THE UNIVERSITY OF BRITISH COLUMBIA

UBC REPORTS

Volume 42, Number 16 October 3, 1996

D. Thomson photo

Eye to Eye

Brock Turner, coach of the UBC Wrestling Club, watches two recruits tangle on new mats in the Student Recreation Centre studio. Club members meet every Monday, Wednesday and Friday from 1:30-3:30 p.m. For information on the more than 200 student clubs on campus call 822-3961 or 822-1961.

Students satisfied, survey says

A majority of UBC undergraduates expressed satisfaction with university life, according to the 1996 Survey of Undergraduate Experience at Canadian Universities.

Eight-five per cent of the UBC undergraduates surveyed indicated that they were either "very satisfied" or "satisfied" with the overall quality of their education. A further breakdown showed 79 per cent of UBC students believed their university learning experiences had been intellectually stimulating, 87 per cent were satisfied with their decision to attend UBC and 76 per cent were happy with the quality of teaching they had received.

Ten universities participated in the second annual survey co-ordinated by the University of Manitoba's Dept. of Housing and Student Life.

Other institutions participating included Concordia, Acadia, Dalhousie, Nipissing and Simon Fraser universities, the universities of Lethbridge, and Toronto, and Memorial University of Newfoundland.

In total, 3,357 students completed the mail surveys. Nearly all the students (97 per

See ***SURVEY*** *Page 2*

Murder mystery in air for Homecoming '96

Solve a murder on the high seas, lend an ear to local literati, or sample enough apples to keep a dozen doctors away. UBC's annual Homecoming celebration offers something for every taste Oct. 15-20.

The events that make up Homecoming are expected to bring thousands of guests and UBC alumni to campus to participate in class reunions, the Botanical Garden's annual Apple Festival, special lectures and a murder mystery at the Cecil Green mansion.

Several events, including the Apple Festival and a lecture by Prof. Stanley Coren, author of *The Intelligence of Dogs* and more recently *Sleep Thieves*, are open to the public.

- **Prof. Stanley Coren** will kick off Homecoming festivities with a talk on sleep deprivation, a condition which he says many of us suffer from. Coren's talk is the first in the Favourite Professors Speakers Series and part of the Bringing UBC Downtown program. It takes place from noon to 1 p.m. on Oct. 15 at the Robson Square Conference Centre and is open to the public. To purchase a ticket, which is $10, call 822-3313.
- **Murder on the High Seas** is the theme of this year's murder mystery dessert event at Cecil Green Park House, Oct. 18. Guests are invited to take part by acting as a suspect or joining fellow detectives in trying to solve the mystery. This is the third time the event has been hosted by the Alumni Association, following two previous sell-outs. Participants can register as individuals or as a team of six. Tickets are $20 and include a dessert buffet. For information and reservations call 822-8923.
- **The Great Trek Remembered Luncheon** takes place Oct. 18 at Cecil Green Park House. The lunch, to honour alumni for their contributions to UBC's development over the years, will pay special tribute to Evelyn Lett on the occasion of her 100th birthday. Lett was instrumental in the creation of both the Alma Mater Society and the UBC Alumni Association.
- **A Literary Event**, featuring readings by four alumni authors, will take place Oct. 19 from 1-3 p.m. at Cecil Green Park House. Authors Murray Logan, Zsuzsi Gartner, Genni Gunn and Tim Ward will read from their works at this first-ever literary event, hosted by the Alumni Association and dedicated to the memory of Rosalind MacPhee, author of *Picasso's Woman* — an award-winning story on her fight with breast cancer. Call 822-3313.
- The Botanical Garden's annual **Apple Festival** draws thousands of apple fanciers every year. Visitors to this year's festival will have an opportunity to sample some 50 varieties of apple, question experts regarding apple types, blights and other general apple information, and take in pruning and grafting demonstrations. Apple trees and a wide range of apple varieties will be available for purchase as well. The festival takes place at the Botanical Garden on Southwest Marine Dr. on Oct. 19-20 from 11 a.m.- 4 p.m.

More Homecoming highlights...

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Geneticist earns Science and Technology gold

Dr. Judith Hall, head of Pediatrics at UBC and B.C.'s Children's Hospital, has won a B.C. Science and Technology gold medal for her work in medical genetics.

Gold medals are presented annually by the B.C. Science Council to recognize outstanding achievements by B.C. scientists, engineers, industrial innovators and science communicators.

Nominated by Nobel Laureate Michael Smith, Hall received the award in the category New Frontiers in Research.

Hall

Hall is a leader in medical genetics, especially in the field of congenital birth defects. Her discoveries have led to a better understanding of the genetic factors that affect children's growth, or the lack of it.

In one of her early studies of hormone behaviour, Hall identified a new cause of dwarfism. She later developed new ways to classify various causes of dwarfism and other congenital abnormalities.

More recently, she has campaigned for adequate amounts of folic acid in the diet prior to pregnancy. Found in fruit and green vegetables, folic acid reduces the incidence of neural tube defects as well as several other congenital abnormalities.

Previous recognition of her work has included the UBC Senior Killam Research Prize, the March of Dimes Award for Lifetime Achievement in the Genetic Sciences

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Letters

LETTERS POLICY

UBC Reports **welcomes letters to the editor on topics relevant to the university community. Letters must be signed and include an address and phone number for verification. Please limit letters, which may be edited for length, style and clarity, to 300 words. Deadline is 10 days before publication date. Submit letters in person or by mail to the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1, by fax to 822-2684 or by e-mail to janet.ansell@ubc.ca.**

Policy fails to recognize rights

Editor:

Re: Discrimination and Harassment Policy, Professor Kahn's response (*UBC Reports*, Sept. 19)

I must apologize in my original letter for not recognizing that the policy is employing civil procedures rather than criminal. However, I maintain that regardless of procedural choice, the policy still 1) contradicts commonly held precepts of justice; and 2) is internally contradictory. Moreover, Prof. Kahn's response did not address these issues.

She did not acknowledge that the policy does state: "Anyone who enters into a sexual relationship where a professional power differential exists must realize that if a charge of sexual harassment is subsequently lodged, it will be extremely difficult to defend the conduct on grounds of mutual consent." This statement contradicts the accepted standard of Canadian law and instructs the three-person panel to do so when weighting the balance of probabilities to reach their verdict. Given this situation, one might ask what would be an acceptable defense (temporary insanity, perhaps)? Implicitly, the policy fails to recognize that members of the university community are adults and hence have the right to engage in consensual sexual relationships regardless of power differentials.

I agree that to protect all parties concerned, it is wise to reduce potential conflicts of interest. However, informing one's administrative head of such a sexual relationship has no bearing on the question posed to the panel, namely did harassment/discrimination occur or not? Given the policy instructs the panel to determine if there has been a violation of procedure, one must wonder what probabilistic weight a violation of this administrative procedure has.

Finally, one original tenet of 'natural justice' is the right to hear the testimony of the other party and to cross-examine this testimony. In the policy, the panel acts as arbitrator and this right has been removed. One must trust the panel to represent their interests. As the impact of the verdict may be devastating to either party in terms of career, family, etc., why has this right been removed?

In conclusion, my intention was and is to highlight some of the deficiencies in this policy, with the hope that the administration would respond in an insightful and responsible manner.

Campbell M. Clark, PhD
Associate Professor
Dept. of Psychiatry

Survey

Continued from Page 1

cent) indicated plans to obtain at least one degree. A bachelor's degree was the highest intended level for about 26 per cent while nearly 60 per cent planned to obtain a graduate or professional designation. Graduate students and those in professional schools were not surveyed.

The survey included 16 issues of potential relevance to undergrads and asked students to rate their importance. UBC respondents placed high importance on keeping tuition increases at or below inflation rates (82 per cent), increasing emphasis on teaching excellence (71 per cent) and protecting present student services from cutbacks.

New to the survey were 12 items measuring student participation in campus life. The three aspects of campus life with the highest participation rates included use of campus fitness/exercise facilities, visiting campus for extracurricular events and participation in student clubs.

Three areas of greatest student dissatisfaction concerned processes for resolving student complaints, parking facilities and concern shown to them by the university.

When students were asked to grade their university for contributing to personal growth, the highest grades were assigned for how well universities contributed to an ability to work independently, think logically and analytically, and identify and solve problems. Universities were given the lowest marks for helping prepare students for employment, and giving them an appreciation for the arts, mathematics skills, leadership skills and an ability to address issues in personal life.

Among the most used campus services were campus book stores, computer services for students and academic advising. Other survey highlights included: the average debt acquired by students to help finance their university education was $5,666; students reported spending an average of 17.5 hours studying during a typical week; an average week has students attending class and laboratories for about 14 hours and in front of the television 8 hours; 40 per cent of surveyed students lived at home with their parents, 14 per cent in university housing and 47 per cent lived off-campus.

Homecoming Highlights

Oct. 16

• ***Great Trekker Award Reception:*** Party Room, SUB, 5:30 - 8:30 p.m. $12, $6 (students & under-employed). For tickets call 822-2901.

Oct. 17

• ***75th Anniversary of the Women Students' Office & 25th Anniversary of Women's Studies:*** Brock Hall. Call 822-2415.

Oct. 17 - 20

• ***Intramural Sports:*** Events include mountain bike challenge and more. Call 822-6000.

Oct. 18

• ***Thunderbird Women's Basketball:*** Alumni Game. War Memorial. 7:00 p.m. Call 822-2531.

October 18-19

• ***Thunderbird Hockey***: vs. Lethbridge Pronghorns. Winter Sports Centre. 7:30 p.m. Call 822-2531.

Oct 19

• ***Thunderbird Soccer:*** vs. Calgary. Women's, noon. Men's, 2:00 p.m. O.J. Todd Field. Call 822-2531.

Oct. 20

• ***Thunderbird Soccer:*** vs. Lethbridge. Men's, noon. Women's, 2:00 p.m. O.J. Todd Field. Call 822-2531.

Gold

Continued from Page 1

and the YMCA Women of Distinction Award in Science and Technology.

This spring, Hall, who has dual U.S.-Canadian citizenship, was named one of America's top 1,000 doctors by *American Health* magazine.

Other gold medal winners are:

• Otto Forgacs, Science Council of B.C. Chairman's Award for Career Achievement. Forgacs was head of Research and Development at MacMillan Bloedel for 20 years until his retirement in 1994. He led the drive for technological innovations including engineered wood products such as Parallam and the SpaceKraft packaging system. As well, Forgacs has worked closely with the UBC faculties of Forestry and Applied Science. He received an honorary degree from the university in 1994.

• Tim Collings, SFU, Young Innovator Award. Collings is the inventor of the V-chip, a device that enables television viewers to set their own threshold levels for language, sex and violence.

• Jeff Dahn, SFU, now with Dalhousie University, Solutions Through Research Award. His early work with Moli Energy led to the company becoming the leading North American manufacturer of small lightweight rechargeable lithium-ion cells.

• Leonard Grenier and Marcel Sutanto, ALI Technologies, Industrial Innovation Award. They have developed a highly successful system for managing and transmitting medical images.

• Patti Leigh, Science World, Eve Savory Award for Science Communication. Leigh is credited with the phenomenal growth and success of science fairs in B.C.

The gold medals will be presented at an awards dinner in Vancouver Oct. 21.

Edwin Jackson 224 3540
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THE UILO IS ... EXPANDING

The UBC University-Industry Liaison Office is pleased to announce the opening of a 2nd office in the Gerald McGavin Building.

Effective October 1, 1996, UILO staff can be reached as follows:

IRC Office:	**MTF Office:**
IRC Room 331 - 2194 Health Sciences Mall	Gerald McGavin Bldg 111 - 2386 East Mall
Fax: 822-8589	*New Fax*: 822-5998
Bill Palm	Caroline Bruce
Angus Livingstone	Natalie Dakers
George Lai	Al Fowler
Peter Wells	David Jones
Hubert Lai	John Proffett
Mercedes Ratzinger	Maureen Beattie
Michelle Rhone	

Mailing address and general telephone for both:

IRC Room 331
2194 Health Sciences Mall
Vancouver, BC
Canada V6T 1Z3
Telephone: 822-8580
Web Site: http://www.uilo.ubc.ca

All direct telephone numbers and e-mail addresses remain the same.

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UBC Reports on the Web **http://www.ubc.ca** under "News"

UBC REPORTS

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Gavin Wilson photo

Karen Jew, foreground, and Marietta Lao, staff members in the Institute of Asian Research, pose in the Stone Garden at the C.K. Choi Building, which officially opens Oct. 7. The five stones are engraved with Chinese characters, each of which represents a Confucian virtue — humanity, righteousness, propriety, wisdom and trustworthiness — chosen by C.K. Choi to reflect the philosophy that has guided his life. The stones were shipped from Mt. Tai in China's Shandong province, birthplace of Confucius.

Choi building opens to cultural celebration

A new cornerstone of UBC's international focus, the C.K. Choi Building for the Institute of Asian Research, officially opens on Oct. 7.

The Choi building provides a new home for an expanded Institute of Asian Research, which was founded in 1978.

Headed by Director Terry McGee, the institute houses five research centres focusing on different regions of Asia: China, Japan, Korea, Southeast Asia, and India and South Asia.

The building and its institute contribute to UBC's already strong links with academic institutions in other countries and function as a gateway to the campus's international precinct, which includes the Asian Centre and Nitobe Garden.

Funding for the institute was provided by a number of major donors from Canada and Asia including a lead gift from the C.K. Choi family and matching funds from the B.C. government. More than $20 million in grants and endowments was raised for the institute's building, two endowed faculty positions in each centre, graduate fellowships, faculty exchanges and library collections.

The official opening ceremony begins at 2:30 p.m., Oct. 7 with a ribbon cutting, plaque unveilings and honouring of donors.

Principal guests of honour will be the Choi family. C.K. Choi is a Vancouver business leader and philanthropist and five of his seven sons and daughters are graduates of UBC.

"Although I have not had the benefit of a higher education and do not consider myself an intellectual, I have always had a tremendous desire for the pursuit of knowledge," Choi said in explaining his support of UBC.

Other special events held to inaugurate the new building include Asia Week, a celebration featuring daily noon hour concerts and cultural events that highlight the different regions represented in the building—Japan on Monday, India and South Asia on Tuesday, Southeast Asia on Wednesday, China on Thursday and Korea on Friday.

Asia Week festivities run from 9 a.m. to 4:30 p.m. daily. Lunches featuring the cuisines of Asian countries will be served each day from 11 a.m. to 1 p.m., immediately followed by cultural performances.

Displays range from traditional arts and crafts to the latest Internet web sites from Asia, on view at the institute's multimedia centre. Graduate students will demonstrate how new technology is applied to research.

Daily tours will be given of the award-winning building, which is constructed of recycled and recyclable materials and features the latest advances in environmental design.

The tours, conducted by Campus Planning and Development, will take place at 10 a.m and 2:30 p.m. daily.

A book exhibition and sale will be held by the three journals published out of the Choi building — *Pacific Affairs*, *B.C. Studies* and *Canadian Literature*. Institute and Centre publications will be on sale, including copies of *Design for the Next Millennium: The C.K. Choi Building for the Institute of Asian Research*, which gives a detailed description of the building and the institute's activities.

As well, the institute will host an academic conference, The Empowerment of Asia, that runs Oct. 8-9.

The conference will bring together prominent scholars from Asia and North America for what organizers say promises to be a milestone in the reassessment of Asia's role in the emerging global system.

The keynote speaker is Harvard University Prof. Tu Weiming, an international scholar on Confucian thought and director of the Harvard-Yenching Institute.

Campus works

Registrar's Office

Students admitted electronically

by Stephen Forgacs

Staff writer

Applying to UBC has never been easier, or faster. More than 600 students who applied for admission to UBC for the 1996/97 school year did so electronically using a World Wide Web application form.

Mike Lehmann, project manager in the Registrar's Office, said the capacity to accept student applications electronically will benefit students primarily by speeding up processing.

"The turn-around on an application that is mailed may be several weeks, whereas one received by Internet can be turned around in days. In some cases we are able to send out a letter of acknowledgment on the same day an application is received," Lehmann said.

The application form, which can be accessed through the Post Secondary Application Service of B.C.'s (PASBC) Web site (http://www.pas.bc.ca), allows prospective students to submit an application form to UBC or other B.C. universities from virtually anywhere in the world and to pay their application fee by credit card.

Although the Internet application was aimed primarily at B.C. high school students last year, electronic applications were received from as far away as Australia and Sweden.

Previously all applications were received on paper, sorted, entered into a computer, and then processed by admissions staff. Receipt of applications via the Internet means admissions staff are able to check the computer on a regular basis for new applications and process them as they come in.

The number of applications received via the Internet this year represents only six per cent of the total applications for first year, said Susan Peters, assistant registrar for Admissions, but the Internet application was available for less than two months before the 1996 deadline for B.C. secondary school applicants. Peters expects far more Internet applications next year from all different types of applicants, including international students.

During peak registration times the Registrar's Office receives up to 2,000 applications per week for a total of approximately 20,000 each year. The effect of technological change on the admissions process will be immense, Peters said.

"Using the Internet for admissions applications is just the tip of the iceberg," she said. "Students can now also use our Student Services Web site to change their address, inquire on an award or other financial aid or review their courses and grades. In the near future, students will be able to access the Internet to register in their courses, order transcripts or change their personal identity number. We want to improve our service to students by making their student information as accessible as possible for them."

The address of the Student Services Web site is http://www.ubc.ca/student/student.html

Endowment helps fund challenging research

Chris Gallagher looks upon his film *Mortal Remains* as a creative arts project rather than research. This distinction placed Gallagher's documentary on North American cemeteries squarely in the "high-risk" category for traditional funding sources.

Fortunately, the associate professor's innovative approach to work in the Dept. of Theatre, Film and Creative Writing landed him one of UBC's inaugural Social Sciences and Humanities Research Fund grants.

"The idea behind the fund is to support scholarly works which challenge perceived notions in a particular discipline or field," says Prof. Tony Dorcey, chair of the committee overseeing applications. "The fund encourages the originality, risk-taking and interdisciplinarity that tend to disadvantage or rule out an application to the Social Sciences and Humanities Research Council (SSHRC)."

Dorcey quickly points out that grants from the fund are not intended to replace those available from SSHRC or other granting sources. Rather, applicants must detail how one-year projects financed under the program will enhance the chances of success for future applications to provincial, national and international funding agencies.

In the case of *Mortal Remains*, Gallagher is confident that further funding will be found to complete the film.

"The nature of any film project is that it has an element of risk involved and the topic of death and cemeteries can be problematic at the best of times," he said. "The Social Sciences and Humanities Research Fund allowed me to shoot a significant portion of the show which, when cut together, will clearly demonstrate the nature and quality of the project to other funding agencies."

Gallagher is one of four successful grant applicants to give presentations on their work at a briefing attended by SSHRC President Lynn Penrod. Other presenters and projects illustrating the diversity of research funded by the program include: Sociologist Dawn Currie, *Gender -Specific Impact of Development Strategies on Women from Poor Village and Rural Areas in Sri Lanka*; English Prof. Paul Stanwood, *The Variorum Edition of the Poetry of John Donne*; and Psychologist Peter Suedfeld, *Coping Behaviours and Psychosocial Adaptation of People Who Have Experienced an Extreme, Traumatic Situation: The Holocaust*.

The briefing, held Oct. 3 from 1-4:45 p.m. in Green College's Great Hall, is designed to encourage and assist the development of proposals for the next competition, for which the deadline is Nov. 1.

Drawn from an endowment created with funds received from the Hampton Place residential development, the Social Sciences and Humanities Research Fund has grown from $300,000 in 1994/95 to its current pool of $900,000. To date, the fund has supported a total of 37 projects.

For further information about the Social Sciences and Humanities Research Fund call 822-5725.

Calendar

October 6 through October 19

Sunday, Oct. 6

Green College Performing Arts Group
A Reading Of His Works. Mick McAllister, Writer, Salt Lake City. Green College, 8pm. Call 822-6067.

Monday, Oct. 7

Soil Science Seminar
The Importance And Early History Of Soil Physics. J.R. Philip, CSIRO, Australia. MacMillan 154, 12:30pm. Refreshments. Call 822-2875.

Astronomy Seminar
Searching For Evidence Of Biological Activity On Mars. Hajatollah Vali, McGill U. Hebb, 5pm. Call 822-2802.

Resident Speaker Series
Gertrude Stein: A Reading. Yael Katz, English, and Rosalind Moad, Library. Green College, 5:30pm. Call 822-6067.

Lecture
Why Breast Cancer Is An Environmental Disease. Miranda Holmes, Georgia Strait Alliance. SUB 212-A, 12:30-1:30pm. Call 739-2579.

Asia Week
Continues to Oct. 11. CK Choi, 9am-4:30pm. Call 822-2746.

Tuesday, Oct. 8

Atmospheric Sciences Seminar
Global Models And Small-Scale Heterogeneity At The Earth's Surface. J.R. Philip, CSIRO, Australia. Geography, 239, 12:30pm. Call 822-2875.

Pharmaceutical Sciences Seminar
Pharmacist-Client Communication: Can Client Satisfaction Measure Quality Of Care? Elan Paluck, grad student. IRC#3, 12:30-1:20pm. Call 822-4645.

Statistics Seminar
Fitting Categorical Regression Models To Response-Based Samples. Alastair Scott, U of Auckland. CSCI 301, 4-5:30pm. Refreshments. Call 822-0570.

Biotechnology Laboratory Seminar
Protein Folding From The Perspective Of Simple Models. Prof. Ken A. Dill, U of California (San Francisco). Wesbrook 201, 12:30-1:30pm. Call 822-2260.

Continuing Studies Reading and Discussion Series
Booked For Lunch: Through Feminine Eyes—A Canadian Perspective. Norma Hawkins, Alice Boissoneau, Pamela Peck and Frances Backhouse, authors. Vancouver Public Library, 350 W. Georgia, 12-1:30pm. Bring lunch. Call 822-1450.

Green College Speaker Series
Police Culture: A Force Of Resistance? Janet Chan, U of Sydney. Green College, 5:30pm. Reception in Graham House 4:45-5:30pm. Call 822-6067.

Centre for Applied Ethics Colloquium
Environmental Ethics: Restoration And Professionalization. Eric Higgs, U of Alberta. Angus, 413, 4-6pm. Call 822-5139.

Lecture
The Rise And Fall Of The Inca Empire. Geoffrey W. Conrad, Indiana U. MOA, 7:30-9pm. Call 822-5087.

Lecture
Art, Archaeology And The Analytical Laboratory. Ian Wainwright, Canadian Conservation Institute. MOA, 7:30-9pm. Call 822-5087.

Lectures in Modern Chemistry
Quantum Biomolecular Modelling Using Density Functional Theory And Other Tools: Aspects Of Enzymaztic Mechanisms. Prof. Dennis R. Salahub, U of Montreal. Chemistry 250 south wing, 1pm. Refreshments from 12:40pm. Call 822-3266.

Wednesday, Oct. 9

Microbiology & Immunology Seminar
Prevention Of Skin Allograft Rejection By Photodynamic Therapy (PDT). Modestus Obochi, Microbiology and Immunology. Wesbrook 201, 12-1pm. Call 822-3308.

Respiratory Research Seminar Series
Clinical Practice Guidelines In Respiratory Medicine. Dr. Peter Dodek, Medicine. St. Paul's Hospital, Gourlay conference room, 5-6pm. Call 875-5653.

Ecology & Biodiversity Research Seminar
Serengeti Wildebeest Population Dynamics: Regulation, Limitation And Implications For Harvesting. Simon Mduma, Zoology. Family/Nutritional Sciences 60, 4:30pm. Refreshments, Hut B-8, 4:10pm. Call 822-3957.

Women's Studies Seminar
Ann Clark, Philosophy, St. Mary's College. Centre for Women's Studies, 3:30-5pm. Call 822-9171.

Cultural and Media Studies Interdisciplinary Group
To Centre Or Not To Centre: That Is The Question. Mark Leiren-Young, playwright, David Berner, actor and John Juliani, director. Green College, 8pm. Call 822-6067.

Green College Speaker Series
Austria Between 1945 And 1995: Westernization, De-Austrification Or Normalization? Prof. Anton Pelinka, U Innsbruck. Green College, 5:30pm. Call 822-6067.

Applied Mathematics Colloquium
A Moving Mesh Method For Higher Dimensional PDEs. Robert D. Russell, Mathematical Sciences, SFU. CSCI, 311, 3:30pm. Call 822-4584.

Continuing Studies Lecture Series
French Impressionism And The Spectacle Of Paris. Paul Belserene, writer, director and producer. Hotel Georgia, 9:30-11am. Continues to Nov. 6. $45; seniors $35. Call 822-1450.

Continuing Studies Lecture Series
International Scene. Various academic experts giving up-to-date perspectives on world events. Hotel Georgia, 12:05-12:55pm. Question period 1-1:30pm. Continues to Oct. 23. $65; seniors $50. Bring lunch. Call 822-1450.

Continuing Studies Seminar Series
Jane Austen's Heroines For The Year 2000. Cecilia Danaher, doctoral candidate, English. Hotel Georgia, 2-3:30pm. Continues to Nov. 20. $65; seniors $50. Call 822-1450.

Poetry Reading
Robert Bringhurst. Curtis' 102, 12:30pm. Call 822-2344.

Opera Panel Discussion
Mozart's The Marriage Of Figaro. Susan Bennett, Vancouver Opera; Simon Caper, Vancouver Opera; Floyd St. Clair, French; and Andrew Busza, English. Buchanan penthouse, 12:30pm. Call 822-4060.

Orthopaedics Grand Rounds
Sero-Negative Arthritis In The Hand. Dr. P.T. Gropper, Dr. R. Orfaly. Vancouver Hospital/HSC, Eye Care Centre auditorium, 7am. Call 875-4646.

Noon Hour Concert
Timothy Walker, guitar. Music recital hall, 12:30pm. $3 at the door. Call 822-5574.

Thursday, Oct. 10

MacMillan Lecture Series
Amphibian Conservation In Canada. Christine Bishop, Canadian Wildlife Service. MacMillan 166, 2:30-3:30pm. Call 822-0502.

Genetics Graduate Program Seminar
An Analysis Of The Structure And Function Of Protein-Tyrosine Phosphatase α. Kenneth Harder, PhD candidate. Wesbrook 201, 4pm. Refreshments. Call 822-8764.

Earth & Ocean Science Seminar
Electromagnetic Imaging Of The San Andreas Fault: Implications For Fault Mechanics. Martin Unsworth, U of Washington. GeoSciences 135, 12:30pm. Call 822-2267/822-3466.

Environmental Engineering Seminar
Slow Release Fertilization Of Streams. Megan Sterling, grad student. CEME 1215, 3:30-4:30pm. Refreshments. Call 822-2637.

Physics & Astronomy Colloquium
Air Pollutants. Ann McMillan, Atmospheric and Environmental Services. Hebb, 4pm. Refreshments, 3:45pm. Call 822-3853.

Poetic Persuasions
Readings Of Original, Creative Works Followed By An Open Forum. Green College, 7:30pm. Call 822-6067.

Law & Society Seminar Series
The Deployment Of Law In Projects Of Moral Regulation. Alan Hunt, Carleton U. Green College, 7:30pm. Call 822-6067.

Continuing Studies Lecture Series
Pirates Of Three Seas. Various speakers. Hotel Georgia, 9:30-11am. Continues to Nov. 7. $45; seniors $35. Call 822-1450.

Continuing Studies Seminar Series
Hong Kong: Past, Present And Future. Diana Lary and Glen Peterson, History. Hotel Georgia, 12-1:30pm. Continues to Nov. 7. $45; seniors $35. Call 822-1450.

Continuing Studies Lecture
Assessing The Progress Of The UN War Crimes Tribunals. Justice Richard J. Goldstone. Curtis 101, 12:30-1:30pm. Call 822-1450.

Continuing Studies Seminar Series
Home Is Where The Hurt Is: Houses In North American Literature. Deborah Lendon. Hotel Georgia, 2-3:30pm. Continues to Nov. 21. $65; seniors $50. For required reading list and to register, call 822-1450.

Continuing Studies Lecture Series
Moveable Art. Judith Thomson. Hotel Georgia, 7:30-9pm. Continues to Nov. 21. $65; seniors $50. Call 822-1450.

UBC Board of Governors Meeting
The Open Session Begins At 8am. Old Administration Building, Board and Senate room, 6328 Memorial Road. To reserve one of 15 tickets available, call 822-2127 at least 24 hours in advance.

Opera in Concert
UBC Opera Workshop With UBC Choral Union. Music recital hall, 12:30pm. Call 822-3113.

Friday, Oct. 11

Pharmaceutical Sciences Seminar
Insulin And Hypertension - The Role Of Altered Vascular Biology. Subodh Verma, grad student. IRC#3, 12:30-1:30pm. Call 822-4645.

Chemical Engineering Seminar
Wall Slip In The Capillary Flow At Molten Polymers Subject To Viscous Heating. Eugene Rosenbaum, grad student. CEME 206, 3:30pm. Call 822-3238.

Occupational Hygiene Program Seminar Series
Electromagnetic Field Assessment Issues In Evaluating Cancer Risk. Mary McBride, epidemiologist, BC Cancer Agency. Vancouver Hospital/HSC, UBC Site, Koerner Pavilion G-279, 12:30-1:30pm. Call 822-9595.

Theoretical Chemistry Seminar
Exotic Quantum Effects In Antiferromagnetic Chains. Ian Affleck, physics. Chemistry D-402, centre block, 4pm. Call 822-3266.

Linguistics Department Colloquium
The Compositionality Of Words And Categories. Rose-Marie Déchaine, Linguistics. Buchanan penthouse, 3:30pm. Refreshments. Call 822-5594.

Mathematics Colloquium
In Search Of H (Via Non-Linear Eigenvalues). Joel Friedman, Mathematics. Mathematics, 104, 3:40pm. Refreshments at 3:15pm, Math Annex 1115. Call 822-2666.

Distinguished Medical Research Lecture
The Use Of MRI In The Understanding Of Evolving In-Vivo Pathology In Multiple Sclerosis. Dr. D.W. Paty. Vancouver Hospital/HSC, Heather Pavilion, lecture hall B, 12-1pm. Call 822-8633.

Pediatrics Grand Rounds
Youth Empowerment: Towards Meaningful Participation In Health Concerns. S. Whitehouse, M. Cargo, A. Murphy. GF Strong auditorium, 9am. Call 875-2307.

Concert
UBC Contemporary Players. Stephen Chatman, Eric Wilson, directors. Music recital hall, 12:30pm. Call 822-3113.

Sunday, Oct. 13

Green College Performing Arts Group
Thanksgivin' Hoedown: Square Dancing, with Colleen Subasic. Green College, 8pm. Call 822-6067.

Monday, Oct. 14

Green College Speaker Series
Will The German University Reform Society Support Or Undermine Interdisciplinarity? Michael Daxner, U Oldenburg. Green College, 7:30pm. Call 822-6067.

Tuesday, Oct. 15

Cecil & Ida Green Visiting Professor Seminar
Lanzmann's Shoah: Here There Is No Why. Dominick LaCapra, Cornell U. Green College coach house, 4:30pm. Call 822-5675.

Statistics Seminar
Quantifying Differences Between Individuals When Data Are Curves. Birgitte B. Ronn, Royal Veterinary & Agricultural U, Denmark. CSCI 301, 4-5:30pm. Refreshments. Call 822-0570.

Centre for Applied Ethics Colloquium
Moral Status Of Embryos. Walter Glannon. Angus 413, 4-6pm. Call 822-5139.

Favourite Professors Speakers Series
Sleep Deprivation. Stanley Coren. Robson Square Conference Centre, 12-1pm. $10, includes brown-bag lunch. To register call 822-3313.

UBC REPORTS

CALENDAR POLICY AND DEADLINES

The *UBC Reports* Calendar lists university-related or university-sponsored events on campus and off campus within the Lower Mainland.

Calendar items must be submitted on forms available from the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1. Phone: 822-3131. Fax: 822-2684. Please limit to 35 words. Submissions for the Calendar's Notices section may be limited due to space.

Deadline for the October 17 issue of UBC Reports — which covers the period October 20 to November 2 — is noon, October 7.

Calendar

October 6 through October 19

The John F. McCreary Lecture
Multidisciplinary Perspectives On Physician Assisted Suicide. Prof. Virginia Tilden, Oregon Health Sciences U. IRC#4, 12:30-1:30pm. Call 822-1710/822-3737.

Lectures in Modern Chemistry
Theoretical Chemistry At NASA Ames Research Center. Dr. Steve Langhoff, NASA Ames Research Center. Chemistry 250, south wing, 1pm. Refreshments from 12:40pm. Call 822-3266.

Wednesday, Oct. 16

Cecil & Ida Green Visiting Professor Seminar
Can Camus/Clamence Plead De Man's Case? Rereading The Fall. Dominick LaCapra, Cornell U. Green College coach house, 12:30-2:30pm. Call 822-5675.

Ecology & Biodiversity Research Seminar
The Ecological Basis Of Avian Sensitivity To Habitat Fragmentation. Jeff Walters, Virginia Tech U. Family/Nutritional Sciences 60, 4:30pm. Refreshments in Hut B-8, 4:10pm. Call 822-3957.

Respiratory Research Seminar Series
Genetic Risk Factors For COPD. Dr. Peter Pare, Medicine. St. Paul's Hospital, Gourlay conference room, 5-6pm. Call 875-5653.

Microbiology & Immunology Seminar Series
Molecular And Functional Analysis Of Gliding Motility In Myxococcus Xanthus. Alfred Spormann, Stanford U. Wesbrook 201, 12-1pm. Call 822-3308.

Continuing Studies Seminar Series
Writing Mystery Fiction. L.R. Wright, novelist. Carr Hall 114, 7:30-9:30pm. Continues to Nov. 27. $170. Call 822-1450.

Cecil & Ida Green Visiting Professors Lecture
Memory, Law And Literature: The Trials Of Flaubert And Baudelaire. Dominick LaCapra, Cornell U. Green College coach house, 8pm. Call 822-5675.

Health Sciences Student Research Forum
Insulin And Hypertension: Is It Time To Restructure The Hypertension Paradigm? Subodh Verma, Pharmaceutical Sciences; Toward Investigating Cleft Palate: Signalling Mechanisms And Normal Palate Development. Dr. Alan Young, Dentistry. IRC#4, 5-8:30pm. Call 875-2430/822-3737.

Orthopedics Grand Rounds
Paediatric Orthopedics. Vancouver Hospital/HSC, Eye Care Centre auditorium, 2550 Willow, 7am. Call 875-4646.

Senate
The Second Regular Meeting Of Senate, UBC's Academic Parliament. Curtis 102, 8pm. Call 822-2951.

Noon Hour Concert
The Cathedral Chamber Players. Martin Foster, violin, Susan Green, cello, Eugene Plawutsky, piano. Music recital hall, 12:30pm. $3 at the door. Call 822-5574.

Thursday, Oct. 17

Earth & Ocean Sciences Seminar
Mineral Physics Interpretations Of Mantle Seismic Tomography Michael Brown, U of Washington GeoSciences, 135, 12:30pm. Call 822-2267/822-3466.

Genetics Graduate Program Seminar
Machinery For Processing And Folding Ribosomal RNA: Who Carries The Baggage? Patrick Dennis, Biochemistry & Molecular Biology. Wesbrook 201, 4pm. Refreshments. Call 822-8764.

Environmental Engineering Seminar
Lisa Walls, Environment Canada. CEME 1215, 3:30-4:30pm. Refreshments. Call 822-2637.

Continuing Studies Seminar Series
Visions Of Human Possibility, exploring for identity and self-realization. Leonard George, psychologist, writer and lecturer. Carr Hall conference room, 7:30-9:30pm. $135; seniors $115. Call 822-1450.

Biostatistics Seminar
Statistical Process Control Of The Conception Rate Of An Invitro-Fertilisation (IVF) Programme. Philip I. McCloud, Monash U. CSCI 301, 4-5:30pm. Call 822-0570.

MacMillan Lecture Series
The Biology And Conservation Of Red-Cockaded Woodpeckers. Jeff Walters, Virginia Tech U. MacMillan 166, 2:30-3:30pm. Call 822-0502.

Medieval And Renaissance Studies
Medieval Mothers: Female Forebears And Founding Fictions. Don Maddox, U of Massachusetts. Green College, 4:30pm. Call 822-6067.

Critical Issues in Global Development
Blood Thicker Than Water: A Cultural Analysis Of Chinese Capitalist Development. You-tien Hsing, Community and Regional Planning. Green College, 8pm. Call 822-6067.

Physics and Astronomy Colloquium
Fuel Cell Technology At Ballard - Past, Present And Future. Kevin Colbow, Ballard Power Systems. Hebb, 4pm. Refreshments, 3:45pm. Call 822-3853.

Philosophy Colloquium
What Davidson Said To The Skeptic. Bjørn Ramberg, SFU. Buchanan D-202, 1-2:30pm. Call 822-3292.

Cecil & Ida Green Visiting Professors Fireside Chat
Revisiting The Historians' Debate. Dominick LaCapra, Cornell U. Graham House, Green College, 7:30pm. Call 822-5675.

Science First Lecture Series
Commercializing Scientific Innovation - A Dangerous But Exciting Endeavour. Lorne Whitehead. IRC#6, 1-2pm. Call 822-5552.

CICSR Distinguished Lecture Series
Chaos And Control. Liz Bradley, U of Colorado. CICSR 208, 4-5:30pm. Refreshments. Call 822-6894.

Competition
Health Care Team Clinical Competition. IRC#2, 12:30-2pm. Call 822-3413, 822-3737.

Distinguished Artists Concert
Steven Dann, viola; Eric Wilson, cello; Robert Silverman, piano. Music recital hall, 8pm. $19 adult, $10 student/senior. Call 822-5574.

Friday, Oct. 18

Pharmaceutical Sciences Seminar
Treating HIV Infection: Can We Deal With All These New Drugs? IRC#3, 12:30-1:30pm. Call 822-4645.

Theoretical Chemistry Seminar
On The Vlasov-Manev Equations. R. Illner, U. Victoria. Chemistry D-402, centre block, 4pm. Call 822-3266.

Occupational Hygiene Program Seminar Series
Green Buildings, Productivity, And Well-Being. Judith Heerwagen, Batelle Seattle Research Centre. Vancouver Hospital/HSC, UBC Site, Koerner Pavilion G-279, 12:30-1:30pm. Call 822-9595.

Chemical Engineering Weekly Seminar
Treatment Of A Pulp Mill Condensate Stream In A Feedback-Controlled Fixed-Film Bioreactor. Gonzalo Milet, grad student. CEME 206, 3:30pm. Call 822-3238.

Geography Colloquium Series
Biogeography And Colonialism In New Zealand. John Stenhouse, U of Otago. Geography 239, 3:30pm. Call 822-2985.

Fisheries Research Seminar Series
Are Coral Reef Fishes Different From Other Fishes? Rainer Froese, ICLARM, Philippines. Fisheries Centre, Ralf Yorque room, 11:30am-12:30pm. Refreshments. Call 822-5674.

Continuing Studies Keynote Address
The State Of The World's Children. Stephen Lewis, UNICEF. Curtis 101, 7:30-9pm. Call 822-9171.

Linguistics Colloquium
Who Put The 'P' In Chomsky? Three Models Of Spatiotemporal Diversity In Language. William Turkel. Buchanan penthouse, 3:30pm. Refreshments. Call 822-5594.

Mathematics Colloquium
Primal Versus Dual Viewpoints In Nonsmooth Optimization. Philip D. Loewen. Mathematics 104, 3:40pm. Refreshments, Math Annex 1115, 3:15pm in . Call 822-2666.

Pediatrics Grand Rounds
Alchemy And Poison Pills: Chelating Children For "Heavy Metal Poisoning." Dr. G. Lockitch, Pathology. GF Strong auditorium, 9am. Call 875-2307.

Murder Mystery Dessert Buffet
Murder On The High Seas. Cecil Green Park House, 7:30pm. $20 per person. Call 822-8923.

Next calendar deadline:
Monday, Oct. 7, noon

Saturday, Oct. 19

A Literary Event
Four Authors: Murray Logan, Zsuzsi Gartner, Genni Gunn and Tim Ward. Cecil Green Park, 1-3pm. Refreshments. Voluntary ticket proceeds dedicated to the memory of Rosalind MacPhee. Call 822-3313.

The Vancouver Institute
History And Memory: In The Shadow Of The Holocaust. Dominick LaCapra, Professor of Intellectual History, Cornell U. IRC#2, 8:15pm. Call 822-3131.

Apple Festival
6th Annual Apple Festival. Botanical Garden, 6804 S.W. Marine Drive, 11am-4pm. Call 822-9666.

Notices

Volleyball
Faculty, Staff and Grad Student Volleyball Group. Every Monday and Wednesday, Osborne Centre, Gym A, 12:30-1:30pm. No fees. Drop-ins and regular attendees welcome for friendly competitive games. Call 822-4479 or e-mail: kdcs@unixg.ubc.ca.

Morris and Helen Belkin Art Gallery Exhibition
Tuesday - Friday; 10am-5pm; Saturday, 12-5pm. 1825 Main Mall. Call 822-2759.

Surplus Equipment Recycling Facility
Weekly sales of furniture, computers, scientific etc. held every Wednesday, noon-5pm. SERF, 2352 Health Sciences Mall. Call 822-2582 for information.

Faculty Development
Would you like to talk with an experienced faculty member, one on one, about your teaching concerns? Call the Centre for Faculty Development and Instructional Services at 822-0828 and ask for the Teaching Support Group.

Studies in Hearing and Communication
Senior (65 years or older) and Junior (20-30 years) volunteers needed. Participants will attend up to three one-hour appointments at UBC. Experiments will examine different aspects of hearing and communication abilities. Honorarium for some studies. Call The Hearing Lab, 822-9474.

Clinical Research Support Group
The Clinical Research Support Group which operates under the auspices of the Dept. of Health Care and Epidemiology provides methodological, biostatistical, computational and analytical support for health researchers. For an appointment please call Laurel Slaney at 822-4530.

Garden Hours
Nitobe Memorial Garden, Botanical Garden and the Shop-in-the-Garden are open 10am-6pm daily (including weekends) until Oct. 13. Call 822-9666 (gardens), 822-4529 (shop).

Guided Tours of Botanical Garden
By Friends of the Garden. Every Wednesday and Saturday, 1pm, until Oct. 13. Free with admission. Call 822-9666.

Parents with Babies
Have you ever wondered how babies learn to talk? Help us find out! We are looking for parents with babies between one and 14 months of age to participate in language development studies. If you are interested in bringing your baby for a one-hour visit, please call Dr. Janet Werker's Infant Studies Centre, Dept. of Psychology, 822-6408 (ask for Nancy).

UBC Zen Society
Meditation sessions will be held each Monday (except holidays) during term, in the Tea Gallery of the Asian Centre from 1:30-2:20pm. All welcome. Please be punctual. Call 228-8955.

Herpes Zoster (Shingles) Study
Participants required to take part in clinical dermatology trial at Division of Dermatology, 855 West Tenth Avenue. Requirements, 50 years of age and older, within 72 hours of onset of first skin rash. Maximum 13 visits over 24-week period. Free medication and honorarium given. For further information call 875-5296.

Diabetes 1997 Conference
The Young Diabetic. Interprofessional Continuing Education Conference will take place Friday, April 4 and Saturday, April 5, 1997, in Vancouver, for all health professionals interested and involved in diabetic care. For further information call 822-2626.

Centering Pregnancy Drop-in
The Centering Pregnancy Drop-in, run by UBC Nursing Faculty and students in collaboration with West-Main Health Unit, offers support and information about pregnancy and birth to women who are pregnant or contemplating pregnancy. Wednesdays, 10-11:30am, Acadia Fairview Commons Block. For information call 822-7470.

Boomerang Family Research
The Counselling Psychology Dept. is looking for adults who have returned home to live. They and their parents are invited to participate in a study focusing on the experience, inter-personal relations and responses to this change in the family. Involves confidential interviews. Please call 432-1915 for more information.

Science First Seminar Series
This is for you! A new seminar series focusing on science in research, in education, and in our daily lives. Plan to join, bring your lunch, your curiosity and your open mind. Ask questions and talk to the scientists in person after the seminars. Watch the UBC Calendar and fliers for announcements.

Parent Care Project
Daughters/daughters-in-law who are caring for a parent in a care facility are needed for a counselling psychology study on the challenges women face in parent care. Involves individual interviews/questionnaire. Call Allison at 822-9199.

United Way

get lost

walking through the forest after a spring rain

playing a round of golf on your local course

cantering along the trails on horseback

a game of racquetball or tennis on campus

picking blackberries for this evening's dessert

planting daffodils and crocus bulbs on your patio

upping your pulse rate on a mountain bike trail

on a sunday afternoon...

an afternoon matinee at the Varsity

meet friends at the beach for a sunset barbecue

lazy sunday shopping on 10th avenue

curl up on the couch with a good book

PEMBERLEY
at
HAMPTON PLACE

Coming very soon ~ a special

collection of charming flats and courtyard

townhomes bordering Pacific Spirit Park on the

UBC Endowment Lands.

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This is not an offering for sale.

THE UNIVERSITY OF BRITISH COLUMBIA

REPORT OF THE VICE-PRESIDENT ADMINISTRATION AND FINANCE 1995-96

General Operations

The University ended the year with a net change in operating surplus of $529,000. This reduces our accumulated operating deficit to $122,000. Revenues increased by 2.9% to $784.1 million (see table 1). Revenue to the University is derived from five sources: government grants and contracts; tuition and related fees; other grants, contracts and donations; investment income; and sales and services.

The provincial government grant was increased by $1.7 million in fiscal 1995/96. In addition to the base grant the University received the following:

- The third of three equal installments totaling $1 million to restore funds removed by the province when responsibility for maintenance of space in the teaching hospitals was transferred from the University to the Ministry of Health. This year's payment of $333,000 was awarded on a one-time basis and is not yet added to our base operating grant.
- $.9 million to fund the costs of pay equity obligations to support staff;
- $1.6 million for enrollment growth; and
- $1.6 million for graduate student support.;

Total provincial operating support in 1995/96 was $273.1 million.

In addition to the operating funding above, we also received $1.8 million from the provincial government to fund the costs of the BR Centre Ltd, a company incorporated under the laws of British Columbia for the purpose of utilization of biology for the discovery or development of potential medicinal agents.

Salaries and benefits of $323.0 million for operating purposes represents 77% of total operating expenses.

Total spending for scholarships increased by $3.2 million to $18.9 million, a 21% increase over last year, of which $3.0 million came from operating funds.

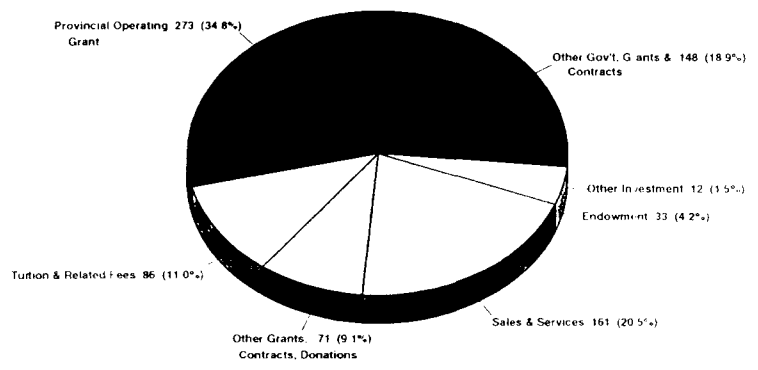
The University benefited from the strong investment markets of the past year. The endowment earned $33.5 million, a rate of return equal to 16.0% for the fiscal year. The University's endowment continued to grow both through donations and through our policy of protecting the endowment from inflation through the reinvestment of $11.1 million of investment income. The book value of our endowment grew by over 13% last year. The market value of all endowments held specifically for the benefit of the university was $388.6 million at March 31, 1996.

TABLE 1

Total Revenue by Source

for the year ended March 31, 1996

(millions of dollars)

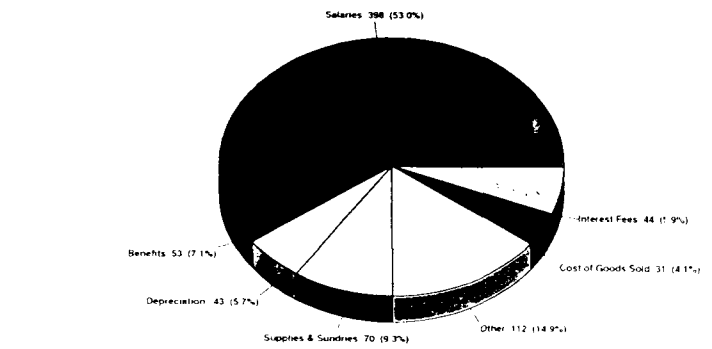


Total Revenue $784

TABLE 2

Total Expenses by Category

for the year ended March 31, 1996



Other includes:	
Renovations & Alterations	24
Travel & Field Trips	21
Scholarships, Fellowships, Bursaries	19
Grants to Other Agencies	18
Utilities	18
Professional Fees	12
Total	112

Total Expenses $749

New Financial Statement Presentation

This year we have adopted a number of changes related to not-for-profit entities that are recommended by the Canadian Institute of Chartered Accountants. The changes are outlined in the notes to the financial statements and primarily affect the way the university treats capital assets, recognition of deferred revenues and how we report related entities.

Capital assets are now reflected on our books at original acquisition cost less accumulated depreciation. Funding received for specific purposes is now only recognized as revenue during the period when it is expensed. We are now consolidating the UBC Real Estate Company into our financial statements.

Last year's financial statements have been restated to make them consistent with the new presentation. Included with the schedules, which are not audited, is Schedule 1 which reflects our analysis of the year's operations on a fund accounting basis.

Core Operations

The General Purpose Operating (GPO) fund has been restructured and divided into three sets of accounts that represent core, non-core and continuing studies functions, in order to isolate revenue and expenditures associated with each function.

Core activities include both academic and administrative functions and is most easily defined as those tasks funded from core revenues of which provincial government grants and tuition fees represent over 97%.

Non-core activities are those that are supported on a fee for service basis or by grants that are received for designated purposes.

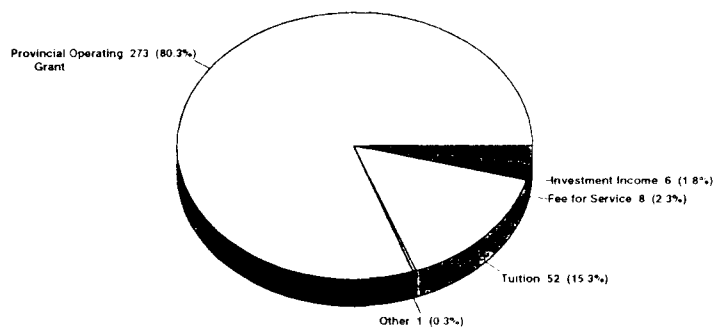
The Continuing Studies set of accounts includes both credit and non-credit activity.

TABLE 3

Total Revenue, Core Operations

for the year ended March 31, 1996

(millions of dollars)



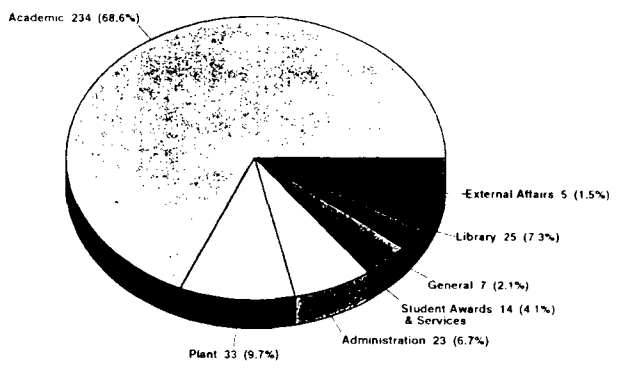
Total Revenue, Core Operations $340

TABLE 4

Total Expenses, Core Operations

for the year ended March 31, 1996

(millions of dollars)



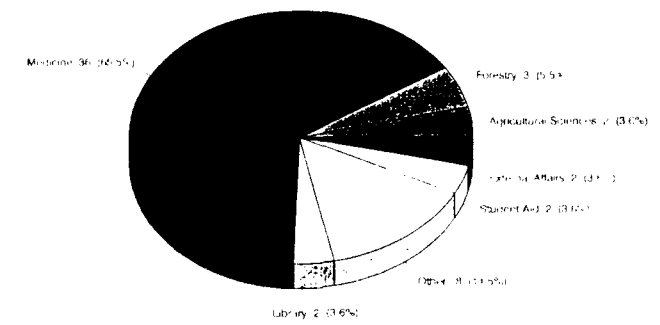
Total Expenses, Core Operations $341

TABLE 5

Total Revenue, Non-Core Operations

for the year ended March 31, 1996

(millions of dollars)



Total Revenue, Non-Core Operations $55

THE UNIVERSITY OF BRITISH COLUMBIA

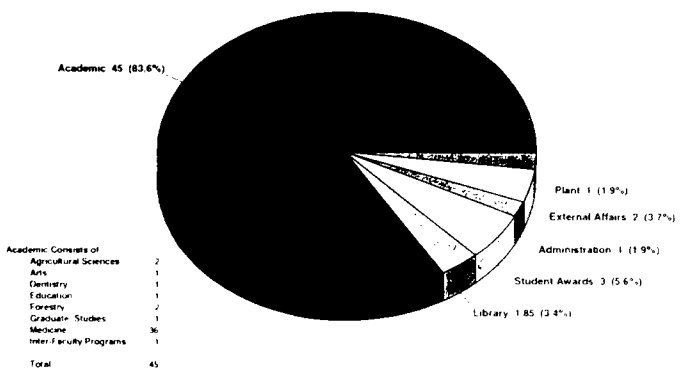
REPORT OF THE VICE-PRESIDENT ADMINISTRATION AND FINANCE 1995-96

TABLE 6

Total Expenses, Non-Core Operations

for the year ended March 31, 1996

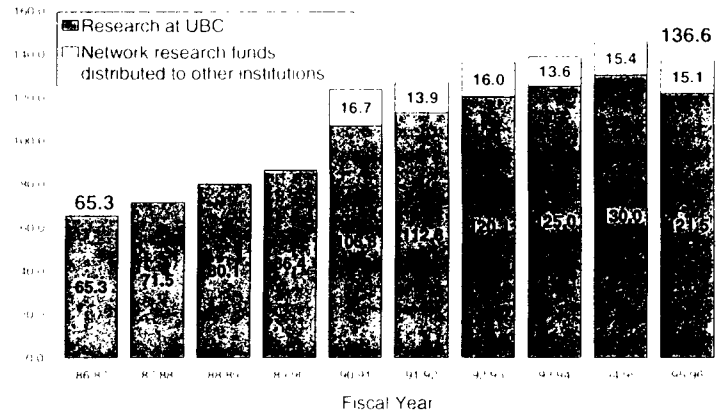
(millions of dollars)



Total Expenses, Non-Core Operations $54

TABLE 8

Schedule of Total Sponsored Research Revenue



Continuing Studies

Non credit courses, as well as some credit courses, are offered through UBC Continuing Studies which is comprised of the departments of the Centre for Continuing Education (CCE), UBC Access and the Office of Extra Sessional Studies (OESS).

CCE offers non credit courses in such diverse subjects as computer information technology, environmental studies, and English and foreign language skills. Also, educational travel is available through field studies and international travel to students interested in widening their knowledge in a practical way.

Distance education credit courses are offered through UBC Access which designs, produces and delivers programs throughout the province. The UBC Access office works with faculties to provide credit courses. As part of B.C.'s Open University, UBC Access courses are applicable towards an Open University degree, thus providing more flexible study options for students.

Revenues from continuing studies activities in 1995/96 were $24.8 million.

The University's Endowment

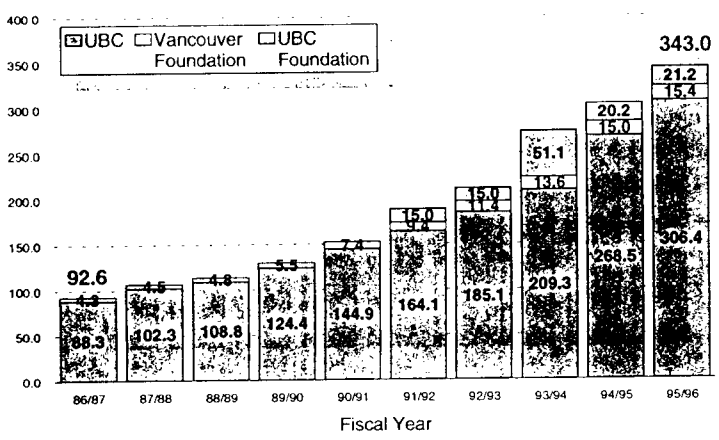
The endowment funds have grown significantly over the last 10 years from a book value of $92.6 million to $343.0 million, a 270% increase (see graph below), $80.5 million is designated for scholarships and bursaries. This increase is attributable primarily to the University's major fund raising campaign and the leasing of university property for the construction of market housing. Six percent of the market value of the endowment is available for annual spending. The remainder of income is capitalized to protect the capital base from being eroded by inflation. Endowment funds include those at UBC ($306.4), and endowments held, for the benefit of UBC, at the UBC Foundation ($21.2 million) and at the Vancouver Foundation ($15.4 million).

TABLE 7

Schedule of Endowment Funds

for the year ended March 31, 1996

(millions of dollars)



Research

Research revenue at UBC in 1995/96 was $136.6 million, (1994/95, $145.4 million). New research awarded to UBC during the year was $139 million, (1994/95, $130.0 million), a 5.3% increase from last year. Funding from the provincial government has been declining, in particular from the B.C. Health Research Foundation and the Science Council of B.C. Funding from federal granting agencies has remained level for the past three years, while funding from industry continues to climb. In 1995/96 UBC received $32.5 million in research awards from industry. Table 8, Schedule of Total Sponsored Research Revenue shows the increase in Research Revenue over the last 10 years from $65.3 million to $136.6 million, a 109% increase.

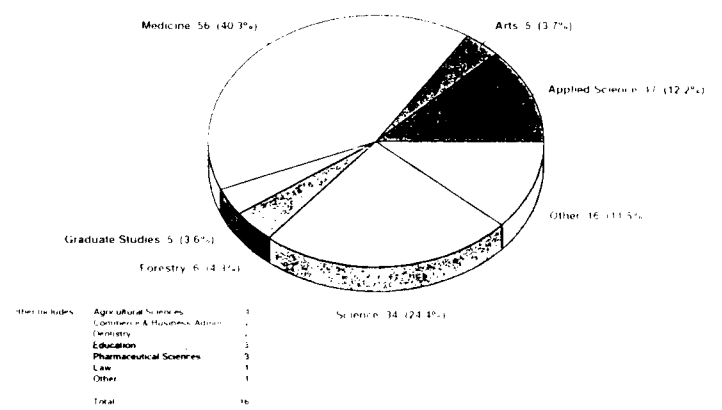
Table 9, Research Awards by Faculty shows the distribution of research funding awarded across the faculties. The Faculty of Medicine's total includes almost $6 million that is administered by affiliated teaching hospitals.

Multi year awards are recorded in the financial statements in the year they are expended not the year awarded; this accounts for the differences between the two tables.

TABLE 9

Research Awards by Faculties

for the year ended March 31, 1996



Total Research Awards by Faculty $139

Ancillary Enterprises

Ancillary Enterprises provide goods and services to the University community and are expected to operate on a break even basis. They include; Bookstore, Food Group, Housing and Conferences, Parking Services, Athletics and Sport Services, UBC Press, Media Services, University Computing Services & Telecommunications, Applied Research Evaluation Services and this year the housing and residence component of Green College became an ancillary.

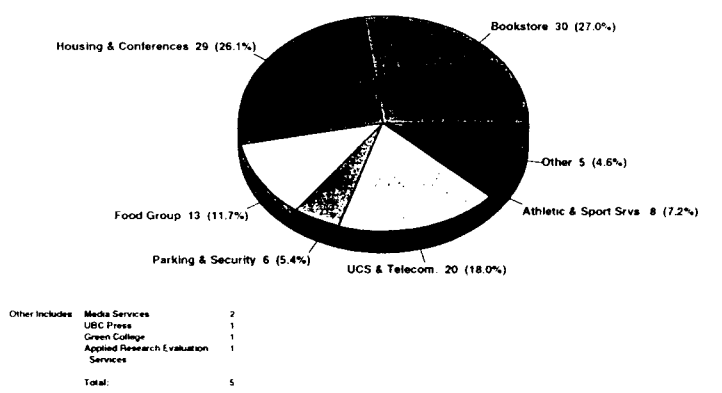
Total revenue for all of the ancillaries increased to $110.5 million from last year's total of $98.6 million. Table 10, Total Revenue of Ancillary Operations demonstrates the relative size of each operation based on annual revenue.

TABLE 10

Total Revenue, Ancillary Operations

for the year ended March 31, 1996

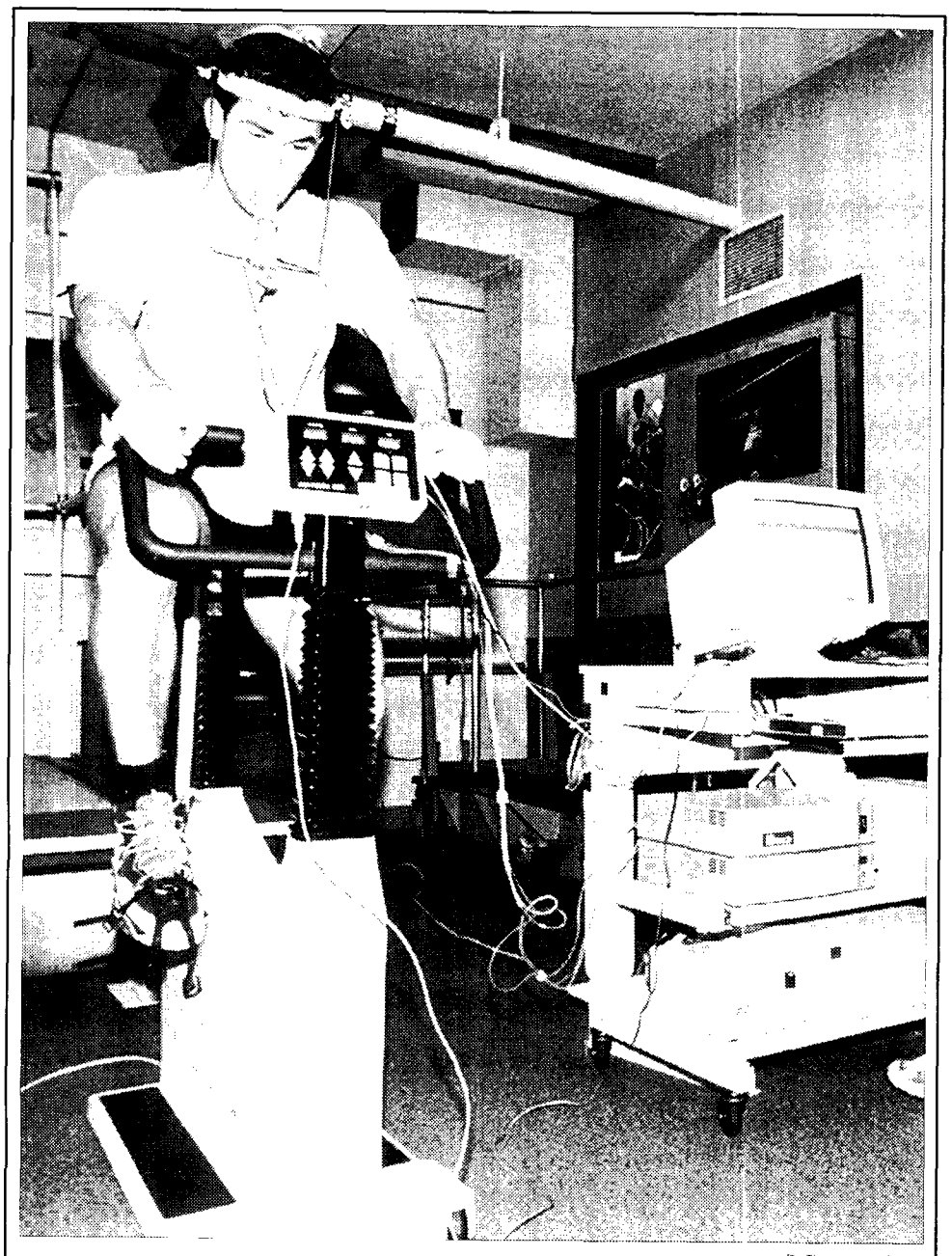
(millions of dollars)



Total Revenue, Ancillary Operations $111

Capital Fund

Capital projects are funded by the provincial government, donations and Ancillary Enterprises. At this time the University is in an active stage of construction. The following projects are now under construction or recently completed: the C.K. Choi Building for the Institute of Asian Research ($6.3 million), the Scarfe Building renovation/expansion-Phase II ($7.4 million), the W.C. Koerner Library ($26.9 million), the Chan Centre for the Performing Arts ($29.8 million) and Forest Sciences ($47.5 million).



D Thomson photo

Captain Canuck

Trevor Linden is one of the Vancouver Canucks who visits the Buchanan Exercise Laboratory each year during training camp for an evaluation of his fitness levels. Linden pedals a stationary bike while connected to the state-of-the-art V-MAX metabolic measurement unit, which measures the efficiency of heart and lungs and the body's ability to deliver oxygen to its muscles. Edward Rhodes, an assistant professor in the School of Human Kinetics, oversees the lab. Members of the Grizzlies basketball team will also be tested on the equipment, but most of the year the lab is used for faculty and graduate student research into areas such as bio-energetics, blood flow and fitness levels among elderly women.

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Doctor-assisted suicide McCreary lecture topic

by Gavin Wilson

Staff writer

An ethics professor from the first U.S. state to legalize physician-assisted suicide will deliver the John F. McCreary Lecture during this year's Health Sciences Week, Oct. 13-19.

Virginia Tilden is a nursing professor and associate director of the Center for Ethics in Health Care at Oregon Health Sciences University. She and her colleagues have been at the centre of an intense debate since Oregon approved the controversial measure two years ago.

Although its implementation has been blocked by legal challenges, physician-assisted suicide remains a divisive issue among health care professionals, Tilden said. The disciplines of medicine, pharmacy, nursing and social work each has a unique perspective on the issue, she added.

Tilden will discuss these differences when she delivers the McCreary lecture Tuesday, Oct. 15, at 12:30 p.m. in IRC#4.

Other Health Sciences Week activities include the Health Sciences Student Research Forum, an interdisciplinary event that features more than 100 oral and poster presentations on Wednesday, Oct. 16.

The forum begins at 5 p.m. with two graduate students delivering the keynote address. Subodh Verma, of the Faculty of Pharmaceutical Sciences, will discuss insulin and hypertension, while Alan Young, Faculty of Dentistry, will relate new developments in cleft palate research.

Another highlight of the week is the Health Care Team Clinical Competition, held Thursday, Oct. 17, from 12:30 to 2 p.m. in IRC#2.

In front of a live audience, three interdisciplinary teams of health sciences students will demonstrate their skills in assessing and managing a mock medical case.

As well, the annual McCreary Prize for Interprofessional Teamwork in the Health Professions will be awarded for the best example of a B.C. health care initiative that demonstrates innovative co-operation between three or more health care disciplines. This year's winner is the Brain Injury Community Education Program at the B.C. Rehabilitation Foundation.

Call Maureen Dunn at 822-3737 for more information.

Splane to address changes in international nursing

Internationally recognized health educator Verna Huffman Splane will speak on changes in international nursing, the political, economic and social developments affecting the field, as well as opportunities for Canadian nurses in international nursing, at the School of Nursing's annual Marion Woodward Lecture Oct. 24.

Splane

Splane, who was recently appointed to the Order of Canada and received an honorary degree from UBC last May, was president of the International Council of Nurses (ICN) from 1973-1981. During this period she was involved in mobilizing the nursing profession to support major changes in the role of nurses in the global health field through collaborative planning with national nursing organizations and the international community.

As a nurse educator she has lectured at universities across Canada while serving as a faculty member with UBC's School of Nursing (1975-1984). Since 1985 she has acted as a nursing consultant on health and social policy. In partnership with her husband, Richard Splane, she played a key role in a 50-country study of the role of the senior nursing position in national ministries of health. The study and the book outlining their findings generated international interest.

The lecture, which takes place at 8 p.m. in IRC#6, is free of charge and open to the public.

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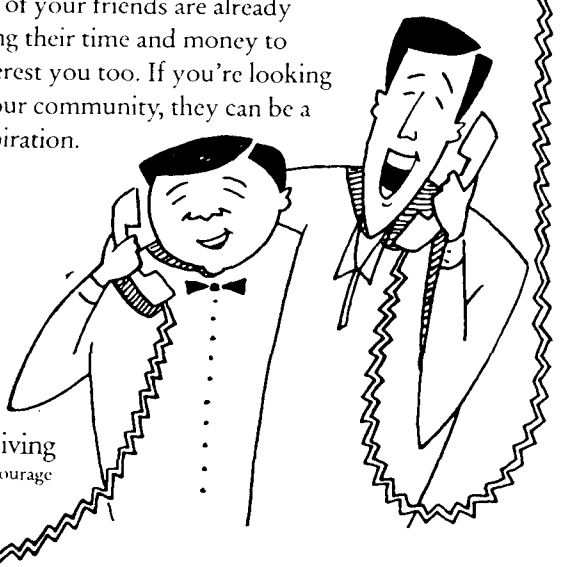

IMAGINE
A New Spirit of Giving
A national program to encourage giving and volunteering.

News Digest

UBC's total enrolment for the 1996/97 academic year increased by more than 1,000 students over the previous academic year.

An enrolment summary released last month by the Registrar's Office reports 31,812 students enrolled in UBC this year, compared to 30,695 a year earlier.

The number of graduate students registering dropped by 144 to 6,106, while undergraduates rose by 1,354 to 22,332. The number of international students decreased by two to 2,204.

• • • • •

Five outstanding performances are scheduled for this year's Distinguished Artists series sponsored by UBC's School of Music.

The season begins Oct. 17 with a performance by guest artist Steven Dann who has been described as "the Pavarotti of the viola." Dann will be joined by UBC School of Music faculty, cellist Eric Wilson and pianist Robert Silverman. The program will include works by Schumann, Clarke, Britten and Brahms.

The music of Mozart, Butilleux, Hetu, Copland and Borne will be featured by guest flutist Timothy Hutchins and pianist Janet Creaser Hutchins on Nov. 21.

The series continues on Jan. 23, 1997, with a recital by violinist Andrew Dawes and pianist Rena Sharon, faculty members at the School of Music, performing works by Stravinsky, Franck, Adaskin and Kreisler.

Canadian pianist Anton Kuerti performs on Feb. 6. Kuerti will precede his concert with master classes, which are open to the public, on Feb. 4 and 5.

These concerts and the two master classes take place in the UBC Recital Hall.

Lauded by jazz legends Louis Armstrong, Miles Davis and Charlie Barnet, trumpeter Clark Terry appears at the new Chan Centre for the Performing Arts on Mar. 22, with bassist Marcus McLaurine, Dave Glasser, alto sax, Sylvia Cuenca on drums and Don Friedman, piano.

Concerts begin at 8 p.m.; master classes start at 7 p.m. For tickets or more information, please call 822-5574.

• • • • •

Following up on its 50th anniversary celebrations this summer, the Faculty of Pharmaceutical Sciences will confer 30 honorary degrees and 80 Dean's Certificates of Merit at a special Congregation ceremony Oct. 15.

Held in the Great Hall of the First Nations Longhouse, the occasion will be presided over by incoming Chancellor Bill Sauder. Sauder will be installed as UBC's 15th chancellor on Nov. 28 during the Fall Congregation ceremony.

Former deans Bernard Riedel and John McNeill will join current Dean Frank Abbott in presenting the certificates of merit. The certificates honour members of the community who have contributed to the faculty since its founding.

Honorary degrees will be conferred by Chancellor Sauder to members of the pharmacy profession who qualified to practise in B.C. prior to the faculty's establishment.

• • • • •

Prömise in the Land: Sustaining Our Agriculture, a video produced by the Faculty of Agricultural Sciences and UBC Access Guided Independent Study, has garnered two national awards for its excellence in raising awareness and understanding about issues concerning sustainable agriculture.

The project received two Program of Excellence Awards, one each from The Canadian Association of University Continuing Education and the Association for Media and Technology in Canada.

Themes explored in the one-hour video include urban pressures, free trade, wildlife conflicts, competition for scarce natural resources and ecologically sound practices.

More than 750 copies of the video, adapted into three, 20-minute segments, and supporting materials, including a teacher handbook, have been distributed to learning resource centres and teachers throughout the province to be used as a module for integration in Grade 11 social studies and Grade 12 geography curricula.

Additional funding for the project was provided by the Canada-British Columbia Green Plan for Agriculture, VanCity Savings Credit Union and UBC Telecentre.

Repeat broadcasts of the one-hour tape are scheduled to appear on the Knowledge Network over the next two years, with an estimated audience of 100,000 British Columbians.

• • • • •

A total of 817 calls were handled by the British Columbia Seniors Medication Information Line (BC SMILE) in its first year of operation.

Elaine Kam, SMILE coordinator, said pharmacists monitoring the line dealt with roughly 1,400 enquiries relating to prescription drugs, adverse drug reactions and various drug interactions.

Housed in UBC's Faculty of Pharmaceutical Sciences, the free telephone hotline was established in April 1995 to assist seniors, their families and care-givers with information about medication.

The initiative is a joint effort of the university, Ministry of Health, the B.C. Drug and Poison Information Centre, the pharmaceutical industry and the Science Council of B.C.

Kam said over the next year SMILE pharmacists will start providing medication-related workshops to seniors' groups. Plans are also underway to have drug information incorporated into the curriculum of health care disciplines such as medicine, nursing and rehabilitation sciences.

SMILE operates weekdays from 10 a.m.-4 p.m. In Greater Vancouver the number to call is 822-1330. The provincial toll-free number is 1-800-668-6233.

Classified

The classified advertising rate is $15.75 for 35 words or less. Each additional word is 50 cents. Rate includes GST. Ads must be submitted in writing 10 days before publication date to the UBC Public Affairs Office, 310 – 6251 Cecil Green Park Road, Vancouver B.C., V6T 1Z1, accompanied by payment in cash, cheque (made out to UBC Reports) or internal requisition. Advertising enquiries: 822-3131.

The deadline for the October 17, 1996 issue of UBC Reports is noon, October 7.

Accommodation

POINT GREY GUEST HOUSE A perfect spot to reserve accommodation for guest lecturers or other university members who visit throughout the year. Close to UBC and other Vancouver attractions, a tasteful representation of our city and of UBC. 4103 W. 10th Ave., Vancouver. BC. V6R 2H2. Phone or fax (604)222-4104.

TINA'S GUEST HOUSE Elegant accommodation in Pt. Grey area. Minutes to UBC. On main bus routes. Close to shops and restaurants. Inc. TV, tea and coffee making, private phone/fridge. Weekly rates avail. Tel: 222-3461. Fax:222-9279.

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GREEN COLLEGE GUEST HOUSE. Five suites available for academic visitors to UBC only. Guests dine with residents and enjoy college life. Daily rate $50, plus $13/day for meals Sun.-Thurs. Call 822-8660 for more information and availability.

FULLY FURNISHED 2-3 bedroom house in Kerrisdale to sublet November 1 until March 31 (dates flexible). Gas fireplace, very cosy and comfortable, lots of storage. Ideal for visiting professor. $1500/month. 261-3649.

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SHARED ACCOMMODATION IN KITS with male staff member. Very comfortable, quiet, spacious, furnished 2 BR apartment in ideal location one block from Kits pool. N/S, no pets. $545/month incl. utilities/parking. Available immediately. Tel. 737-8094.

Housing Wanted

HOUSE OR APARTMENT (furnished preferred). Jan. and Feb. maybe March. Point Grey, Kitsilano preferred. Mature professional N/S couple, N/P, no children. Refs. (613) 232-7632.

Services

UBC FACULTY MEMBERS who need independent assistance in selecting the most appropriate UBC Faculty pension or retirement options call Don Proteau, RFP or Doug Hodgins, RFP at 687-7526 for more information. Independent financial advice for faculty members since 1982.

TRAVEL - TEACH ENGLISH! CGTTI offers in Vancouver a 1 wk (Nov. 13-17) eve/wkend intensive course to certify you as a Teacher of English (TESOL). 1000's of overseas jobs avail. NOW! Free info pac. (403) 438-5704.

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DAYCARE OPENING Full-time. Ages: 2.5 to 5 yrs. University Kindercare Daycare. Pleasant, spacious surroundings, small group. Snacks and tender loving care provided by ECE-qualified staff. 1 blk. from UBC gates. 4595 West 8th Ave. Call 228-5885.

Events

SINGLES IN SCIENCE. Single people interested in science or nature are meeting through a nationwide network. Contact us for info: Science Connection, P.O. Box 389, Port Dover, ON N0A 1N0; e-mail 71554.2160@compuserve.com; 1-800-667-5179.

Next ad deadline:
Monday, Oct. 7, noon

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UBC Archives photo

Homecoming Happening

To publicize Homecoming in 1956, *The Ubyssey* and the UBC Pep Club sponsored a mock channel swim by 'Canada's Honey-bun,' 14-year-old marathon swimmer Carol Gregory. The swim, which took place in the lily pond in front of Main Library, attracted some 1500 students. A rowboat paced the swimmer for her three minute, 37 seconds swim. This year's Homecoming offers no swim but apples, mystery and sleep deprivation, among other attractions. See story page 1.

Study to compare treatments for obsessions, compulsions

by Gavin Wilson

Staff writer

People with obsessive-compulsive disorder sometimes wash their hands until their skin is raw and bleeding, re-do the same load of laundry 10 times in a day, or spend three hours leaving the house because of the overpowering need to check and re-check whether the door is locked.

The Anxiety Disorders Unit — affiliated with UBC's Dept. of Psychiatry and based at Vancouver Hospital and Health Sciences Centre, UBC Pavilion —is seeking volunteers for a new study that will compare different treatment methods for this debilitating mental disorder.

Obsessive-compulsive disorder (OCD) is believed to affect about two per cent of the population, or about 36,000 people in the Lower Mainland, making it one of the most common mental disorders.

OCD is characterized by recurring, unwanted thoughts and impulses that cause suffering and much distress. This compels sufferers to perform ritualistic behaviours to reduce their anxiety.

"OCD is a chronic illness that may wax and wane with the amount of stress in a person's life, but seldom does it go away without treatment. In fact, the longer you go without treatment the harder it is to correct," said Dr. Ingrid Sochting, a post-doctoral fellow who is part of a clinical investigation team helping to conduct the study.

The major classes of OCD include: fear of contamination, resulting in compulsive washing and cleaning; excessive doubting, which leads to constant checking; the need for order, symmetry and exactness; and the need to hoard and collect.

Some also suffer from a subclass of OCD and have unwanted and intrusive thoughts that are violent, sexual or blasphemous, resulting in feelings of intense guilt.

One such patient successfully treated by Sochting was so distressed by his violent thoughts that he hid all his knives and scissors and bound his hands for fear of harming others, despite the fact he had never hurt anyone in his life.

Once suicidal and unable to work, the patient, a Lower Mainland man in his mid-30s, now holds a full-time job and is beginning to socialize in a normal fashion.

OCD strikes males and females in equal numbers, although it tends to begin earlier among boys, usually in the mid-teeens, as compared with ages 20 to 29 for women.

For several reasons, it takes sufferers an average of seven years before they seek treatment, added Dr. Kent Anderson, another post-doctoral fellow at the Anxiety Disorders Unit.

OCD strikes otherwise capable, bright people who feel intense shame about their obsessions and compulsions. They often become very secretive, making it difficult to detect their condition. As well, 10 per cent of all sufferers are pure obsessionals, who only have unwanted thoughts and may not exhibit much in the way of compulsive behaviours.

Family members, too, often get caught up in rituals because it is easier than trying to change the behaviours.

The study at the Anxiety Disorders Unit will compare the results of two of the most effective psychological treatments that are used as alternatives to medications, which have proven beneficial to only a minority of sufferers.

Researchers are looking for volunteers who suffer from OCD for the study. They will receive 12 group sessions with two therapists free of charge, as well as individual pre-treatment and follow-up assessment to track their progress over time.

During the treatments, patients receive a thorough understanding of what OCD is and how they came to suffer from it. Therapists will gradually expose patients to situations they fear and teach them ways of reducing both their obsessions and any ritualistic behaviours they may have.

The study begins immediately and will run for two years with funding from the B.C. Health Research Foundation.

If you are interested in participating in this study or wish further information call the Anxiety Disorders Unit at 822-7899.

Please Recycle

Giving is an Educated Choice

People

by staff writers

Mechanical Engineering Prof. **Clarence de Silva** has won the 1996 Meritorious Achievement Award presented by the Association of Professional Engineers and Geoscientists.

De Silva has held the Natural Sciences and Engineering Research Council - BC Packers Research Chair in Industrial Automation at UBC since 1988. His research activities are primarily in the areas of process automation, robotics, intelligent control and instrumentation. Prior to coming to UBC he taught at Carnegie Mellon University, where he was a founding member of the Robotics Institute, and was a Visiting Professor at Cambridge University as a Senior Fulbright Fellow. He is currently a Killam Faculty Research Fellow and a Fellow of the American Society of Mechanical Engineers.

de Silva

• • • • •

The B.C. Cancer Agency has appointed Dr. **Bill Nelems** as vice-president and executive director of the new Southern Interior Cancer Centre.

Nelems is a professor in the Dept. of Surgery and on staff at Vancouver Hospital and Health Sciences Centre.

Construction of the new centre, to be located in Kelowna, is underway and it is expected to open in 1998.

His responsibilities include the development of a co-ordinated and consistent cancer program between the cancer centre and the host institution, Kelowna General Hospital.

• • • • •

Shawn Chen, a student in his final year of the Master of Business Administration program at UBC, has received a $2,000 bursary in the Bank of Montreal's Brain Money Challenge.

Chen, who was a student intern in the Real Estate Dept. at the bank's B.C. division office in Vancouver, won the bursary for submitting a marketing program making use of the bank's automated banking machines. The competition required interns to submit a paper identifying a specific business opportunity the bank could undertake to enhance customer service.

Chen

Staff retirement incentive offered

by Stephen Forgacs

Staff writer

UBC full- and part-time monthly paid staff aged 50 or more may be eligible for a new Early Retirement Incentive Program announced recently by the Dept. of Human Resources.

Under the program, an eligible employee who is five or more years from retirement—excluding faculty members who have a separate program—could receive one month's salary for each year of continuous employment at UBC to a maximum of 12 months, paid as a salary continuance with full benefit coverage. The salary would be pro-rated for employees with less than 20 years service. Those 60 to 65 and less than five years from retirement may also be eligible and would receive a salary continuance based on a sliding scale dependent on time to retirement.

Marcelle Sprecher, director of Compensation in Human Resources, said 1,097 UBC employees are potentially eligible.

In 1993, 30 staff members from all employee groups took advantage of a similar program. The latest program has a greater eligibility range but still requires mutual consent from employees and their department heads.

The program was created in response to indications from both employees and department heads that there is sufficient interest and need to make it beneficial to both groups. The program can make it easier for departments to meet budget requirements, plan for future needs and restructure, Sprecher said.

"On the other hand, departments may not approve an application if it entails costs because they have to replace the individual at exactly the same salary," Sprecher said. "Or they may wish very much that an individual stay."

Employees who do qualify for the program may also be able to start receiving their pensions as early as age 55.

Although department managers or heads must receive requests in writing by no later than Dec. 31, 1996, the program start can be scheduled for any time between Oct. 1, 1996 and March 31, 1998.

For further information, please call Linda Gauthier at 822-8119, fax 822-9471 or e-mail linda.gauthier@ubc.ca.

Profile

Robo prof

Alan Mackworth builds machines that see, reason and act

Charles Ker photo

No ordinary toy store model now, the Porsche Alan Mackworth holds can reason and work with others of its kind to achieve a team goal. As director of the Laboratory for Computational Intelligence, Mackworth focuses on exploring answers to the question 'Can computers think?'

by Charles Ker

Staff writer

The Dynamites have finished their first two-on-two scrimmage and, like any conscientious soccer coach, Alan Mackworth is reviewing game tapes.

"They're trying to be reasonably intelligent, but for the most part they look a bit stupid right now," says Mackworth. "They keep getting in each other's way."

The team is gearing up for its inaugural tournament in Japan next summer. Mackworth's goal is to sharpen his players' perceptive powers, their ability to co-operate, reason and take advantage of opportunities; a tall order for humans, even more so for robots.

The Dynamites are remote-controlled toy cars—modified, six-inch racing Porsches to be exact. Their soccer pitch, resembling an enlarged pool table with raised edges, dominates one wing of UBC's Laboratory for Computational Intelligence (LCI). Above the pitch hangs a colour video camera hooked up to a modest-looking piece of computer hardware. This, however, is no video game.

Computers attached to the overhead camera analyse what's happening on the pitch 60 times a second and convey this visual information to separate off-board computers for each car. Players are continually assessing speed, direction, where they are in relation to partners, competitors, the ball and the goal. And then, of course, there's strategy.

"Can I get to the ball before the other guy? Should I back off and play more defensively? They're thinking all the time," says Mackworth.

As founding director of the LCI, Mackworth has watched it develop into what many consider to be one of the best laboratories for integrated intelligent systems anywhere. Under Mackworth's guidance, the lab has grown from a three-professor operation in 1981 focused on computational vision into a team of eight professors building hybrid systems in mobile robotics, telerobotics, remote sensing, object recognition, decision making and computer reasoning.

Mackworth became interested in artificial intelligence while at Harvard in the late 1960s. He was pursuing a master's degree in applied math with the intention of going into mathematical psychology. Then he came across a collection of papers called *Computers and Thought* which laid out some philosophical arguments about whether only humans can think. Mackworth saw the readings as a personal challenge to him to build a thinking computer.

Says Mackworth: "Some philosophical questions you can just argue forever and never get anywhere. But a question like 'Can computers think?' can be settled by building one. It was something I thought I could see in my lifetime and I wanted to contribute."

The professor built his first thinking machine for his PhD in Artificial Intelligence at the University of Sussex.

In the early 1970s, computers' sense of the outside world was limited to reading the pulses off a paper tape or punch card. By hooking a TV camera up to a computer, Mackworth wanted to know if a machine could perceive through sight. He was specifically interested in finding out what knowledge a computer needed about the world in order to differentiate between things in its view.

Mackworth based his thesis on the argument that people use generic stored knowledge to interpret images. Using this theory, he proceeded to develop basic algorithms—sequential sets of instructions that computers use to solve problems—which allowed his computer to identify blocks in a simple sketch drawing.

This initial exploration into the so-called "blocks world" of artificial intelligence became the basis for Mackworth's present-day research into computational constraint-based intelligence—the notion of using constraints as the basis for looking at the world, understanding pictures of it and arriving at solutions to problems along the way.

When Mackworth joined UBC's Dept. of Computer Science in 1974, one of his first projects was the development of a computer program which could label features on maps. By the early 1980s, the ability of remote sensing programs to read maps, identify clearcut areas and various stands of trees proved a godsend to photo-interpreters in the forest sector who were being bombarded with huge amounts of image data from satellites.

At the more local level, Mackworth points to the yearly campus nightmare of scheduling classes into rooms as a classic constraint-based problem which his algorithms have helped solve.

However, his true passion lies with developing dynamic, hybrid systems which combine elements of computer science and electrical and mechanical engineering.

In 1984, the Canadian Institute for Advanced Research (CIAR) chose artificial intelligence and robotics as the first area it would fund. Since then Mackworth has played a lead role in establishing both the CIAR's program in the field as well as the Institute for Robotics and Intelligent Systems (IRIS), a Network of Centres of Excellence program.

In the LCI, Mackworth co-ordinates a team of colleagues, staff and graduate students in an IRIS computational perception project called Dynamo, short for Dynamics and Mobile Robots. Joining the Dynamites in this initiative are: Spinoza, a robot with stereo vision which enables it to navigate unaided around objects and sense their distance; and the Platonic Beast, a robot which can move on different terrains without getting stuck.

But Mackworth says these gadgets are just platforms for testing constraint-based theories—theories which he believes hold the key to a safer future.

As microprocessors proliferate at a dizzying pace, he claims the controls under which many systems operate are becoming more ad hoc. He says his systems and those of his colleagues—coded to deal with specific constraints or problems—are the best way to ensure safety whether on an airport runway or in an elevator.

"An artifical intelligence program is a working theory, one that does something as opposed to just sitting there on a piece of paper," he says.

"The claim we make is that constraint-based systems give you powerful engineering tools for designing and building safe systems where you can guarantee their components because they are specifically built to engineering criteria."

The Dynamo collection also holds great practical promise.

Watching the Dynamites buzz around the pitch, Mackworth foresees a time when households will be cleaned by tiny robotic vacuum cleaners thinking and working together. Last summer, a Carnegie-Mellon University team successfully built a computerized car which drove itself across the country under its own vision—a feat that has direct links with UBC's Spinoza.

A billion dollars of research money is also being spent in California developing intelligent highways which feature platoons of computer-guided cars able to change lanes, exit and monitor erratic drivers nearby—all elements of the Dynamites' game plan.

As for the Japanese soccer tournament next year, Mackworth says the competition should be fast and furious, unlike the recent chess match pitting the computer Deep Blue against the Russian world champion.

Says Mackworth: "In casual chess you can take as long as you want to make the next move. In our game, if you think too long, you're going to lose."