C. with an environmentally clean industry.

UBC Reports

The University of British Columbia, Vancouver, B.C.

Volume 35, Number 2 Jan. 26, 1989

Back pain project set for space shuttle

By GREG DICKSON

A UBC research project examining the causes of astronauts' back pain will be included in the space shuttle mission set for February, 1991.

"Close to 70 per cent of all astronauts experience back pain," said UBC investigator Lark Susak. "It's the second most common problem in space after motion sickness."

Astronauts increase in height 4 1/2 to 6 1/2 centimetres while in space. Susak said the UBC project will try to determine

why that happens and what the relationship is between the height increase and back pain.

"There is still a lot we don't know about spinal cord function," said Susak. "We're hoping by looking at it under different circumstances in space we may get a better idea of how it works."

Astronauts on the shuttle will be monitored in two ways.

Their backs will be photographed from two angles simultaneously to record changes in height and curving.

They will also be asked to fill out

diagrams called pain drawings to describe how they feel, where the pain is centred, and what conditions make it worse or better.

Susak believes the experiments could also help to explain more about back pain on Earth. Eighty per cent of the population experiences back pain at some time in their lives.

The project is funded by the Medical Research Council of Canada. Plans are under way to follow up the 1991 experiments with more research on subsequent space shuttle missions.

Finance a problem

Refugees confused, study shows

By PAULA MARTIN

Refugees settling in Canada should be offered consumer education programs to help them adapt to our complicated financial practices, says a UBC family resource management professor.

The tangle of savings accounts, credit cards, RSPs, GICs, CSBs, loans, and stocks and bonds -- offered by banks, credit unions, finance companies and government agencies -- can be overwhelming.

"Designing consumer education programs to increase the awareness of benefits of these practices may be specially important for the less educated, female consumers, and those who had their initial orientation from government agencies," said Phyllis Johnson.

The way refugees handle their finances can be a measure of their adaptation to life here, said Johnson, who has been studying their financial practices for several years.

"I'm interested in how they behave as consumers -- why they make the decisions they do. How one gets and spends money in this society are critical aspects of survival."

Refugees often come from cultures where they have little or no exposure to North American methods of saving and investing.

Some refugees' financial habits -- such as keeping large amounts of cash at home -- are not practical, Johnson noted. "However, if you don't know about the banking system here, then it may be more difficult to see the advantages of using it."

Johnson has focused on the Vietnamese boat people, many of whom arrived in Canada in 1979. They provided an opportunity to study one group from the

beginning of their exposure to North American life.

She recently completed a project studying the changes in their financial practices during a two-year period. The research is part of a larger study of employment, consumer, health and social aspects of refugee settlement.

For refugees from Vietnam and Laos, borrowing, saving and investing money, using chequing accounts and buying life and property insurance were new practices, Johnson said.

She found at the beginning of her study that the Canadian financial practice the refugees most frequently adopted was saving money.

"It fits in with the pattern we see with

immigrants and refugees who have had to do without," Johnson said. "Maybe it's a realization of the importance of having a reserve fund."

The least frequently adopted practices were buying property insurance and using credit cards.

Johnson's research found that during the study period, the most notable changes were increases in obtaining credit cards and borrowing money. There was a slight decrease in saving money.

Although some privately sponsored refugees are taught about banking and more complex financial arrangements, government-sponsored refugees -- because of their large numbers -- often aren't, Johnson said.

Community Relations wins two more awards

The Community Relations Office has won two more awards from the Council for Advancement and Support of Education for its work promoting the university.

Judges awarded the prizes from among 435 entries in various categories from member institutions in CASE District VIII, which includes Western Canada, the Pacific Northwest and Alaska.

Toward the Pacific Century: The President's Report, published last year, won a silver award in the category of Individual Special Program Publications.

The report was designed by Ullrich Schade and Associates, edited by Jerri Lee and produced by Jerri Lee and Arlene Chan.

The sixth edition of the weekly radio series UBC Perspectives, produced by information officers Lorie Chortyk and

Jo Moss and written and edited by freelancer Sylvia Dayton, picked up a bronze award in the radio programming category. It marks the third consecutive year CASE has given an award to the series.

Perspectives, hosted by David Suzuki, featured interviews with UBC faculty members discussing topics such as robotics, daycare, pesticides and stress. The series was distributed by satellite to 256 radio stations across Canada by Broadcast News of Toronto.

The awards will be presented at the CASE district conference, Feb. 5-8 in Portland, Ore.

CASE, a Washington, D.C.-based organization, represents more than 2,800 colleges, universities and independent schools throughout North America.



Students demonstrated outside the Students' Union Building last week in protest against the university's plans to raise tuition fees by 10 per cent. UBC's Alma Mater Society is planning a formal presentation at today's Board of Governor's meeting.

Enrolment jumps 19 per cent in Continuing Education

By GREG DICKSON

Enrolment at UBC's Centre for Continuing Education jumped almost 19 per cent in 1988, producing a budget surplus after two money-losing years.

The improved financial performance will make it easier to meet a requirement to become fully self-sustaining by 1991.

Acting Director Anne Ironside credits a general economic upturn in the province for the centre's boost in enrolment.

"People do have discretionary income again and are investing it in education,"

she said. "Part of it is because there has been an improvement in the economy, but I think people are also taking life-long learning more seriously."

The largest increase in enrolment - 30.5 per cent - came in the area of professional and technical education. General education program enrolments were up more than 11 per cent.

Ironside said the good news is tempered by some reasons for concern. National statistics show that a small percentage of the public accounts for most of the courses taken.

"If you look nationally, 20 per cent of adults in a given year take a course," she said. "One in five Canadians is committed to life-long learning. Eighty per cent aren't."

Ironside believes that if the trend continues, education will lose its role as an equalizer and the gap between the educated and uneducated will continue to widen.

The statistics also show that women are far more likely to take continuing education courses than men. Men make up less than 30 per cent of total enrolment.

Strangway to chair task force on environment and economy

By PAULA MARTIN

UBC President David Strangway has accepted an invitation to chair a provincial task force on the environment and the economy.

The task force will make recommendations to the provincial government on:

Establishing a permanent forum of public and private-sector decision makers to advise on ways to integrate environmental management and economic development;

Developing a provincial conservation strategy to ensure long-term environmental protection and effective resource use;

Promoting understanding of the links

between the environment and the economy through environmental education.

"We, in this province, can show the world that environment and economy must go hand in hand," Strangway said. "I believe that this is one of those issues which has to be dealt with collectively, rather than confrontationally."

Members of the task force will be drawn from business, labor, government, native and environmental groups.

The provincial government said the appointment of the task force reflects its commitment to implement the recommendations of the Brundtland World Commission on the Environment and

Development.

The Norwegian-led Brundtland Commission investigated global environmental problems over a period of three years.

The commission's report concluded that decisions about the environment and the economy cannot be separated.

"We need a strategy for managing our resources and our environment for the long term, an approach in which environmental and economic concerns go hand in hand," said Environment Minister Bruce Strachan.

The task force has been asked to report by May 30, 1989.



Joe Nagel, Curator of UBC's M.Y. Williams Geology Museum, holds a crystal from the Rock Candy Mine.

Geology museum set to make film about crystals

By JO MOSS

UBC's geological museum is going into the movie business.

Joe Nagel, museum curator, has received \$24,653 from the museums assistance programs of the federal Department of Communications to make an unusual film--about crystals.

The 25-minute movie, which is aimed at encouraging people to take up crystal collecting, will tell the story of the mineral business--how mineral specimens are formed underground and how they can be collected and prepared for display.

It will be the first movie of its kind in North America.

Until now, it has been difficult to document the techniques of crystal collecting because deposits of good mineral specimens are rare and usually inaccessible. But UBC recently acquired the rights to access a mine near Grand Forks, which will provide the ideal site for filming.

"It offers a unique opportunity to document the process of specimen collection at a significant locality, in a way that has not been possible elsewhere," Nagel said.

According to Nagel, the Rock Candy Mine is one of the most important sources of crystals in Canada producing world-class examples of fluorite and barite. It's one of the few places that produces not only top-quality specimens, worth thousands of dollars, but lots of them.

Although the mine is owned by a professional mineral collector, UBC has full rights to access the site and to a share of the best specimens produced. Some samples are already on display in UBC's M.Y. Williams Geology Museum, which houses the only significant mineral collection in B.C.

Nagel said the film would be available to other museums in North America with large mineral collections for public information programs, and to mineral trade fairs.

Funds lacking

Fisheries oceanography chair urged

By GAVIN WILSON

The mysteries of fish migrations and population swings could be explained much more quickly if oceanographers and fisheries scientists worked together, according to UBC oceanographer Tim Parsons.

Parsons said fisheries management has been driven by economic considerations that largely ignore the environment that produces the fish. He would like to see a chair in fisheries oceanography established at UBC, but funds are lacking.

"We've spent millions of dollars building hatcheries but not nearly enough for studies on what happens to these fish when they try to survive in the marine environment," he said. "Almost all the

mortality of juvenile fish occurs in the first 80 days at sea."

The fresh water life of fish is well understood, but the puzzle begins when young fish swim out to sea to mature. The ocean's effect on fish survival is so enigmatic that fisheries scientists liken it to a "big black box."

When bonanzas are expected for fishermen, returns can be disastrously low, but fish runs of little promise sometimes swarm back in the millions.

Until recently, fisheries scientists and oceanographers have gone their separate ways, with neither side believing the other's research has much bearing on their work. But this is changing, said Parsons, a long-time advocate of closer relations between the two groups.

Parsons said fisheries management could benefit from new technologies in oceanography. Today, changes in the oceanographic climate can be detected from space using remote sensing satellites.

For example, infrared satellite photos show upwellings at sea, in which cool, nutrient-rich water spirals upward from great depths to the surface.

"An upwelling is like an oasis," he said. "This is where you will catch fish because this is where all the food is."

Another mystery of the sea explained by oceanography is the pink and sockeye salmon migration of the Skeena River in northern B.C. In some years returning salmon travel down the coast of Alaska, where they are available to U.S. fishermen, but in other years the fish swim directly to the river, avoiding American nets.

Oceanographers found that in some years there is a strong eddy off the Alaskan coast which deflects the fish to the south, away from U.S. waters.

Home computers can access library catalogue

By GAVIN WILSON

Undergraduate students with access to computers can now scan the library's collections catalogue without leaving home.

Remote access to the online catalogue, already available to faculty and graduate students, was extended this month to all library card holders, including undergrads and staff. The service is free and available 24 hours a day.

"There are no closed doors now as far as our own people are concerned," said assistant university librarian Bob MacDonald. "If you are a library card holder and have access to a computer attached by a modem to a phone, you

have access to the catalogue system."

Access is also available through any UBCNET terminal or any one of eight public terminals located in the following campus libraries: the Main Library, Sedgewick, MacMillan, Law, and the Curriculum Laboratory. Two are being installed in the Woodward Biomedical library.

"The first purpose of computerizing was to improve the library's operations internally," said MacDonald. "Now we can put emphasis on passing along the benefits to the users."

Forty per cent of the library's collection is now listed on the online catalogue, added assistant university librarian William Watson.

Letters to the Editor

Sexism charged

Editor:

Every baby picture you have printed shows the male in the dominant position with the female as nurturer. Is that fair? Is it called getting the ear of the dean?

A. Jean Elder

Computer helps diagnose sleep breathing problem

By GREG DICKSON

A computer program developed by the Faculty of Dentistry at UBC is providing a more accurate diagnosis of a potentially fatal breathing problem.

"Obstructive sleep apnea affects five per cent of all males over the age of 50 and it's life threatening," said Dr. Alan Lowe of the Department of Clinical Dental Sciences.

"UBC is currently the only place in the world with the unique software required to pinpoint where the breathing is obstructed."

Sleep apnea can be caused by too small a breathing passage, too large a tongue, or problems in muscle tone. Sufferers repeatedly stop breathing for short

periods of time during sleep. As a result, they are chronically tired during waking hours. In severe cases, sleep apnea can cause cardiac arrest.

With CAT scan images, the UBC system shows airways, bones and muscles from many different angles in three dimensions to assist in the identification of the obstruction.

In the past, surgery was often performed on the soft palate to open breathing passages. But the success rate was limited because conventional two dimensional x-rays often failed to identify the real cause of the breathing obstruction.

Once the difficulty has been identified, it is often possible to prescribe the use of a dental appliance instead of surgery.

SUNDAY, JAN. 29

Chinese Culinary Arts Demonstration
Mr. Kwok Wing Hong, a noted Chinese chef now residing in Vancouver, will demonstrate and display his talent for creating beautiful works of art from and with food. Mr. Kwok has published several books in English and Chinese explaining the art of preparing and garnishing Chinese dishes. For information call 228-2746. Auditorium, Asian Centre. 2-5 p.m.

MONDAY, JAN. 30

**Committee on Lectures
French Seminar**
Le Processus de Canonisation Dans La Litterature Quebecoise. Dr. Patrick Imbert, Lettres Francaises, U. of Ottawa. For information call 228-4036. Room 826, Buchanan Tower. 8:30 a.m.

**Committee on Lectures
French Seminar**
Critique et Nouveaux Mondes. Dr. Patrick Imbert, Lettres Francaises, U. of Ottawa. For information call 228-4036. Penthouse, Buchanan Bldg. 12:30 p.m.

Applied Mathematics Seminar
Have the Best-Laid Plans of the 19th Century Differential Geometers Gone Astray? Dr. Peter Vassiliou, Canberra College of Advanced Education. For information call 228-4584. Room 229, Mathematics Bldg. 3:45 p.m.

Health Care & Epidemiology Seminar
What is Health Promotion? Should Hospitals Be Involved in Health Promotion, And If So, What Are The Advantages/Disadvantages? Jan Mitchell, Coord., Health Promotion, VGH. For information call 228-2258. Room 253, James Mather Bldg. 4-5:30 p.m.

Mechanical Engineering Seminar
Unsteady Boundary Layers on Turbomachinery Blades. Dr. Robert L. Evans, UBC. For information call 228-4350. Room 1215, CEME Bldg. 3:30 p.m.

**Biomembranes Discussion Group
Seminar**
Signal Transduction In The Aorta: Protein Kinase C Activity and Diacylglycerol Metabolism. Dr. David Severson, Dept. of Pharmacology, U. of Calgary. For information call Dr. R.W. Brownsey at 228-3810. Lecture Hall #4, IRC Bldg. 3:45 p.m.

Astronomy Seminar
Submillimetre Spectrum of the Cosmic Background. Dr. Herbert Gush, UBC. Refreshments served. For information call 228-4134. Room 260, Geophysics & Astronomy Bldg. 4 p.m.

Cancer Seminar
Etiology of Melanoma and Benign Nevi. Mr. Richard Gallagher, BCCRC. For information call 877-6010. Lecture Theatre, B.C. Cancer Foundation, 601 W. 10th Ave. noon-1 p.m.

Paediatrics Seminar
Applications of Advanced Statistical Methods in Pediatric Research. Dr. Martin Puterman, Biostatistical Consultant, Children's Hospital. Refreshments served. For information call 875-2492. Room D308, Shaughnessy Hospital, 4500 Oak St. Noon.

TUESDAY, JAN. 31

Statistics Seminar
Posterior Probability and Conditional Confidence. Dr. Tim Schwartz, Dept. of Mathematics & Statistics, SFU. For information call 228-3319. Room 102, Ponderosa Annex C. 4 p.m.

Forestry Awareness Series
From Industrial Forester to Holistic Forester. Herb Hammond, R.P.F., Silva Ecosystems Ltd. For information call 228-4488 or 228-6021. Room 166, MacMillan Bldg. 12:30-1:30 p.m.

Final PhD Seminar
Metoprolamide Kinetics in Sheep: Maternal-Fetal Disposition, Fetal Pharmacodynamics and Comparison between Pregnant and Nonpregnant Ewes. Wayne Riggs, Graduate Student. For information call 228-4887. IRC3, Woodward IRC Bldg. 12:30 p.m.

Christian Forum Lecture/Discussion
Private Property - Is It A Biblical Concept? John R. Sutherland, UBC and Trinity Western U. Coffee available. For information call 228-3112. Penthouse, Buchanan Bldg. 4:30 p.m.

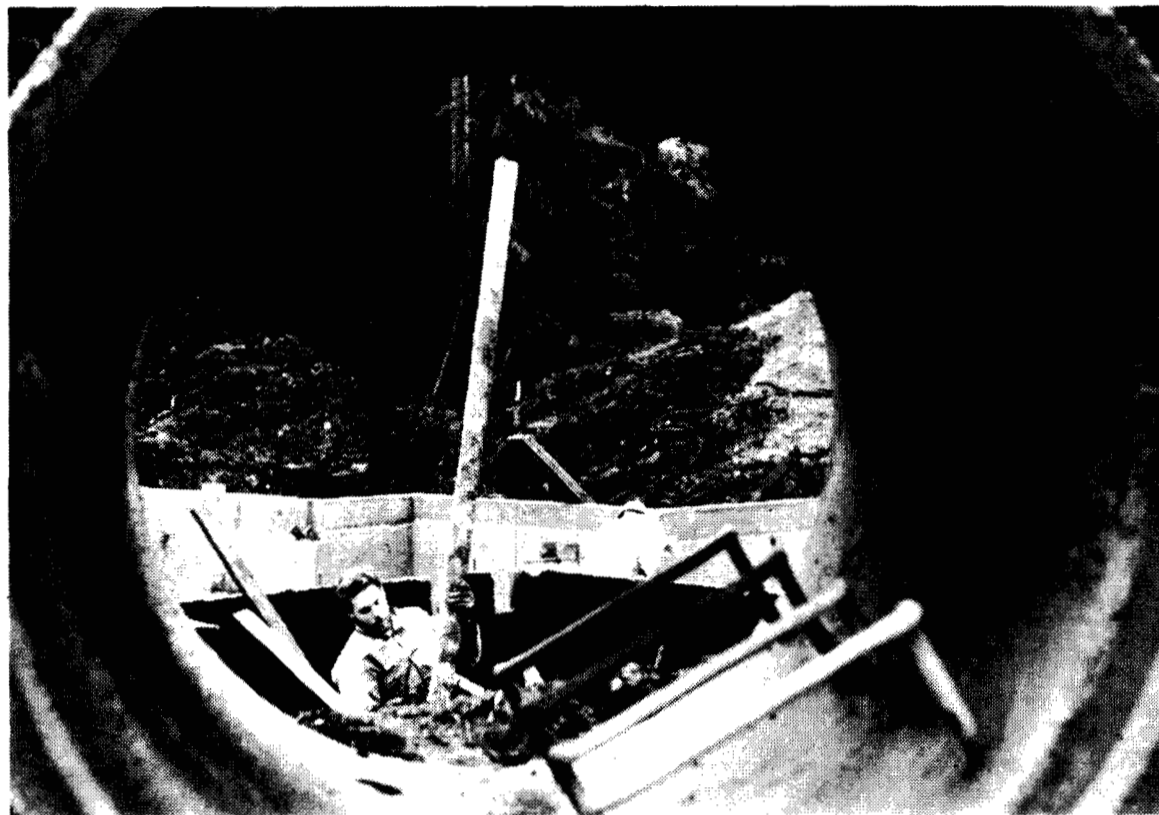
Oceanography Seminar
Spatial and Temporal Patterns of Hydrothermal Venting Along the Juan de Fuca Ridge. Dr. E.T. Baker, Pacific Marine Environmental Laboratory, Seattle, Wash. For information call 228-5210. Room 1465, Biological Sciences Bldg. 3:30 p.m.

Botany Seminar
Light-Stimulated Cell Expansion is Controlled by Both Phytochrome and a Blue Light Receptor. Dr. Elizabeth Van Volkenburg, Botany Dept., U. of Washington. For information call 228-2133. Room 2000, Biological Sciences Bldg. 12:30 p.m.

UBC Reports is published every second Thursday by the UBC Community Relations Office, 6328 Memorial Rd., Vancouver, B.C., V6T 1W5. Telephone 228-3131. Editor-in-Chief: Don Whiteley. Editor: Howard Fluxgold. Contributors: Greg Dickson, Paula Martin, Jo Moss, Gavin Wilson.

calendar

Jan. 29 - Feb. 11



LIGHT AT THE END OF THE TUNNEL

Despite the rain, workers are busy at the site of UBC's new daycare centre on Acadia Road. The centre is scheduled for completion by the Fall term.

CALENDAR DEADLINES

For events in the period Feb. 12 to Feb. 25, notices must be submitted on proper Calendar forms no later than 4 p.m. on Wednesday, Feb. 1 to the Community Relations Office, 6328 Memorial Rd., Room 207, Old Administration Building. For more information call 228-3131.

WEDNESDAY, FEB. 1

Noon-Hour Series
Philip Bush, piano. Admission \$2. For information call 228-3113. Recital Hall, Music Bldg. 12:30 p.m.

Biochemical Discussion Seminar
Molecular Genetics of the Homeotic Gene Proboscidea in Drosophila. Dr. David Cribbs, Dept. of Biology, Indiana U. For information call Dr. G. Tener at 228-2893. Lecture Hall #3, IRC Bldg. 4 p.m.

Ecology-Resource Ecology Seminar
Empirical Measures of Timber Production and Forest Utilization Research. William Hyde, U.S. Dept. of Agriculture, Duke, U. For information call 228-4329. Room 2449, Biosciences Bldg. 4:30 p.m.

Pharmaceutical Sciences Special Seminar
Kinetics and Mechanism of Degradation of 4-Amino-2-(2-Butanon-3-yl) Oxy-5-Chloro-N-(2-(diethylamino)ethyl) Benzamide Hydrochloride (BMY-25801-1) in Aqueous Solutions. Dr. Robert Lipper, Visiting PMAC Scientist, Director of Pharmaceutical Product Dev., Bristol-Myers, U.S.A. For information call 228-3428. IRC 3, Woodward IRC Bldg. 12:30 p.m.

Pharmacology & Therapeutics Seminar
Pharmacological Profile of Compound KC-8857. Mr. G. Beatch, UBC. For information call 228-2575. Room 317, Basic Medical Sciences Bldg. "C". Noon.

Psychiatry Academic Lecture
Alzheimer's Disease and the Psychiatrist. Dr. Annette Horton, UBC. For information call 875-2025. Room D308, Acute Care Bldg., Shaughnessy. 8:30-9:30 a.m.

Social Work Colloquium
Intervention Roles in Child Sexual Abuse - Therapists Role. Garry Grams, UBC. For further information call 228-2576. Lecture Hall A, School of Social Work. 1-2 p.m.

THURSDAY, FEB. 2

Music Hour
UBC Chamber Ensembles. Free. For information call 228-3113. Recital Hall, Music Bldg. 12:30 p.m.

Modern Chemistry Lecture
Determination of Impurities in Semiconductors by Near-Infrared Raman Spectroscopy. Dr. T.D. Harris, Analytical Chemistry Section, AT&T Bell Laboratory, Murray Hill, N.J. Refreshments served. For information call 228-3266. Room 250, Chemistry Bldg. 1 p.m.

Physics Colloquium
Star Forming Regions at Different Stages of Evolution. Dr. W. McCutcheon, UBC. For information call 228-2136 or 228-3853. Room 201, Hennings Bldg. 4 p.m.

United Church Lecture
Sex Trade and Tourism: A Growing Industry. Linda Ervin, United Church Minister. For information call 224-3722. Room 212A, SUB. 12:30 p.m.

Pharmaceutical Sciences Special Seminar
Regiospecific Metabolism of Steroids by Hepatic Cytochrome P-450. Wayne Levin, MRC Special Visiting Professor, Hoffman-LaRoche, Nutley, N.J. For information call 228-4103. Room 160, Cunningham Bldg. 2:30-3:30 p.m.

Pharmaceutical Sciences Fall Seminar
Regulation of Cytosolic Calcium and Contractility in Heart by Sarcoplasmic Reticulum. Dr. Evangelia Kranias, Department of Pharmacology and Cell Biophysics, U. of Cincinnati Medical Centre. For information call 228-2270. IRC3, Woodward IRC Bldg. 12:30 p.m.

Forestry Seminar
Special 2-hour Presentation on the Carmanah Management Plan. Mr. Stan Coleman, R.P.F., MacMillan Bloedel Ltd. For information call 228-4166 or 228-2507. Room 166, MacMillan Bldg. 12:30-2:30 p.m.

Religious Studies
Symposium - Religion & Television in the Eighties. Lecture #1. Fundamentalism Without God: Television in the Eighties. Dr. Ella Taylor, School of Communications, U. of Washington. For information call 228-2515. Room A104, Buchanan Bldg. 11:30 a.m.

Religious Studies
Symposium - Religion & Television in the Eighties. Lecture #2. Religious Television and the Problem of Meaning. Dr. Janice Peck, School of Communications, U. of Washington. For information call 228-2515. Room A104, Buchanan Bldg. 12:30 p.m.

Soil Science Seminar
Cyprus - It's People, Lands and Forests. Dr. Jack Thirgood, UBC. For information call 228-3716. Room 154, MacMillan Bldg. 3:30 p.m.

Fisheries & Aquatic Science Seminar
Oceanography and the Development of Surface Fisheries for Tuna in the Indian Ocean. Dr. John Sibert, Errington, B.C. For information call 228-4329. Room 2361, Biosciences Bldg. 3:30 p.m.

Graduate Student Colloquium
Medical Theories and Methods in Twelfth Century Religious Taoism. Stephen Eskildsen, M.A. Candidate. All are welcome. For information call 228-3881. Room 604, Asian Centre. 12:30 p.m.

Pharmaceutical Sciences Seminar
Multiplicity and Functional Diversity of Hepatic Cytochromes P-450. Wayne Levin, MRC Special Visiting Professor, Hoffmann La Roche Inc., Nutley, N.J. For information call 228-2270. IRC 3, Woodward IRC Bldg. 12:30 p.m.

Law Students' Conference
Law and Contemporary Social Issues. Litigation in Transition: Moving toward Alternate Dispute Resolution. Panel discussion of alternate dispute resolution. Panelists include the Chief Justices of B.C. and the Supreme Court. No-host reception to follow. Rooms 101, 102, & 201, Curtis Bldg. 1:30-4:30 p.m.

Medical Genetic Seminar
The Legal Status of the Fetus - The Current Canadian Scene. Janice Dillon, UBC. For information call 228-5311. Room D308, University Hospital, Shaughnessy Site, 4500 Oak St. 1 p.m.

Theoretical Chemistry Seminar
Phase Transitions in Sub-Atomic Systems. D. Boal, Physics Dept., SFU. For information call 228-3266. Room 225, Chemistry Bldg. 3:30 p.m.

SATURDAY, FEB. 4

Essay Competition
William G. Black Memorial Prize - a prize in the amount of approximately \$1,600 has been made available by the late Dr. William G. Black. The topic for the essay will be designed to attract students from all disciplines. The competition is open to students who are enrolled in undergraduate programs and who do not already possess a graduate degree. A single topic of general nature related to Canadian citizenship will be presented to students at the time of the competition. Duration of the competition will be two hours. Candidates should bring their student card for identification. For information call 228-5111. Room A106, Buchanan Bldg. 10 a.m.-Noon.

Continuing Education Workshop
Loving Ourselves: A Gift to Our Children - A Workshop for Parents. Jennifer Shifrin, trained in communication disorders and family counselling. A workshop to examine the beliefs and attitudes that keep parents from nurturing themselves and practical steps that can be taken towards creating positive, life-enhancing patterns. Fee: \$42. For information call 222-5238. Conference Room, Carr Hall. 9-5 p.m.

Continuing Education Workshop
An Introduction to Morita Therapy. Dr. Ishu Ishiyama, UBC. Fee \$58. For information call 222-5238. Room 604, Asian Centre. 9:30-5:30 p.m.

MONDAY, FEB. 6

Music Lecture
Music and Media. R. Murray Schafer. Composer. Admission Free. For information call 228-3113. Recital Hall, Music Bldg. Noon.

Financial Planning Seminar
Investment Planning - Goals, Strategies and Risk Factors. Nancy McKinstry, Odium Brown Ltd. Open to Faculty Association Members & Spouses. Free. For information call 228-5270. Room 104, Henry Angus Bldg. 12:30-1:20 p.m.

Biochemistry Seminar
Editing of Kinoplastid Mitochondrial mRNAs. Dr. K. Stuart, Seattle Biomedical Research Institute, U. of Washington. For information call Dr. Caroline Astell at 228-2142. Lecture Hall #4, IRC Bldg. 3:45 p.m.

Mechanical Engineering Seminar
An Analysis of Wash Boarding in Wood Machining. James Zhan. 2. A Numerical Analysis of Pressure Distribution Beneath a Tourniquet. Stephen Callaghan, Graduate Student. For information call 228-4350. Room 1215 CEME Bldg. 3:30 p.m.

Social Work Seminar
Special Issue in Alcohol Treatment - Impact on Couples and Intimacy. Jennifer Newman, UBC. Fee \$10. Prerequisite Necessary. For information call 228-2576. Alumni Lounge, School of Social Work. 7-10 p.m.

Geophysics and Geology Seminar
The Petrophysical Basis for Seismic Reservoir Description and Monitoring. Dr. Amos Nur, Chairman, Dept. of Geophysics, Stanford U. (Amoco Canada Visiting Scientist). Refreshments served. For information call 228-5406. Room 260, Geophysics & Astronomy Bldg. 2 p.m.

Paediatrics Seminar
Eczema, Passive Smoking and Asthma. Dr. Andrew B. Murray, UBC. Refreshments served. For information call 875-2492. Room D308, University Hospital, Shaughnessy Site. Noon.

TUESDAY, FEB. 7

Forestry Awareness Series
Environmentalists Want Forestry Too, But Are Current Practices Sustainable. Vicky Husband, Director, Sierra Club. For information call 228-6021 or 228-4488. Room 166, MacMillan Bldg. 12:30-1:30 p.m.

Graduate Student Seminar
Valproic Acid-Carbamazepine Interactions. Ms. Sue Panesar, Graduate Student. For information call 228-4887. Lecture Theatre #3, Woodward IRC Bldg. 12:30 p.m.

Oceanography Seminar
Chemical Induction of Larval Settlement of Marine Reef-Building Worms. Dr. J. Pawlik, Friday Harbor Marine Laboratory. For information call 228-5210. Room 1465, Biological Sciences Bldg. 3:30 p.m.

Botany Seminar
Floristics and Biogeography of Coastal Peru and Chile, or Life in the Fog. Dr. Michael Dillon, Field Museum of Natural History, Chicago. For information call 228-2133. Room 2000, Biological Sciences Bldg. 12:30 p.m.

Geophysics Seminar
Earthquakes in the Holyland: Archaeological, Historical and Biblical Evidence. Dr. Amos Nur, Chairman, Dept. of Geophysics, Stanford U. (Amoco Canada Visiting Scientist). Refreshments served. For information call 228-5406. Room 260, Geophysics & Astronomy Bldg. 12:30 p.m.

Modern Chemistry Seminar
Extended Fine Structure Spectroscopies. Prof. Adam Hitchcock, Institute for Materials Research, McMaster U. Refreshments served. For information call 223-3266. Room 250, Chemistry Bldg. 1 p.m.

WEDNESDAY, FEB. 8

Noon-Hour Series
Simphonics, Klezmer music. Admission \$2. For information call 228-3113. Recital Hall, Music Bldg. 12:30 p.m.

Asian Research Seminar
Fertility Change in Indonesia 1971-1980: A Period of Transition. Dr. Philip Guest, U. of Washington. For information call 228-4686. Room 604, Asian Centre 12:30-1:30 p.m.

Ecology-Resource Ecology Seminar
Regulation and Adaptive Significance of Optimal Lipid Reserve in Wintering Birds. Chris Rogers, UBC. For information call 228-4329. Room 2449, Biosciences Bldg. 4:30 p.m.

Applied Mathematics Seminar
Symmetry-Based Algorithms to Linearize Partial Differential Equations. Dr. George Bluman, UBC. For information call 228-4584. Room 229, Mathematics Bldg. 3:45 p.m.

Pharmacology & Therapeutics Seminar
Making Moves: T.B.P.T.N. Dr. J. Steeves, UBC. For information call 228-2575. Room 317, Basic Medical Sciences Bldg. "C". Noon.

Financial Planning Seminar
Investment Planning - Goals, Strategies & Risk Factors. Alix Granger, Pemberton Securities Inc. Open to Faculty Association Members & Spouses. Free. Repeat of Feb. 6 session. For information call 228-5270. Lecture Hall #5, Wood IRC Bldg. 12:30-1:20 p.m.

Geography Colloquium
Spirits and Machines in the Mountains: On Thinking Geographically About Early British Columbia. R. Cole Harns, UBC. For information call 228-2663. Room 201, Geography Bldg. 3:30 p.m.