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Alzheimer's disease: new hope from UBC

A UBC scientist has developed an animal "model" of Alzheimer's disease, the neurological disorder that kills at least 10,000 Canadians each year and affects the mental ability of about 300,000 others.

It is the first animal model developed for the disease, the fourth leading killer in Canada.

The model, says Dr. H. Christian Fibiger, will give researchers working with patients a much more precise idea of what drugs may be effective in treating the disease.

The development is one of a number of recent scientific advances into Alzheimer's, until recently shrouded in mystery and hopelessness.

It was only eight years ago, Dr. Fibiger said, that researchers discovered that the disease is associated with a deficiency of a certain chemical in parts of the brain. The chemical is acetylcholine, a neurotransmitter which passes signals from one brain cell to others.

"We've been able to destroy some of the cells that use acetylcholine to transmit to other cells in rats' brains," said Dr. Fibiger of UBC's neurological sciences division.

"Afterwards the rats were tested and showed defects in learning and memory, as would a person with the disease. Then we treated these rats with certain types of drugs, tested them again, and found their performance near normal.

"When we stopped drug treatment, they deteriorated again."

One of the drugs, a member of a family called cholinomimetics, has been used on Alzheimer victims but was not effective, "possibly because undesired side effects occurred before beneficial, potentially therapeutic responses could be measured.

"What we should do now is concentrate

on other members of the same family of drugs to find one that has lower side effects at doses that have positive effects on the disease," Dr. Fibiger said.

His research was funded by the federal Medical Research Council.

The director of Canada's only Alzheimer's assessment clinic said the animal model was a major step that will hopefully result in more effective treatment.

"At the moment we have no drugs to treat the disease," said Dr. Lynn Beattie, director of the Alzheimer's clinic in the Health Sciences Centre Hospital on campus and associate professor in UBC's Faculty of Medicine.

"The importance of the model is that now we can do drug trials to try to find an effective medication. The model will also allow us to check our theories concerning the disease, and perhaps advance our knowledge further."

China, UBC co-operate in new program

UBC's Faculty of Commerce and Business Administration may soon help educate foreign trade officers for the Chinese government.

Dean Peter Lusztig last week returned from China where he and deans of four other management schools in the U.S., the Netherlands and Canada attended meetings with the Chinese Ministry of Foreign Economic Relations and Trade and with representatives of the International Trade Centre, the United Nations body operating out of Geneva.

"Negotiations are continuing on the financing of the proposal," Dr. Lusztig said. "I'm satisfied that they can be successfully concluded and that UBC will have a role in the training programs.

"The Chinese would like us to enrol some of their professors in graduate degree programs at UBC, offer advice on a suitable curriculum for their own institutions, conduct joint research, and give seminars in China."

The Faculty of Commerce and Business Administration has old and strong links with China, particularly with the University of International Business and Economics, formerly the Beijing Institute of Foreign Trade, one of the Chinese institutions participating in the program and with Shanghai Jiao Tong University.

Dr. Lusztig had other good news from the trip.

"While I was there I discovered that the commercial counsellor in the Canadian embassy in Beijing, the Canadian commissioner in Hong Kong and high commissioner in Singapore all have one thing in common.

"They are all UBC grads."



Dr. J.S. Sim ... his research opens way for \$6-million industry in B.C.

New industry expected from UBC egg research

A UBC researcher has developed a method of extracting from egg whites a valuable substance that is expected to result in a \$6-million provincial industry.

The substance is lysozyme, a natural preservative used in food and pharmaceutical products.

A UBC research team led by Dr. J.S. Sim in the Faculty of Agricultural Sciences has developed a system of separating lysozyme rapidly and continuously from egg whites. Their work was in collaboration with a B.C. egg processing firm, Brookside Farms Ltd. of Abbotsford. Other members of the UBC team are Drs. Darrell B. Bragg, head of the poultry science department, Dr.

Shuryo Nakia of the food science department, and Dr. Victor Lo of the bio-resource engineering department, all in the Faculty of Agricultural Sciences.

The work was supported by research grants from the federal Natural Science and Engineering Research Council.

"We expect our work will be finished in two years," Dr. Sim said. "By then we will have a production system large enough for industrial application."

Dr. Sim said B.C. now has about six million dozen eggs a year not used on the fresh market, some of them rejected for fresh consumption because of cracked shells, double yolks or other reasons.

"The economic value of the lysozyme far exceeds the value of the surplus eggs," Dr. Sim said. "As use of our process and of lysozyme increases, we predict that more eggs will be produced, in addition to the present surplus, to meet the demand for lysozyme."

Dr. Sim said present commercial methods of extracting lysozyme have two major limitations. The substance can be removed only from batches rather than continuously, as the new UBC process allows. And current technology damages some of the protein constituents of the egg white. The new method leaves the egg white protein unharmed.

Dr. Sim said the impact of the new technique will be great.

"The largest market applications aren't in B.C.," he said. "France and Japan are two countries that will be very interested in our work when word of it gets out."

CIDA funds Asia trip

As part of a CIDA-funded initiative, President George Pedersen will spend three weeks in Asia next month, visiting universities, meeting Canadian government officials and UBC alumni, and attending an international management conference.

Dr. Pedersen leaves Vancouver Nov. 30 and will travel to Korea, Bangkok, Singapore, and Hong Kong before returning home Dec. 19.

In Singapore, the president will attend a conference of the Association of Southeast Asian Institutions of Higher Learning. Dean Peter Burns of UBC's Faculty of Law and Dr. Terry McGee, director of the Institute of Asian Research, are also attending the Singapore conference with CIDA's support.

"Our ties with other Pacific Rim universities are becoming closer all the time, with an ever-widening exchange program involving students and faculty," Dr. Pedersen said. "This trip will give me a chance to strengthen contacts we have already made in the Far East and to forge a number of new ones."

A DAY IN A LIFE AT UBC

Need help in library? Ask Joan

"Interpreting the library to users and interpreting the needs of users to the library" is how Joan Sandilands, head of the UBC Library's Information and Orientation Division, defines her role on campus.

"Our division is involved in several different activities, all of which are geared toward one goal," says Ms. Sandilands. "We want to promote the library as an important resource for the University and indeed for the whole province, and to make it as accessible and easy to use as possible." She describes a typical day in her division:

I usually work at least a one-and-a-half hour shift at the Main Library information desk. I like this kind of direct contact with library users because it keeps me in touch with what people find helpful about our system and areas where problems may arise. Librarians from divisions and branches throughout the system help us staff the desk.

The enquiries we get at the desk are generally for information on how to "crack the system" of our catalogues. We also spend a lot of time interviewing patrons about the kind of information they need, then referring them to other parts of the library system for expert assistance. We get between 1,100 and 1,300 phone calls a month at the desk, most of which are from people who work in industry, business, consulting firms or government agencies. Usually they want to know whether the library has a particular item, or whether we can provide information on a specific subject.

I'm involved most days in some form of

instruction or orientation for library users. I think it's important in a system as large and complex as this one to provide some kind of personalized introduction to the library for beginning students. We conduct general tours of the Main Library (the most intimidating building on campus) at the beginning of winter and summer sessions and we help out with the Sedgewick Library's program in which all English 100 instructors are invited to bring their classes to Sedgewick for a one-hour "Library Lab" in the fall. We do a fair number of introductory tours for high school groups, mainly grade 12 students, and for as many other individuals and groups as possible given our limitations in time and staff. Orientation for some groups, such as elementary school students, is done more for public relations than for actual instruction.

Part of my day is spent on library publications. All the publications for the library system are channelled through our division, so we've been able to develop a consistent image and uniformity of style. We write or edit material, do layout and design, and look after the printing and distribution for library handbooks and guides, the monthly staff bulletin and the *Library News*, a publication featuring general-interest news about the library which is distributed both on and off the campus.

Another system-wide responsibility of our division is to design and produce signs for all the UBC libraries. We receive requests for signs from staff in various branches

and then it's our job to produce the message they want to get across in as clear and visually attractive way as we can.

I try to be as involved as possible in promoting the library to on- and off-campus groups. I've spoken to school teachers, library technicians, and groups of other librarians, for example, trying to explain what the UBC Library has to offer and how it differs from other libraries in the province. It's important to reach out to off-campus groups because our library is a provincial resource and the more familiar people are with the system and how it works, the more efficiently it will be used.

Our division spends a fair amount of time as well in liaison with other divisions within the library system. Because the Main Library information desk is the most heavily used public service point in the system, we are in a good position to advise staff in the cataloguing and systems divisions on the most useful ways to prepare catalogue information for library users. Staff members in these divisions are usually open to our suggestions. The fact that we maintain a direct line of communication between the public service and technical service components of the library means that we're better able to produce catalogues that are understandable and easy for people to use.

Ms. Sandilands' commitment to services for library users doesn't end when she leaves the UBC campus. She is active in the B.C. Library Association and is currently chairing the association's committee on public relations.



Joan Sandilands

Mathematics critical, but people make the decisions

A relatively small (11 people) and unknown office on the west side of the Old Administration Building is responsible for generating information that affects virtually every person on the UBC campus.

The office, which has undergone several name changes in recent years (even the new campus directory lists an outdated name) is officially the Office of Budget, Planning and Systems Management, which functions under the leadership of John Chase. Dr. Chase, who came to UBC from Simon Fraser University in the spring of 1983, earned his doctorate at the University of Michigan, and his area of specialization is higher education administration.

In recent years, the office has been known as the Office of Institutional Analysis and Planning, and later as the Office of Budget, Analysis and Planning.

Even though the newest name drops the word 'analysis' there is no question that it is a key word in describing the duties of the office.

In addition to Dr. Chase, the office has a senior fiscal analyst, Elmer Morishita, a senior systems analyst, Bob Crane, two programmer/analysts, Kerry Kerluke and Marion Wight, two general analysts, Dale MacCrostie and Sharon Cochran, an assistant budget accountant, Trish Whitford, a secretary, Grace Neufeld, and two clerks, Cindy Graham and Kathleen Cheng.

The role of the office is to gather data and to provide information and analyses to those University officers and committees charged with developing or implementing policy in a variety of areas. Dr. Chase said the office also provides information to a number of agencies and institutions outside the University.

Dr. Chase, who reports to Bruce Gellatly, Vice-President Administration and Finance, has seven major areas of responsibility — student and faculty profiles, enrolment forecasting, space analysis, instructional activity, collective bargaining information, resource allocation, and the University's general purpose operating budget.

Although the office has the latest in electronic tools and can produce accurate



Dr. John Chase, far right, head of the Office of Budget, Planning and Systems Management, with staff members Marion Wight, Sharon Cochran, Bob Crane, Kerry Kerluke, Trish Whitford, Elmer Morishita, Kathleen Cheng, Grace Neufeld and Cindy Graham. Missing from photo is Dale MacCrostie.

data on a multitude of subjects and situations, there are still areas where science can't help, where a "best guess" is still required. Dr. Chase cites enrolment forecasting as an example.

This year, fully one-third of the grade 12 students who were accepted by UBC failed to register, compared to a usual 'no-show' rate of 20 per cent. The situation was the same at the University of Victoria and at SFU. The three universities are working together to find out why this happened. They are asking the 'no-show' students themselves, and expect to have answers early in the new year.

Meanwhile, enrolment forecasts for 1985-86 have to be made. "So we look at everything we do know — tuition fees, student aid, the anticipated state of the provincial economy, etc. — and come up with figures," said Dr. Chase. "But it may be

that they will have to be revised as additional information comes in."

Some of the office's concerns, such as space analysis, are more easily dealt with than others. "We are developing and maintaining a very detailed inventory of space at the University, and how it is used," said Dr. Chase. "As capital funding dries up, it is important that we make optimum use of what we have."

The office's work on instructional activity is straightforward, although detailed, and essentially involves keeping a record of teaching effort: who is teaching each course, when it is being taught, how it is being taught (lecture, lab, tutorial, seminar, etc.) and to how many students it is being taught. In this area, Dr. Chase said, his office is concerned only with hours of actual instruction, not with preparation time.

"The purpose in obtaining such

information," said Dr. Chase, "is to provide a comprehensive picture of formal instructional activity."

In collective bargaining with the Faculty Association, Dr. Chase said his office provides the information required by the University administration.

Although the actual allocation does not rest with the Office of Budget, Planning and Systems Management, resource allocation is a broad area for analysis. Such questions as how funds have been distributed historically, the level of support-per-student in various areas, or questions about student/faculty ratios, must be answered to assist those making the decisions.

"We perform almost any kind of analysis on how UBC spends its money," said Dr. Chase. "And we can relate this expenditure to what happens at other universities in the province or across Canada."

The office is involved with the University's operating budget by both preparing and maintaining the budget and by anticipating future financial situations and keeping track of changes in a year's budget as the year unfolds. The drop in 1984-85 enrolment that resulted from the first-year "no-shows" meant that the estimate for tuition fee revenue had to be revised downward, and this in turn will affect revenue in 1985-86, since a drop can be expected then in the number of second year students.

"That is a fairly basic example," said John Chase, "but it does show how what happens one year can have an effect on the situation in following years."

While it interacts with a wide variety of University organizational units, offices and committees, Dr. Chase stressed that the making of policy is not a role of his office.

"Numerical data can assist in formulating policy options by identifying potential problems and areas of concern," he said, "but should never by themselves lead to decisions. People are the most important ingredient in the University and their aspirations, achievements and perspectives are not reflected in any set of numerical tabulations."

Law clinic cutbacks hurt students, public

Students and the general public have been hurt by budget cuts within the Faculty of Law that have reduced the size of the UBC Legal Clinic.

Because it lost the services of a half-time staff lawyer, the clinic has had to cut its intake of students being trained in the clinic to 14 per term from 18 and make a corresponding reduction in the number of cases it can handle.

Unfortunately, says clinic director Bryan Ralph, the same economic climate that has led to cutbacks in provincial operating grants and to fiscal retrenchment at the University has made the demand for the free services of the legal clinic all the greater.

"With cutbacks in legal aid, changes in

landlord/tenant legislation, and more people who can't afford lawyers, we are being asked for assistance more than ever before," said Prof. Ralph, who now has only professors Roderick Holloway and Donald Egleston with him in the clinic. And all three also teach regular law courses as well — criminal law for Prof. Ralph and Prof. Egleston, while Prof. Holloway teaches trial advocacy.

Student interest in the legal clinic remains high, with far more being turned away than are accepted. For the upcoming January-April term, 44 students applied for the 14 openings, which were filled by lot.

The clinic, now located on the third floor of Brock Hall, runs two four-month terms starting September and January, and

students admitted to it take no other courses during that period. Those admitted in September must be in their final year of Law, whereas the January intake is limited to second-year Law students.

Clients are referred to the UBC clinic by individual lawyers, by the Legal Services Society (Legal Aid), by provincial court judges, by the family court and by various social agencies. They have to show that they can't afford a lawyer. At any one time, the clinic will have open files on 250 to 300 cases and will handle up to 1,000 in a year.

Although many of the cases involve criminal law, some applicants must be turned away by the clinic because of the nature of the problem.

"We handle assault, theft, false pretences, mischief and a wide variety of other cases," Prof. Ralph said, "but we wouldn't expect a law student to handle, for example, a murder case."

While they are enrolled in the legal clinic, the students are considered by the B.C. Law Society to be articulated and are granted full courtroom rights and privileges. One of the three professors attends each trial as an observer and later prepares a critique and analysis of the student's performance.

Although the observer may intercede if necessary, Prof. Ralph said this would be a rare happening because of the rigid requirements demanded of students preparing for a court appearance.

The clinic students spend three days a week in the Brock Hall office unless they are in court and two days in the law building, where they are taught interviewing,

negotiation, advocacy and other skills, both in theory and through simulation. Videotapes are used for evaluation and criticism.

Prof. Ralph stressed that the students learn law, not just technique, during their four months with the clinic, because of the research they must do in so many of the cases and because of the variety of that research.

Among the cases with the clinic right now, he said, are 54 involving immigration law, mainly people from such areas as Pakistan, Iran, Central America and Africa who are seeking refugee status in Canada.

"Although each case is different," Prof. Ralph said, "there is a common thread: in each case, these clients believe they will be executed if returned home."

Because of cutbacks, controlling the flow of clients has become a major problem, with far more seeking assistance than can be accommodated. No new cases have been accepted by the current clinic since mid-September.

Prof. Ralph, a native Victorian with a B.A. from the University of Victoria, graduated from the UBC law school in 1967. He took a master's degree in England at the London School of Economics and then served as executive director of the Legal Services Society before joining the UBC faculty last year.

"The UBC Legal Clinic has been of great benefit to students and to the public," Prof. Ralph said. "It is truly unfortunate that at a time when we should be expanding, we have had to retrench."

Language has changed, but not crime structure

Meet the Canting Crew.

- The nips and foins (pickpockets), many of whom worked in teams to bulk the cull (distract the victim), who ended up with foyn'd cloys (picked pockets).

- The dubbars (lock pickers), who used gilks (skeleton keys) that allowed the lifter (house and shop robber) to enter, while the santar (outside accomplice), waited for the snappings (the take), which were taken to bobs and fences (receivers of stolen goods) at the stalling ken (where bobs and fences did business).

- The aunt and niece (team of prostitutes) who were experts at crossbiting (blackmailing) rumpers (clients).

That's just a sample of the language you'll find in *The Canting Crew*, a fascinating book written by Dr. John McMullan, a UBC sociologist, about London's criminal underworld from 1550 to 1700. The book's title is taken from an anonymous, late-17th-century pamphlet that is one of the sources of the criminal argot of the time.

Cant, Dr. McMullan says, is a technical language revealing the methods of crime. "The argot itself tells you a lot about how criminals committed their crimes and the way in which crime was organized in London in that day."

Dr. McMullan's book is more than just a picturesque account of the criminal underworld in London over a 150-year period. To a striking extent, he says, some present-day forms of theft and confidence cheating overlap those of the 16th and 17th centuries.

Criminal sanctuaries in the London of that day are akin to the barrios in emerging third world cities with different patterns of association and autonomy. A study of crime in urban centres in Asia has described the functions of juvenile thieves in terms that would be applicable to 16th-century London, and as in the past, particular linguistic codes, rituals and apparel mark off criminal craft in today's criminal societies in Malaysia and India.

"In particular," Dr. McMullan says, "alehouses and taverns serve as the focus for criminal operations and networks in London in the 16th and 17th centuries as well as in some of today's societies and the prominence and claims to power of fences in London some 300 years ago are not unlike those of today's Calabrian and Sicilian mafioso networks."

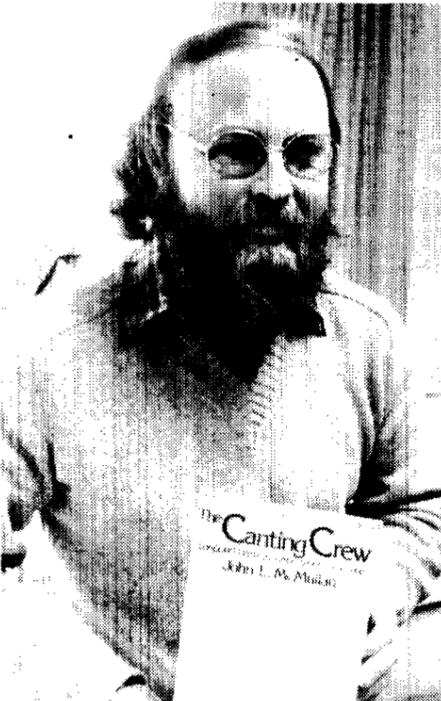
Dr. McMullan argues that crime may have been more highly organized in London in the 16th and 17th centuries than has been previously thought.

"The catalogue of comparative examples suggests that what are sometimes thought of as unique criminal structures are probably more general in form. Some historians have wildly exaggerated the size, scope, cohesiveness and hierarchy of criminal organization. On the other hand, recent historical research denigrates the importance of criminal organization entirely.

"The absence of evidence in legal records

doesn't mean that no organized crime existed but archival records rightly warn us to be skeptical about the existence of organized criminal gangs operating over vast areas.

"But criminal organization is not a matter of large numbers. It is very specifically the receivers, the houses they and the thieves frequent, the brothels and other haunts, the cant vocabulary, and the characteristic skills transmitted in bousing kens (alehouses) and prisons."



John McMullan

Centre offers conference aid

UBC's Centre for Continuing Education has established an office to provide planning and administrative services to aid members of the University community in setting up conferences, symposia, seminars and meetings.

Vince Battistelli, acting director of the continuing education centre, said the centre has been providing these services for a number of years but is now expanding this area in view of an increasing number of requests by faculties and departments.

"The services we offer include planning, administration, registration, budgeting, reporting and evaluation for both on- and off-campus meetings," he said. "The centre also has facilities for bulk mailing, high-speed copying, design, publicity and accounting."

He adds that the centre's fee for administration is competitive with private firms. For more information, contact Phil Moir at 222-5225.

EUS blood clinic earns praise

Blood flowed freely at the fall donor clinic in the Student Union Building last month, and the Canadian Red Cross Society termed it the best clinic in many years.

The five-day clinic drew 2,131 donors, 569 of whom were giving blood for the first time. Previous best in recent years was 1,877 donors in 1981. The total last year was 1,548.

Of the UBC donors, 153 were selected to donate to the Sera Clinic, which provides

blood for the testing and typing of donors. Some 85 per cent of the blood used for this purpose at clinics across Canada is provided by UBC students.

This year's fall clinic was organized by civil engineering students Reid White and Neil Carly. They said donors came from every faculty. A blood clinic in February will be organized by the Forestry Undergraduate Society.

Red Cross co-ordinator Florence Edwards, in a congratulatory letter to Reid White, Neil Carly and the Engineering Undergraduate Society, observed that some donors had been lost because of long lineups, especially during lunch hours. She said the Red Cross would try to add three more beds for the fall 1985 clinic, for a total of 15.

Organizer White said the clinic likely would draw even more donors if it were set up on the main floor of SUB, rather than on the second floor. This would provide a visible reminder to students that it was blood donor week, and they'd be able to see at a glance how long the lineup was.

Ms. Edwards supported this idea. She said the open area off the main concourse would be ideal, provided students were willing to give up this space to the Red Cross during the clinic days.

Food drive on campus

Members of the University community will have an opportunity to help Vancouver's needy during a food drive being held on campus Dec. 7 to 14. The drive is sponsored by the Alma Mater Society, Food Services and Student Housing.

"We'll be setting up bins for non-perishable food in the three residences, the SUBway cafeteria and the Bus Stop Coffee Shop," said Food Services director Christine Samson. "The food we collect will be donated to the Vancouver Food Bank."

For those of you who may arrive on campus without food to donate, booths will be set up to sell canned goods in the SUBway cafeteria from 11:30 a.m. to 2:30 p.m. and in residences from 4:30 to 6:30 p.m.

Water loss measured

A new device designed to help foresters select, plant and manage the millions of tree seedlings used in B.C.'s reforestation programs has been developed by a research team in UBC's soil science department.

The device, which is now available for commercial use, measures the amount of water lost by tree seedlings. This measurement indicates to foresters the amount of plant stress resulting from disease, moisture and temperature extremes and poor planting techniques.

The instrument was developed by Prof. Andrew Black of the Faculty of Agricultural Sciences, Doug Beames, an electrical engineer in the soil science department and Nigel Livingston, a doctoral student working under the direction of Prof. Black. Mr. Livingston is the president of Micromet Systems Inc. of Vancouver, a small hi-tech firm recently established to produce the device.

Library hours extended

Three UBC libraries will be open extended hours during the Christmas examination period. Main, Law and Woodward Libraries will be open until 11 p.m. Sunday to Thursday from Dec. 2 to 20, and Woodward and Law will also be open until 10 p.m. on Fridays.

The Sedgewick Library will be open its usual hours, 8 a.m. to 11 p.m. weekdays, 9 a.m. to 11 p.m. on Saturdays and from noon to 11 p.m. Sundays.

UBC CALENDAR

CALENDAR DEADLINES

For events in the weeks of Dec. 16 and 23, material must be submitted not later than 4 p.m. on Thursday, Dec. 6. Send notices to UBC Community Relations, 6328 Memorial Road (Old Administration Building). For further information call 228-3131.

MONDAY, DEC. 3

History of Medicine Lecture.

The Obligation to Sustain Life. Dr. S. Segal, Pediatrics, UBC. Room 80B, Woodward Instructional Resources Centre. 8:30 a.m.

Fine Arts Lecture.

Bernini's *Santa Teresa*: A Study in Ambiguity. Prof. Nicos Hadjinicolaou, art historian, Paris. Sponsored by the Committee on Lectures. Room 104, Lasserre Building. 12:30 p.m.

Mahlzeit.

An opportunity to hear and speak German. Everyone welcome. International House. 12:30 p.m.

UBC Percussion Ensemble.

John Rudolph, director. Recital Hall, Music Building. 12:30 p.m.

Mechanical Engineering Seminar.

Laminar Burning Velocities of Mixtures. J. Hung; A Control Strategy for a Robot. P. Marchand. Room 1202, Civil and Mechanical Engineering Building. 3:30 p.m.

Urban Land Economics Workshop.

GNMA Mortgage and Treasury Bond Prices. Eduardo Schwartz, Commerce, UBC. Penthouse, Angus Building. 3:30 p.m.

The Pedersen Exchange.

The Pedersen Exchange is cancelled until January as the president will be out of town. The exchanges normally take place at 3:30 p.m. each Monday in the Main Library.

Applied Mathematics/Numerical Analysis Seminar.

Numerical Problems in Diffraction Theory. Prof. Matthew Yedlin, Geophysics and Astronomy, UBC. Room 229, Mathematics Building. 3:45 p.m.

Zoology "Physiology Group" Seminar.

Folding of the Cerebral Cortex in Mammals. Dr. J.W. Prothero, Biological Structure, University of Washington. Room 2449, Biological Sciences Building. 4:30 p.m.

Cinema 16.

Monterey Pop. Auditorium, Student Union Building. 6:30 and 8:30 p.m.

TUESDAY, DEC. 4

Faculty Women's Club.

Christmas Boutique, lunch and general meeting. Seasonal music provided by the Vancouver Symphony Orchestra's Women's Committee Scholarship students. Cecil Green Park. 10 a.m.

Science, Technology and Society Lecture.

Generic Issues in the Management of Chemical Risks. Dr. Scott Carley, Animal Resource Ecology. Room D348, Buchanan Building. 12:30 p.m.

Botany Seminar.

Cell Wall Extension: New Probes to an Old Problem. I.E.P. Taylor, Botany, UBC. Room 3219, Biological Sciences Building. 12:30 p.m.

Chemistry Lecture.

Chemistry, Genetics and Children. Prof. Derek A. Applegarth, Biochemical Diseases Laboratory, Children's Hospital. Room 250, Chemistry Building. 1 p.m.

Geological Sciences Seminar.

Sand Transport by Storm Processes in Shallow Seas - Cardium Formation (Upper Cretaceous). Alberta. Dr. Roger Walker, McMaster CSPG-LINK Award Visiting Speaker. Room 330A, Geological Sciences Building. 2 p.m.

Electrical Engineering Seminar.

Poly Emitter Bipolar Transistors. Paul Van Halen, post-doctoral fellow, Electrical Engineering, UBC. Room 402, Electrical Engineering Building. 1:30 p.m.

Statistics Workshop.

An Alternative to Box-Jenkins Models and Its Estimation. Dr. Piet de Jong, UBC. Room 101, Ponderosa Annex C. 3:30 p.m.

WEDNESDAY, DEC. 5

Pharmacology and Therapeutics Seminar.

Arrhythmogenesis and Some New Antiarrhythmic Drugs in Myocardial Ischaemia. M.J. Curtis, Pharmacology and Therapeutics, Medicine, UBC. Room 317, Block C, Medical Sciences Building. 12 noon.

Noon-Hour Concert.

James Parker, piano, winner of first prize in the 1984 Eckhardt-Gramatte Competition. Recital Hall, Music Building. 12:30 p.m.

Leisure and Cultural Studies Seminar.

Olympism as Modern Myth: Reflections from Barthes to Gramsci. Robert Sparks, Physical Education and Recreation, UBC. Penthouse, Buchanan Building. 3:30 p.m.

Animal Resource Ecology Seminar.

Seasonal Movement Patterns and Population Dynamics of the White-Eared Kob. John Fryxwell, Animal Resource Ecology, UBC. Room 2449, Biological Sciences Building. 4:30 p.m.

THURSDAY, DEC. 6

Music Lecture/Recital.

Beethoven's Variations of a Waltz by Diabelli, Opus 120. Prof. William Kinderman, Music, University of Victoria. Sponsored by the Committee on Lectures. Recital Hall, Music Building. 12:30 p.m.

Condensed Matter Seminar.

Instabilities in Fluids in Relation to Dynamical Systems Theory. J.A. Libchaber, University of Chicago. Room 318, Hennings Building. 2:30 p.m.

Environmetrics Seminar.

Detecting Change in Fish Populations. Dr. R. Hilborn, Animal Resource Ecology, UBC. Room 101, Ponderosa Annex. 3:30 p.m.

Physics Colloquium.

Proton Decay and Other Experiments in Deep Underground Laboratories. George T. Ewan, Queen's University, Kingston. Room 201, Hennings Building. 4 p.m.

FRIDAY, DEC. 7

Medical Genetics Seminar.

Regulation of Development of Drosophila. Dr. Hugh Brock, Zoology, UBC. Parentcraft Room, Grace Hospital. 1 p.m.

Geological Sciences Lecture.

Dating Quaternary Sediments by Thermoluminescence. Dr. G.W. Berger, SFU. Room 330A, Geological Sciences Building. 1 p.m.

SUNDAY, DEC. 9

International House.

Children's Christmas Party. Tickets are 50¢ each or \$1.75 for a family for members, 75¢ or \$2.25 for non-members. For reservations, call 228-5021. International House. 1:30 p.m.

Museum Presentation.

Vancouver artist Evelyn Roth will present the world premier of Meeting Place - Roth's world dance theatre. Details at 228-5087. Free with museum admission. Museum of Anthropology. 2:30 p.m.

Lutheran Campus Ministry.

Human Relationships and Sexuality. A panel of speakers will guide discussion on the intricacies of interpersonal involvement. Lutheran Campus Centre. 7 p.m.

MONDAY, DEC. 10

Zoology "Physiology Group" Seminar.

Rhythmic Ventilatory Activity Can Be Generated in Multiple Sights in the Brainstem. Dr. W.M. St. John, Physiology, Dartmouth Medical School. Room 2449, Biological Sciences Building. 4:30 p.m.

WEDNESDAY, DEC. 12

Pharmacology and Therapeutics Seminar.

Molecular Mechanisms Underlying the Actions of the N-Alkanols at the Neuromuscular Junction. Dr. J. McLarnon, Pharmacology and Therapeutics, Medicine, UBC. Room 317, Block C, Medical Sciences Building. 12 noon.

Electrical Engineering Seminar.

Considerations in Japan's Future Industrial Strategy. Prof. E. Eric Burke, Engineering, University of Waterloo. Room 402, McLeod Building. 1:30 p.m.

Geophysics Seminar.

Fourier Transform Mass Spectrometry. Prof. M.B. Comisarow, Chemistry, UBC. Room 260, Geophysics and Astronomy Building. 4 p.m.

THURSDAY, DEC. 13

Geological Sciences Seminar.

The Geology of Archean Gold Deposits. Dr. Sandy Colvine, Geology Division, CIM University Visiting Lecturer. Room 330A, Geological Sciences Building. 12:30 p.m.

Policy Seminar.

An Epistemology of Changes in Technical Theories. Prof. F.E. Burke, Management Science, University of Waterloo. Room 119, Angus Building. 1:30 p.m.

Physics Colloquium.

Recent Developments in Synchrotron Radiation Research. Herman Winick, Stanford Synchrotron Research Laboratory. Room 201, Hennings Building. 4 p.m.

FRIDAY, DEC. 14

Medical Genetics Seminar.

Vancouver - Seattle Exchange. Parentcraft Room, Grace Hospital. 1 p.m.

Women's Basketball.

UBC high school girls tournament. Continues all day Saturday. War Memorial Gym. All day.

Notices . . .

Crystals for Christmas

For an unusual gift idea, consider a natural crystal from the UBC Geological Museum's collector's shop. There are more than 1,000 specimens in stock. All will be discounted 15% during the month of December. The museum (located in the Geological Sciences Building) will be open on Wednesday, Dec. 12, from 8 to 10 p.m. for those who are unable to visit during the day. For more information, call museum curator Joe Nagel at 228-5586.

Rec UBC outdoor shop

Recreation UBC now offers an outdoor equipment rental service in Unit II of the Osborne Centre. The shop has hiking and tenting gear, mountain bikes and kayaks, and Rec UBC hopes soon to offer ski rentals as well. The shop is open weekdays at lunch and from 3:30 to 5 p.m. Telephone: 228-1244.

AMS art gallery

Fourth-year BFA show. Student Union Building, until Dec. 7. Hours are 10 a.m. to 4 p.m.

Dance Horizons

Interested students, faculty and staff are invited to join Dance Horizons, UBC's dance ensemble. Work with professional choreographers to create an original production - it's fun, challenging, a unique opportunity. No experience necessary! Rehearsal Sunday 2-6 p.m. in SUB Ballroom. For more information, come to SUB 216E or call 228-6668.

Food Service Hours

Food Service outlets on the campus will be closed on the following dates during the Christmas season: Yum Yum's at the Auditorium - closes Dec. 20, reopens Jan. 7; Arts 200 - closes Dec. 7, reopens Jan. 7; Barn Coffee Shop - closes Dec. 21, reopens Jan. 2; EDibles - closes Dec. 7, reopens Jan. 7; IRC Snack Bar - closes Dec. 21, reopens Jan. 2; Ponderosa Snack Bar - closes Dec. 14, reopens Jan. 7; SUBWAY Cafeteria closes Dec. 21, reopens Jan. 7. The Bus Stop Coffee Shop will be open weekdays, with the exception of Dec. 25, 26 and Jan. 1.

Ballet UBC Jazz

Effective immediately, Ballet UBC Jazz will be registering people for the winter session of dance classes. If you register now, your payment for winter classes will allow you to attend the remaining fall classes free of charge. The fee is \$40 for members and \$45 for non-members. Registration takes place at the Ballet UBC Jazz office (SUB 216E). For more information, call 228-6668 or drop by the office.

Pipes and drums

Pipers and drummers among faculty, students and staff interested in playing on campus are asked to contact Dr. Edward Mornin, Germanic Studies, at 228-5140.

GRANT DEADLINES

JANUARY (application deadlines in brackets)

- Agriculture Canada (CPD)
 - New Crop Development Fund (1)
- American Chemical Society: PRF
 - Research Type AC (1)
- American Institute for Cancer Research
 - Research (1)
- Apple Canada Education Foundation
 - Microcomputer Research (15)
- B.C. Cancer Foundation
 - Travel Grant for Post-doctoral Fellows (15)
- B.C. Medical Services Foundation (BCMSF)
 - Research (9)
- Calgary Inst. for the Humanities
 - Visiting Post-doctoral Fellowship (31)
- Canada Council: Aid to Artists
 - Aid to Artists (15)
- Canada Council: Explorations Prog.
 - Explorations Grant (15)
- Canada Council: Writing/Public.
 - Translation Grant (15)
- Canada. Mortgage & Housing Corp.
 - Research Grants Type A (to \$3500) (25)
- Canadian Intl. Development Agency
 - CIDA Awards Offered to Canadians (31)
- Canadian Veterinary Research Trust
 - Grants in aid of Research (1)
- Diabetes Canada
 - Research Fellowship (1)
 - Research Scholarship (1)
- Environment Canada: CFS
 - PRU F Contract (31)
- Ford Foundation (USA)
 - Soviet/East European Intl. Security Fellowship (31)
- Hamber Foundation
 - Foundation Grant (5)
- Health & Welfare Canada
 - Health Promotion Contribution Program (31)
- Imperial Oil Limited
 - University Research Grants (15)
- Labour Canada
 - University research (15)
- Labour Canada (TRF)
 - Technology Impact Research Fund (15)
- Lalor Foundation
 - Fellowship (15)
- March of Dimes Birth Defects Fdn. (US)
 - Education Grants (1)
- MRC: Grants Program
 - MRC Group-RENEWAL (1)
- MRC: Special Programs
 - Queen Elizabeth II Scientist Awards (15)
- North Atlantic Treaty Organization
 - Advanced Research Workshops Program (15)
 - Advanced Study Institutes (ASI) (15)
- Rockefeller Foundation
 - Fellowships in International Relations (15)
- Smithsonian Institution
 - Fellowship (15)
 - Harvard-Smithsonian Astrophysics Fellowship (1)
- Solicitor General of Canada
 - Criminological Research (1)
- SSHRC: Research Communic. Div.
 - Attendance Grants to Scholarly Associations (20)
 - Program of Aid to Scholarly Associations (20)
- St. Hilda's College
 - McIlrath Junior Research Fellowship (4)
- Sugar Association, Inc.
 - Research (13)
- World Wildlife Fund (Canada)
 - General Research (1)

First Class Mail

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