

UBC REPORTS

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Fall Congregation 1996



Ross Weber photo

Director Bruce Sweeney reeled in the 1995 Best Canadian Feature Film Award at the Toronto International Film Festival for *Live Bait*. The story of a young man's awkward quest for a sentimental education is Sweeney's master's thesis.

Graduate hooked on reel life

by Connie Bagshaw

Staff writer

Bruce Sweeney likes mustard on meat sandwiches. So does Trevor, the overeducated, underemployed lead character in Sweeney's film, *Live Bait*. The similarities end there.

"I'm often asked if the film is autobiographical; it's not," is his unequivocal answer.

Unlike his main character (played by Tom Scholte) who doesn't quite know what he wants to do, Sweeney, who graduates on Nov. 28 with a Master of Fine Arts degree, has been focused on a film-making career since switching six years ago from art courses at SFU to film studies at UBC.

Written as his graduate thesis, *Live Bait* netted the Best Canadian Feature Film Award at last year's Toronto International Film Festival, where it competed against big budget features by veteran Canadian film-makers.

Since then, the black and white, 16-

millimetre film shot for \$85,000 has been screened at film festivals in The Netherlands, Australia, Washington State and New Mexico.

"It wasn't apparent to me during the making of the film that it was going to be a little gem," Sweeney recalls, "but I wouldn't feel any differently about the content of the movie if it wasn't a success. I accomplished the task at hand — to create a natural realism achieved by developing an okay look, not a great look."

A native of Sarnia, Ont. who has made B.C. his home for the past 12 years, Sweeney isn't tempted to pack up and head for the Hollywood hills where the prevailing blockbuster style of movie-making is not to his taste. He prefers to parlay his talents into more modest projects that allow him creative control.

Staying close to his roots is important to Sweeney who trumpets *Live Bait* as a Canadian film, exemplified mostly by Trevor's parents (Babz Chula and Kevin McNulty) whose marriage slowly unravels during the film.

"The marriage disintegrates quietly," Sweeney explains. "Quiet is the Canadian way."

Apart from having artistic control, Sweeney's desire to remain an independent film-maker stems from a need to create work for himself and to speak through film.

He credits his thesis supervisors John Wright, head of the Theatre, Film and Creative Writing Dept., and Film Prof. Ray Hall, for helping him find his own direction.

In addition to film-making, Sweeney doesn't discount a future career in teaching which he sees as another opportunity to reach young students with strong artistic beliefs and skills.

A teaching assistant for an undergraduate course in film history while earning his

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Author, biologist honoured

One of Canada's finest authors and a scientist who has expanded the search for microbial life on earth and beyond will receive honorary degrees from the university at Fall Congregation.

Carol Shields is the author of the Pulitzer Prize-winning novel *The Stone Diaries* and an accomplished writer of drama, poetry, short stories and journalism. Her other titles include *Swann*, *Happenstance* and *The Republic of Love*.

Among the awards she has received are the Canadian Book-sellers' Prize in 1994, the Manitoba Book of the Year Award and the Governor General's Award, both in 1993, and the Marian Engel Award in 1990.

Shields has been a writer in residence at the universities of Winnipeg and Ottawa and has lectured at UBC.

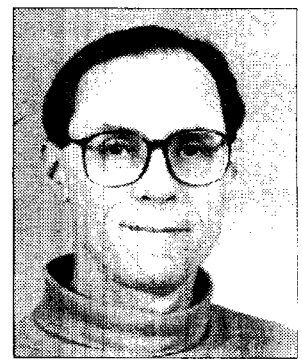
She is currently an associate professor at the University of Manitoba and was recently appointed chancellor of the University of Winnipeg.

Shields will address the Faculty Women's Club Nov. 29 at 1:00 p.m. in Cecil Green Park House.

Norman Pace, a biologist at the University of California, Berkeley, is a leader in the field of designing and conducting experiments to detect microbial life in



Shields



Pace

See **HONOUR** Page 2

Fighting school racism scholar's timely topic

Are teachers succeeding in the struggle against racial intolerance in Canadian classrooms?

"Racism is not always visible to educators, except in cases of overt hostilities between individuals at which time it's simply the tip of the iceberg," says Kogila Adam-Moodley, holder of UBC's David Lam Chair of Multicultural Education.

"Teachers try to cope in a variety of ways, from ignoring it and assuming it will go away, to treating all children

equally. Often, they are constrained in what they can do by increasing demands for varied and differentiated education in a climate of dwindling resources and inadequate preparation."

Adam-Moodley will present these and other views on the implications of new immigration for educators, and education's role in fighting racism Nov. 19 as part of the Faculty of Education's lecture series on important educational issues.

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Feature: Dogs, bikes and educational issues are banned from this forest, for a reason	

Honour

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the far reaches of the solar system and deep beneath the sea in hyperthermal vents.

Through his biochemical studies with ribonucleic acid (RNA), he has provided fundamentally important new insights into the origins of life and the diversity of existing organisms on earth.

Pace has strong ties to UBC through his leading role in two key programs: a biodiversity initiative which involves cataloguing and describing organisms present in the biosphere, and the Evolutionary Biology Program of the Canadian Institute for Advanced Research.

Pace is a member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences.

Reel

Continued from Page 1

master's degree. Sweeney's message to students who aspire to a career in film is clear.

"Make the film you want to make; don't just talk about doing it. A degree in liberal arts prepares you to talk and write and engage in abstract thought. It's a great thing to have, but in terms of a job, it's the skills, not the degree."

Sweeney gained much of his own experience while enrolled in UBC's two-year film studies diploma program, apprenticing on several films, including John Pozer's *The Grocer's Wife*, and writing, producing and directing his first movie, *Betty and Vera Go Lawnbowling*, a 17-minute short about two grandmothers on a road trip.

For the most part, he used a

student crew for *Live Bait* to provide others with the same training opportunity he received.

Since completing his thesis, Sweeney has triumphed over a large blood clot in the brain and is busy developing his next film, leaving behind Trevor who forever remains someone dangling in the modern world, trying to make a go of it—*Live Bait*.

More than 5,000 students graduated from UBC during the four-day Spring Congregation ceremony last May. This fall's graduate list is expected to top last year's mark of 1,957 grads.

Fall Congregation ceremonies on Nov. 28 begin at 9:30 a.m. in War Memorial Gym with the installation of Dr. William Sauder as

UBC's 15th chancellor. Writer Carol Shields receives an honorary degree during the morning ceremony

while biologist Norman Pace receives his degree during the afternoon ceremony at 2:30 p.m.

Racism

Continued from Page 1

Adam-Moodley, a widely published scholar on race and ethnic relations, says that studies exist which suggest that teachers may contribute to the problem of racism in the classroom and, although it has long been considered a tool to combat the problem, education may subtly reinforce cultural and racial hierarchies.

"Some research reports how teachers make assumptions about students' capabilities based on their ethnicity and class background," she explains. "Others assume that minority children enter school as an empty slate with little to offer or maintain that is distinctive and, therefore, proceed with a curriculum that seeks to assimilate them into dominant society traditions."

She believes that education today is heavily influenced by corporate ideology, where concepts of community, co-opera-

tion and equity are being replaced by an emphasis on choice, competition and excellence.

"In this climate, schools are wedged between contending forces in the delivery of an appropriate education," Adam-Moodley says. "Hence, the previous emphasis on compassionate solidarity and the benefits of diversity now sound old-fashioned, yet schools continue to struggle with everyday racism."

She defines everyday racism as the numerous ways in which

people who 'look different' are constantly regarded as 'strangers' and never belonging.

"Collectively, they are considered violators of limited local resources, disrespectful of the ecology and are said to hold illiberal values."

Entitled *The School's Struggle With Everyday Racism*, the free public lecture starts at 7 p.m. in conference room two of the Robson Square Conference Centre. For more information, call 822-6239.

Edwin Jackson

Self-evident is when it is evident to one's self and to nobody else.

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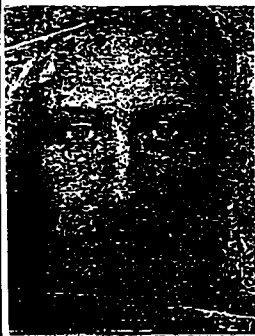
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Fall Congregation 1996

Math/chemistry grad not big on numbers

By Charles Ker

Staff writer

Vera Hoffman has an unusual accent—Canadianized Zimbabwean with a hint of Irish.

Even more unusual than Hoffman's accent was her choice of degree programs: a combined honours in math and chemistry.

Last summer, the young UBC scientist took off to Cork, Ireland where she tended bar at The Thirsty Scholar—the perfect tonic for a particularly trying third year of study on Point Grey.

"Third year was hell because I was basically taking six honours courses and it seemed as though my whole life revolved around writing lab reports and math assignments," she said. "I didn't want to come back."

But Hoffman did return to UBC and this fall becomes the only student in the last five years to graduate with a math/chemistry combination.

"For certain, the program she chose is exceptionally challenging and it is obvious that very few, if any, care to meet the challenge," said David Holm, associate dean of science.

The 23-year-old came to UBC from Kadoma, a small town 150 kilometres southwest of Zimbabwe's capital, Harare. After distinguishing herself in science at high school, Hoffman was approached by the Canadian International Development Agency (CIDA) to apply for a Canadian scholarship.

When it came to Canada, Hoffman confides that she was "completely clueless."

Faced with a list of universities, she admits that climate was a determining factor in her choice of UBC.

Hoffman initially wanted to study biochemistry but soon switched to chemistry and math after first year because, as she puts it, "in chemistry you get to mix things together and see them change colour...it's very exciting."

As for mathematics, Hoffman may be good with numbers but that doesn't mean she has to like them.

"Most people who aren't in math don't realize that real mathematicians don't deal with numbers," she said. "The only really important numbers are one, zero and infinity."

She started dabbling in numbers at the age of 10, sorting cheques in numerical order for her parents' financial consulting business. By 16 she was doing a range of accountancy tasks for extra pocket money.

But it is with abstract math—the idea behind a problem—where her true interest lies.

Hoffman's undergraduate thesis deals with the electronic spectra of highly symmetric molecules, or, in her words, "shining light through a molecule and predicting what comes out the other side." The object of Hoffman's thesis, the buckminsterfullerene carbon molecule, was the discovery of this year's Nobel Laureate in

"Third year was hell... I didn't want to come back."

—Vera Hoffman



Vera Hoffman

chemistry, Sir Harry Kroto.

Hoffman says her thesis concerns a physical problem which scientists have been unable to solve using numerical methods.

"If you try to hang onto numbers it just confuses you because they end up doing the opposite to what you expect," she said.

Hoffman's immediate plans are to drive with her boyfriend from Vancouver to Newfoundland via the Grand Canyon and Great Lakes. In early December, she plans to return to UBC and finish a project she spearheaded for the Math Club. Under her stewardship, proceeds from the sale of solutions to old math exams will go towards scholarships for an honours and majors math student entering fourth year.

Hoffman says that while her time at UBC has been fulfilling, she isn't ready just yet to jump straight into graduate work. For the moment, she has her sights set on returning to Zimbabwe, searching for a job and enjoying her first Christmas home in five years.

Film thesis breaks new ground for department

by Connie Bagshaw

Staff writer

Ask Paul Lawrence for a copy of his thesis and he'll hand you a CD-ROM.

Lawrence, who graduates Nov. 28 with a Master of Fine Arts degree, is the first UBC student to use the pillar of modern information technology to present his thesis in its entirety.

"CD-ROM is a valid medium and working with it was a learning opportunity that I didn't want to miss," Lawrence said. "Presenting linear subject matter using non-linear digital technology challenged me in different ways, and that's what education is all about."

His peers seem to be thinking the same way. Brenda Peterson, head of Special Collections at Main Library, reports that, for the first time this year, several students submitted parts of their dissertations on CD-ROM.

In his thesis abstract, Lawrence describes the interactive CD as a combination of text, video and audio, built using a mix of traditional cinematic methods and modern digital tools. Titled, *At First Brush*, the CD demonstrates the process of scene painting.

Earning his master's degree while working as a producer/director of educational videos for UBC Media Services, Lawrence got the idea while directing a series of telecourses for the Theatre, Film and Creative Writing Dept.

"Working on the videotape project focused my attention on the use of technology in education," he recalled. "With my thesis, I wanted to explore how we look at educational technology and how it can be expanded."

An Emily Carr Institute of Art and Design graduate in film and electronic design, Lawrence approached the project as a film-maker working with an interactive form. He spent about three months designing the background screens and master template for the CD-ROM, and another month directing the video material to be incorporated into *At First Brush*.

Being the first defence of a thesis entirely on CD-ROM at the university pre-

sented both Lawrence and his advisers with some unique challenges.

Chief among them was ensuring that everyone had the correct definitions and terminology which Lawrence provided in a production report, enabling his thesis panel to prepare appropriate questions.

"I received incredible support," Lawrence said. "My advisers, Ray Hall, Ron Fedoruk and John Newton were very willing to take this on as a first."

Hall, Lawrence's main supervisor, was excited by the project's potential to have



Paul Lawrence

use beyond being a graduate thesis.

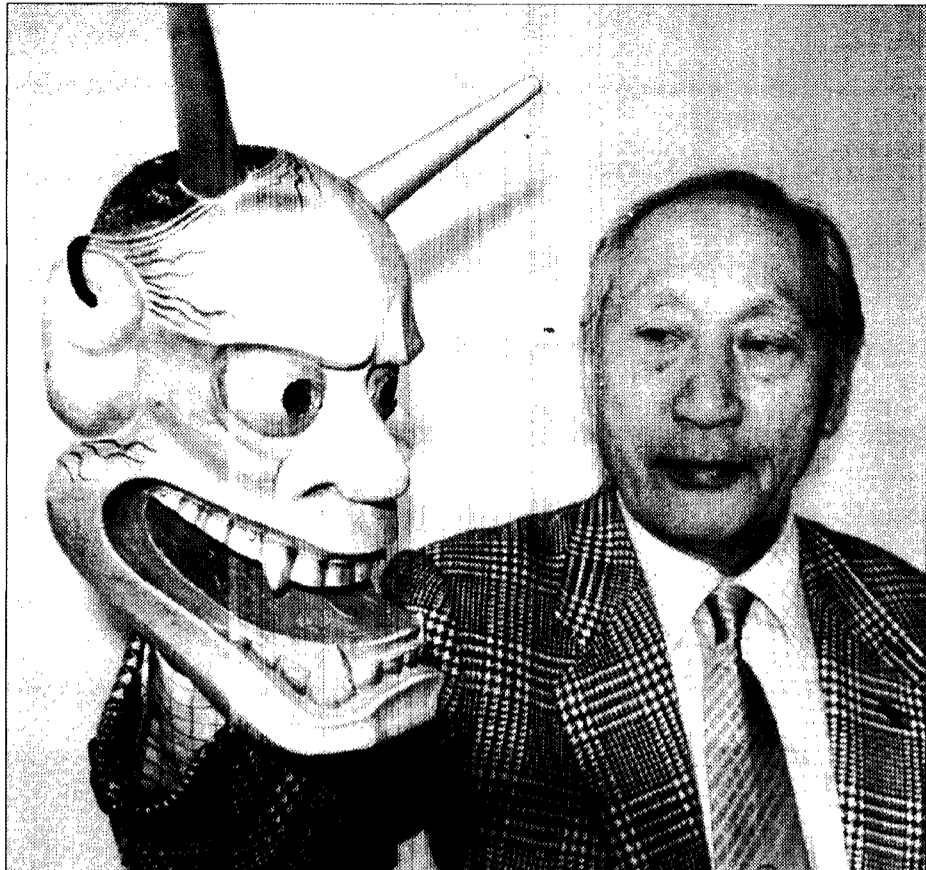
"It was an opportunity for Paul to extend the video telecourse he had designed for Ron Fedoruk, incorporating features which would encourage students to interact with the course content in a more engaging and active way," Hall explained.

"As well, with CD-ROM, the content is instantly accessible. His thesis provides continuity between the disc and the telecourse."

Hall added that Lawrence's work broke new ground in the department and has provided other students with the opportunity to design in CD-ROM.

"We knew it would work but it was just a concept until Paul did it," Hall added. "I don't think that anyone else on campus can match his understanding of and competence in the digital arena."

Asst. Prof. Ron Fedoruk appears in the video component of *At First Brush* (inset), the first defence of a thesis at UBC entirely on CD-ROM. The interactive CD provides students with quick and easy access to third-year university level instruction on scene painting.



Gavin Wilson photo

The Many Faces of Noh

Master carver Ran Nomura displays his work, one of 32 masks used in Noh Japanese theatre and recently presented as gifts to the Institute of Asian Research. This mask, used exclusively for the play *Dojoji*, represents a woman turned into a serpent by extreme jealousy. The gift was sponsored by the Rotary Club of Hiroshima West.

Salcudean, de Silva honoured by peers

Engineering professors Martha Salcudean and Clarence de Silva have won Meritorious Achievement Awards from the Association of Professional Engineers and Geoscientists of B.C. (APEGBC).

The Meritorious Achievement Award is given to APEGBC members for outstanding achievements in professional and technical fields.



Salcudean

Salcudean was appointed to UBC in 1985 as professor and head of Mechanical Engineering. In 1993 she assumed the position of associate vice president, Research (Physical and Applied Sciences).

Correction

The following final paragraph was omitted from Prof. M. Patricia Marchak's Forum "Whither or Wither? Universities after a millenium" (*UBC Reports*, Oct. 17).

"I think the answer resides in how highly we regard the secular, skeptical, persistent questioning attitude of the university, and how much we appreciate the tolerance, open debate and demands for intellectual rigour. These are the hall marks of the university in contrast to all other institutions. I believe, contrary to some of the university's critics, that universities have been a force for the good and will continue in that role if allowed to survive. I think we need them as we try to address pressing ecological issues, the politics of the global economy, world poverty, and the evolution of multicultural societies. But there are many opposing voices, strong counter-currents of change, and their survival will depend on a strong social will to keep them alive."

She began a two-year administrative leave from that position in July. She holds the Weyerhaeuser Industrial Research Chair in Computational Fluid Dynamics.

Her research has focused on the area of heat transfer and fluid flow, especially in computational fluid dynamics, and the modelling of transport phenomena in industrial processes. Her work has been aimed at improving industrial processes, particularly in the pulp and paper industry.

One of the first women in Canada to achieve the rank of professor in engineering and the country's first female engineering department head, she is deeply involved in teaching, graduate student supervision, mentoring and outreach programs.



de Silva

De Silva joined UBC's Mechanical Engineering Dept. as a professor in 1988. He holds the Natural Sciences and Engineering Research Council (NSERC)-B.C. Packers Chair in Industrial Automation, established to apply advanced technology to Canada's fish processing industry.

His research and development activities are primarily in process automation, robotics, intelligent control and instrumentation, in which he is an internationally recognized authority.

One of the important aspects of his research is his collaboration with industry to resolve real problems in the industrial environment. As NSERC-B.C. Packers chair, he has established the only laboratory in Canada aimed at developing automated fish processing technologies to reduce waste and increase productivity.

Computer game links planning conundrums

by Charles Ker

Staff writer

QUEST is the acronym for a computer game aimed at making complex urban planning issues accessible to the average citizen. It stands for Quasi-Understandable Ecosystem Scenario Tool. Huh?

"The name is meant to be somewhat self-deprecating," says master's student David Biggs. "We're hoping to change it to 'Quite Useful.'"

Biggs has been developing QUEST since 1993 with colleagues at UBC's Sustainable Development Research Institute (SDRI). The game gives players decision-making power over all areas of planning in the Lower Fraser Basin. During the course of a game—which can take anywhere from an hour to days to complete—players watch the consequences of their ideas and policies unfold over four decades from 1990 to 2030.

The game highlights the trade-offs inherent in choosing one lifestyle or policy direction over another by incorporating key social, environmental and economic components of regional growth.

"Working through a game players see things changing slowly but by the time they get to 2030, they suddenly realize that significant aspects of their plan have been lost," says Biggs. "Players have to be sensitive to slight changes that are occurring and this is what decision-makers do all the time."

The idea for QUEST originated in 1991 while Biggs was working in Ontario with SDRI director John Robinson.

The two researchers were using a large mainframe computer to explore modeling applications in the field of environment and resource studies. The problem was that, like most models, only computer experts could understand and use them.

"The real value of modeling comes from the experience of using the model, not simply viewing the results," says Biggs. "QUEST attempts to put this experience in the hands of decision-makers and that means everybody."

Perhaps the best validation for the game came recently when Robinson gave a brief 20-minute run-through to his three sons. Two days later, the seven-year-old was overheard explaining to an adult the relationship between high-density housing and the loss of farmland in the Lower Fraser Basin.

This doesn't mean the game is not highly complex. Biggs and his colleagues spent close to two years contacting urban planners, government policy makers and environmental experts to get feedback about what features and issues QUEST should include.

The game has four stages. The first stage,

called *Inventing a Future*, asks the player about his or her beliefs, values and overall understanding of how the world operates or should operate. This provides a broad framework for a 40-year scenario QUEST asks players to formulate in stage two.

Players in the scenario generation stage make decisions a decade at a time about lifestyle and technology in such sectors as transportation, industry, labor, public spending and housing. Working through a series of sequential decisions, players have to cope with changing population, economic conditions and land use patterns. They also have to keep in mind their original goals and values.

Biggs says the effectiveness of QUEST is best illustrated in a workshop setting where policy debates rage among players.

"The game gets very interesting when you sit down with a group of people and QUEST starts bringing out their differences or similarities," says Biggs. "The ensuing discussions are the rich part of what goes on behind QUEST."

The consequences of players' actions and policies are shown at the end of each decade in the form of a mock newspaper.

The game ends with a final 2030 newspaper edition filled with headlines about what went wrong or right with players' best-laid plans. A toolbar stretching across the top of the newspaper gives players a choice of 17 sections to explore, complete with articles and accompanying graphs, charts and satellite images.

Players can compare their work with a library of other scenarios created previously by them or celebrity planners.

Biggs and associates at the SDRI have been swamped with requests for information about QUEST from as far away as Africa and Europe. The flood of interest comes in the wake of several television, radio and newspaper reports about the game.

Biggs believes it is the legwork which went into the game's design and format which will be of interest to potential users who want to adapt it to their own situations. Already, regional planning officials in Portland, Oregon are talking about building Portland Quest. Next month, Biggs and SDRI senior associate Mike Harcourt go to China to demonstrate QUEST.

On campus, QUEST is demonstrated weekly at the Institute.

By the end of this academic year, the QUEST team hopes to have a CD-ROM version of the game available, complete with tutorials and detailed documentation.

QUEST was funded by the federal government as part of a multi-million dollar UBC project looking at sustainability issues in the Lower Fraser Basin.



Stephen Forgacs photo

Computer Gift

GE Canada Chairman Robert Gillespie looks on as Caroline Dudoward Garay, a second-year student in the Native Indian Teacher Education Program, uses one of nine computers donated to establish a computer lab in the First Nations Longhouse. GE contributed \$25,000 worth of computer hardware and software.



Robin Wilson photo

Roland Stull and colleagues in the Atmospheric Sciences Programme are fine-tuning a system they believe will provide more accurate weather forecasts for one of the world's most complex weather regions—the Pacific Coast.

Chaos could hold key to BC weather forecast

by Gavin Wilson

Staff writer

Of all the obstacles facing B.C.'s weather forecasters, none is as formidable as the Pacific Data Void.

Our weather blows in from the vast North Pacific where there is little information available about day-to-day atmospheric conditions. Even satellite images can't completely bridge the gulf.

Add to the equation B.C.'s towering mountain peaks and convoluted coastline, and it is not surprising that weather forecasting here is more difficult than most other places in North America.

But now campus researchers led by Roland Stull, head of the Atmospheric Sciences Programme in the Dept. of Geography, are applying a new method of weather forecasting that could overcome these hurdles. Known as the UBC Ensemble Forecast System, it is showing promising results.

Even under the best conditions, current forecasting techniques can make accurate predictions just three or four days in advance, and only for large weather systems, Stull said.

This is because the weather is a very complex, non-linear and chaotic system in which a small change in one place can create large outcomes somewhere else—like the proverbial flutter of an African butterfly's wing that causes a tornado in Texas.

"What we are trying to do is cheat

chaos by taking what we know about chaos theory and using it to improve forecasting methods," Stull said. "It just might be the best system for B.C. I think we can make a difference here."

Stull and graduate students Josh Hacker and Henryk Modzelewski use computers to create ensemble forecasts, ones that result in a number of outcomes instead of a single prediction.

This is where chaos theory enters the picture. Instead of sticking strictly to current weather conditions as a starting point for predictions—as conventional forecasting does—they make a series of slight alterations to the statistics. These numbers serve as a basis for complex calculations that result in a spread of likely outcomes.

Forexample, a conventional forecast might state categorically that overnight temperatures will remain above freezing at 2 C.

An ensemble forecast for the same night, however, may predict a cluster of low temperatures that could include the likelihood of frost—say 3 to -4 C — information that could be crucial to an industry such as agriculture.

By averaging out the ensemble predictions he arrives at a more accurate forecast than any one categorical forecast. He also uses two different numerical models to make calculations, doubling the number of ensemble members.

To combat the forecasting difficulties posed by B.C.'s topography, Stull and his colleagues use a fine-mesh forecast grid over population centres and areas of commercial activities.

The fine-mesh forecasts are made at grid locations spaced just five kilometres apart, compared with the 35-kilometre grid used by the Atmospheric Environment Service.

This allows them to better capture the often substantial differences in weather across mountains, valleys and coastlines.

Improved weather forecasts could have significant impact in B.C. Some areas that could benefit include: flood warnings, wind forecasts for log-boom towing and forest-fire fighting, precipitation forecasts for watersheds where B.C. Hydro has dams, air pollution forecasts for the Fraser Valley, snowfall forecasts for highway maintenance, and avalanche predictions for railroads and ski resorts.

"If we can improve predictability by even one day, for example, by warning of a serious storm, then we could help save property and lives," Stull said.

The UBC Ensemble Weather Forecast System is not yet perfected. For one thing, it can consume hours of computer time—up to 15 hours per day for some detailed forecasts.

It is also difficult to get exact measures of current weather for use as a starting point due to instrument error and gaps between weather stations. Choosing which slight initial differences should start their calculations is also a scientific challenge.

Stull and his colleagues share their forecasts with the Pacific Weather Centre, but with the understanding that this is just early research and not ready for public dissemination.

However, centre forecasters can gain insight on storm dynamics from these forecasts, and can provide feedback on the model capabilities, Stull said.

In Memoriam

Margaret Ormsby: 1909-1996 Doyenne of BC history

by Jean Barman

Co-editor, BC Studies

The University of British Columbia has lost one of its most distinguished members.

Prof. Emeritus Margaret Ormsby, who died Nov. 2 at the age of 87, legitimized the study of British Columbia history as a scholarly endeavour. She had already taught in the UBC Dept. of History for a dozen years when she was commissioned to write a provincial history to commemorate the 1958 centennial. Four decades later *British Columbia: A History* remains the fundamental starting point for thinking about the province.

To a remarkable extent Ormsby's centennial history reflected her own life circumstances. Of Canadian Scottish and Anglo-Irish descent, she grew up in the Okanagan Valley at a time when, so she wrote, genteel fruit farmers "maintained the standards of polite society in Victorian England." Families like hers, if only aspiring outsiders, were similarly imbued with a sense of community and a "feeling of cultural superiority" in the face of coastal boosterism, American crassness, and the excesses of Canadian parochialism. British Columbia was a special place deserving of a history all its own.

Encouraged by her parents, young Margaret left the Okanagan for UBC in 1926, where she obtained a BA in history, a teacher's training certificate, and in 1931 an MA in history. Armed with a scholarship, Ormsby went off to study medieval and American history at Bryn Mawr College in the eastern United States, where she received her PhD in 1937. While doing so, she worked for a year as an assistant in the UBC History Dept., but on graduation could not secure an academic position. So the newly minted Dr. Ormsby taught at a private high school in San Francisco until, in 1940, a war-time lectureship opened up at McMaster University. In 1943 the

UBC History Dept. hired her, again as a temporary replacement, but she held on, became a professor by 1955, and served as department head from 1964 to her retirement in 1974 back to the Okanagan Valley.

Throughout her career Margaret Ormsby lived a double, indeed a triple, life. Formed as an academic within the historical mainstream, she pursued her first love of British Columbia and Okanagan history in her writing. In the fall of 1958, just as *British Columbia: A History* was receiving accolades, she was teaching, so a former student recalled, senior undergraduate classes of 50 to 60 students each in Canadian history and medieval history, honours seminars in philosophy of history and Canadian external relations, and likely also a course in American intellectual history. Her extensive publications examined the fur trade, colonial and provincial politics, agriculture, pioneer women, and Okanagan history. She also edited nine annual reports of the Okanagan Historical Society, essentially compilations of writing on local history.

The second, very important factor bifurcating Margaret Ormsby's career was gender. Female academics were few and far between, and she was never allowed to forget that she was a woman playing at a man's game. The Second World War facilitated her entry into the university, but only at its margins. She recalled how her work space at McMaster was a table in the women's washroom, the department head explaining that there were "no offices for female faculty." Ormsby headed the History Dept. at UBC during a period of rapid expansion bringing in a new generation of self-confident, sometimes brash academics unaccepting of "a iron-fisted woman," to quote the *Ulysses*, with a penchant for hats and expectation of deference. "Women faculty were thought of as difficult," Ormsby once reflected, "but a woman had to be difficult in order to survive." She considered the only place



Margaret Ormsby in 1964

where men and women were truly equal to be the UBC faculty club dining room.

Margaret Ormsby led the way, not only for the study of British Columbia history, but for women in the history profession and in the university more generally. In 1965 she became only the second woman president of the Canadian Historical Association, paving the way for Margaret Prang, her successor as head of the UBC History Dept., to become its third woman president a decade later. Ormsby was made a Fellow of the Royal Society of Canada in 1966, received honorary degrees from all four British Columbia universities as well as from elsewhere, and in the spring of 1996 was awarded the Order of Canada. She took a special interest in her female graduate students, and fondly recalled almost all their careers. Perhaps the greatest testimony to Margaret Ormsby's enduring influence was a group of young doctoral students of the 1990s launching a scholarship in her honor in British Columbia history, to which contributions are still welcome.

Obituary

Long-time member of the French Dept., Prof. Emeritus **Gérard Tougas**, died Oct. 3.

Born in Edmonton in 1921, he joined UBC in 1953.

An eminent and prolific scholar of varied interests, Tougas was a member of the Royal Society of Canada and a laureat of l'Académie-française. His main research area was literature in French countries outside of France.

Tougas remained an active researcher after his retirement in 1993. His last book, *C.G. Jung: de l'hévéisme à l'universalisme*, was published in 1996.

Calendar

November 17 through November 30

Sunday, Nov. 17

Sign Dedication at Lutheran Campus Centre
For Lutheran, United And Pentecostal Campus Ministries. Rev. Bill Wiegner, 5885 University Boulevard chapel, 10:30 am. Sunday morning worship service and potluck lunch to follow. Call 224-1614.

Green College Visual Arts Group
Ten Years Of Painting: Mixing The Personal And The Political. Kate Collie, Counselling Psychology. Green College, 5:30pm. Call 822-6067.

Cultural Performance
Nehru Day Celebration. Speakers from Goel Family Charitable Foundation. International House auditorium, 6:30-9pm. Refreshments. Call 822-3846/822-5021.

Green College Performing Arts Group
An Evening Of Acoustic Jazz. John Doheny Quartet. Green College, 8pm. Call 822-6067.

Monday, Nov. 18

Applied Mathematics Colloquium
GKS Stability Analysis. Prof. Brian Wetton, Mathematics. CSCI 301, 3:30pm. Refreshments at 3pm. Call 822-4584.

Mechanical Engineering Seminar
Transient Turbulent Jets: Experiments, History And Numerical Simulation. Philip Hill, Mechanical Engineering. CEME 1202, 3:30-4:30pm. Refreshments. Call 822-3904.

Green College Resident Speaker Series
Gold Rush! Searching For Gold In Central BC. Cari Deyell, Geological Sciences. Green College, 5:30pm. Call 822-6067.

Green College Science and Society Lecture
From Carving Nature At Its Joints To Measuring It: Enumerating Kinds In The History Of Biology. Gordon McOuat, U of King's College, Dalhousie U. Green College coach house 8pm. Call 822-6067.

Tuesday, Nov. 19

Botany Seminar
Breeding System Dynamics In The Rare Checker-Mallow *Sidalcea Hendersonii*. Melanie Marshall, MSc candidate. BioSciences 2000, 12:30-1:30pm. Call 822-2133.

Biotechnology Lab Seminar
Phenylpropanoid Biosynthesis: Regulation And Prospects For The Genetic Engineering Of A Complex Plant Secondary Metabolic Pathway. Richard Dixon, Samuel R. Noble Foundation. Wesbrook 201, 12:30pm. Refreshments. Call 822-3155.

Pharmaceutical Sciences Seminar
Synthesis And Murine Biodistribution Of A Para Ortho Iodinated Radiopharmaceutical Directed Towards The Muscarinic Receptor. Laura Alcorn, grad. student. IRC#3, 12:30-1:30pm. Call 822-4645.

Merck, Frosst, Sharp & Dohme Organic Chemistry Lecture
Combination Catalysis. Prof. Eric Jacobsen, Harvard U. Chemistry

250 (south wing), 1pm. Refreshments, 12:40pm. Call 822-3266.

Liu Centre Open House
For The Campus Community. Cecil Green Park House, 3-7pm. Forum, 5:30-6:30pm. Call 822-2064.

Green College Science and Society Seminar
Natural Kinds In The Nineteenth Century. Gordon McOuat, U of King's College, Dalhousie U. Green College coach house, 3:30pm. Call 822-6062.

Statistics Seminar
The Estimating Function Bootstrap. Feifang Hu, National U Singapore. CSCI 301, 4-5:30pm. Call 822-0570.

Centre for Applied Ethics Colloquium
Feminist Ethics And Care. Peta Bowden, Philosophy, Murdoch U. Angus 413, 4-6pm. Call 822-5139.

Green College Speaker Series
Apocalypse Now: Ancient Apocalyptic And Its Audience. Harry Maier, Vancouver School of Theology. Green College, 5:30pm. Reception in Graham House, 4:45-5:30pm. Call 822-6067.

Faculty of Education Public Lecture Series
The School's Struggle With Everyday Racism. Kogila Adam-Moodley, David Lam Chair of Multicultural Education. Robson Square Conference Centre, Conference Room 2, 7pm. Reception to follow. Call 822-6239.

Lecture
Taking Care Of Photographs And Works On Paper. Rosaleen Hill, conservator. MOA, 7:00-8:30pm. Call 822-5087.

Wednesday, Nov. 20

Orthopedics Grand Rounds
Wrist Arthrodesis: A Cohort Study. Dr. P.T. Gropper, Orthopedics; Dr. J. Dunwoody, Orthopedics Resident. Vancouver Hospital/HSC Eye Care Centre auditorium, 7am. Call 875-4646.

Bookstore Sale
Customer Appreciation Day. Bookstore, 9am-5pm. Free gift-wrapping until 4pm. Call 822-2665.

Presentation
A Presentation Of The Canadian Third International Math and Science Study (TIMSS) Results. David Robitaille, Head, Curriculum Studies, Education. Scarfe 310 centre block, 10am. Call 822-9136.

Microbiology and Immunology Seminar Series
Post-Translational Regulation Of *Rhodospirillum rubrum* Light-Harvesting I Complex Levels By The Integral Cytoplasmic Membrane Protein F1696. Conan Young, Wesbrook 201, 12-1pm. Call 822-3308.

Centre for Japanese Research Seminar
Frontier Settlements In Modern Japan: A Critical Analysis Of Problems Of Modernization. Machiko Tsubaki, Tokyo Gakugei U, CK Choi 120, 12:30-2pm. Call 822-2629.

Noon Hour Concert
Gemini and Gaetanne. Marisa Gaetanne, soprano; Julie Rutter, flute and piano; Valerie Rutter, piano and recorders. Music recital hall, 12:30pm. \$3 at the door. Call 822-5574.

Centre for Southeast Asia Research Seminar
Where Angels Fear To Tread! - Bangkok's Environmental Prob-

lems In Political And Behavioural Context. Prof. Helen Ross, Australian National U. CK Choi conference room 120, 12:30-2pm. Call 822-2629.

Women's Studies and Gender Relations Seminar
Claire Young, Law, 1896 East Mall, 3:30-5pm. Call 822-9171.

Ecology and Centre for Biodiversity Research Seminar
Stability, Instability And Population Persistence. Dan Haydon, post-doctoral fellow, Family/Nutritional Sciences 60, 4:30pm. Refreshments at 4:10pm. Call 822-3957.1

Respiratory Research Seminar Series
The Life And Death Of Inflammatory Cells. Dr. Vince Duronio, St. Paul's Hospital, Gourlay conference room, 5-6pm. Call 875-5653.

Comparative Literature
Poetry, Text, and Hypertext. Jaan Kapilinski, Tartu, Estonia. Green College, 5:30pm. Call 822-6067.

Senate
The Third Regular Meeting Of Senate, UBC's Academic Parliament. Curtis 202, 8pm. Call 822-2951.

Thursday, Nov. 21

Earth & Ocean Sciences Seminar
Modelling The North Pacific Ecosystem: The PICES CCCC Challenge. Paul LeBlond, Earth & Ocean Sciences. GeoSciences 135, 12:30pm. Call 822-3466/822-2267.

Two Poets
Al Purdy And Diane Tucker Read From Their Latest Works. Bookstore, 12:30pm. Call 822-2665.

Joan Carlisle-Irving Lecture Series
The Politics Of Virtual Systems. Norman M. Klein, California Institute of the Arts, Lasserre 102, 12:30 pm. Call 822-2757.

School of Human Kinetics Seminar
Osteoporosis Prevention: Exercise And Calcium In Children. Assoc. Prof. Alan Martin, Human Kinetics, War Memorial Gym 100, 12:30-1:30. Refreshments. Call 822-3913.

Philosophy Department Colloquium
Mind As Mechanisms: The Mental/Non-Mental Distinction In Cognitive Science. Charles Wallis, Philosophy, Buchanan D-202, 1-2:30pm. Call 822-3292.

H. R. MacMillan Lecture Series
Role Of Genetics In Conservation. Vicki Friesen, Queen's U. MacMillan 166, 2:30-3:30pm. Call 822-9695.

Environmental Engineering Seminar
Christina Jacob, GVRD. CEME 1215, 3:30-4:30pm. Call 822-2637.

Genetics Graduate Program Seminar
Muscle Attachment And Morphogenesis In *C. Elegans*. Don Moerman, Zoology. Wesbrook 201, 4pm. Refreshments. Call 822-8764.

Physics Colloquium
Physics Innovation, Patents and Technology Transfer. Lorne Whitehead, Physics and Astronomy, Hebb theatre, 4pm. Refreshments at 3:45pm. Call 822-3853.

Medieval and Renaissance Studies

Edmund Spenser's The Faerie Queene After 500 years. Paul Stanwood, English, Green College, 4:30pm. Call 822-6067.

Computer Science Invited Speaker Seminar
Omnidirectional Image Sensing. Shree Nayar, Columbia U. CICS/CS 208, 4-5:30pm. Refreshments. Call 822-0557.

Critical Issues In Global Development
International Trade And Human Rights: Do Corporations Have A Responsibility? Alex Currie, national coordinator for Amnesty International. Green College, 8pm. Call 822-6067.

Distinguished Artists Concert
Timothy Hutchins, flute; Janet Creaser Hutchins, piano. Music recital hall, 8pm. \$19 adults, \$10 students/seniors. Call 822-5574.

Friday, Nov. 22

St. Paul's / UBC / BCSEPS Clinical Day
Contact Lens Symposium 1996. Chaired by Dr. Helson C. Chew. St. Paul's Hospital, New Lecture Theatre, 7:30am-3pm. Refreshments, 7:30-8am. Call 875-5266.

Pediatrics Grand Rounds
Brain Injury In The Premature Newborn. Dr. A. Hill, Neurology. GF Strong auditorium, 9am. Call 875-2307.

Occupational Hygiene Program Seminar Series
Latex Allergies. Dr. Stephanie Mah, WCB. Vancouver Hosp/HSC, UBC site, Koerner Pavilion G-279, 12:30-1:30pm. Call 822-9595.

Centre for Chinese Research Seminar
Naming And Explaining Contemporary Prostitution In China. Prof. Gail Hershatter, History, U of California, Santa Cruz. CK Choi 120, 3-4pm. Call 822-2629.

Linguistics Colloquium
Reduplicative Transfer In Lushootseed And Elsewhere. Suzanne Urbanczyk, Buchanan Penthouse, 3:30pm. Refreshments. Call 822-5594.

Chemical Engineering Weekly Seminar
Catalytic Activation Of Methane. J.S. Soltan Mohammad Zadeh, grad student. ChemEng 206, 3:30pm. Call 822-3238.

Theoretical Chemistry Seminar
Stochastic Resonance: Numerical Aspects. H. Chen, Applied Math-

ematics, Chemistry D-402 (centre block), 4pm. Call 822-3266.

Saturday, Nov. 23

Vancouver Institute Lecture
Today, Vancouver; Tomorrow, Everything. Chuck Davis, author. IRC#2, 8:15pm. Call 822-3131.

Sunday, Nov. 24

Dance Performance
The Philhellenic Folkdance Group. MOA Great Hall, 2:30pm. Call 822-5087.

Green College Performing Arts Group
The Night Of The African Drum. Performance and participation with La Beat'O. Green College, 8pm. Call 822-6067.

Monday, Nov. 25

Biotechnology Laboratory Seminar
Leishmania's Survival Kit: Tips To Thwart Macrophage Harsh Environment (Effect Of PTP Inhibitor Peroxovanadiums On Leishmania Infection In Vivo). Dr. Martin Olivier. IRC#4, 12:30pm. Refreshments before the seminar. Call 822-2493.

Mechanical Engineering Seminar
Orthopedic Engineering. Prof. Clive P. Duncan, Orthopedics. CEME, 1202, 3:30-4:30pm. Refreshments. Call 822-3904.

UBC School of Nursing Colloquium
Applications From Imperfections: Bringing An Evaluation Project Full Circle. Assistant Prof. Virginia Hayes, UBC School of Nursing. Vancouver Hospital/HSC, Koerner Pavilion T-180, 3:30-4:30. Call 822-7453.

Earth & Ocean Sciences Seminar
Silicate Liquids And Mantle Geodynamics: New Perspectives From Isotopes Of The Main Element, Oxygen. Kurt Kyser, Queen's U. Geology 135, 4:30pm. Call 822-3466/822-2267.

Resident Speaker Series
What Do We Do At TRIUMF? Makoto Fujiwara, Physics. Green College, 5:30pm. Call 822-6067.

Tuesday, Nov. 26

Botany Department Seminar
The Biogeography Of Post-Glacial Recolonization Of The Northeast Pacific. Sandra Lindstrom, Botany. BioSciences 2000, 12:30-1:30pm. Call 822-2133.

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. An electronic form is available on the UBC Reports Web page at <http://www.ubc.ca> under 'News.' Please limit to 35 words. Submissions for the Calendar's Notices section may be limited due to space.

Deadline for the November 28 issue of UBC Reports — which covers the period December 1 to December 14 — is noon, November 19.

Calendar

November 17 through November 30

Pharmaceutical Sciences Seminar

Transduction Pathways Controlling Cell Motility: A Potential Therapeutic Target To Treat Breast Cancer Metastases To Bone? Research Associate Pierre Lemieux, Angiotech Pharmaceuticals. IRC#3, 12:30-1:30pm. Call 822-4645.

Biotechnology Lab Seminar

Protein Modules In Signal Transduction. Anthony Pawson. Wesbrook 201, 12:30pm. Refreshments before the seminar. Call 822-4838.

Poetry Reading

Hope Anderson. Belkin Art Gallery, 12:30pm. Call 822-2759.

Lectures in Modern Chemistry

Exploring The Basis Of Peptide/Carbohydrate Cross-Reactivity. Prof. Mario Pinto, Chemistry, SFU. Chemistry 250 south wing, 1pm. Refreshments from 12:40pm. Call 822-3266.

Statistics Seminar

On Admissible Minimax Estimation Of A Lower-Bounded Poisson Mean. Prof. Constance van Eeden. Statistics. CSCI 301, 4-5:30pm. Refreshments. Call 822-0570.

Graduate and Faculty Christian Forum

Pascal. Probability, And Belief In God. Richard Johns, Philosophy. Buchanan penthouse, 4pm. Refreshments. Call 822-3115.

Green College Speaker Series

Learning Productive Problem Reformulation: Some Lessons From The Preparation Of Administrators. Graham Kelsey, Educational Studies. Green College, 5:30pm. Reception in Graham House 4:45-5:30pm. Call 822-6067.

Archaeological Institute Lecture

Greek Architectural Sculpture. Prof. Brunilde Ridgway, U California at Berkeley. Hellenic Community Centre, 4500 Arbutus, 8pm. Call 822-2889.

Wednesday, Nov. 27

Surgery Grand Rounds

Management Of Sarcomas. Dr. Walley Temple, U of Calgary. GF Strong auditorium, 7am. Call 875-4136.

Microbiology and Immunology Seminar Series

New Perspective On The Microbial World: Molecular Microbial Ecology. Norman Pace, Plant and Microbial Biology, U California at Berkeley. Wesbrook 201, 12-1pm. Call 822-3308.

Noon Hour Concert

Douglas McNabney, viola; Andrew Dawes, violin; Eric Wilson, cello; Rena Sharon, piano. Music recital hall, 12:30pm. \$3 at the door. Call 822-5574.

Leon and Thea Koerner Lecture

Colour In Ancient Greek Architecture. Prof. Brunilde Ridgway, U California at Berkeley. Laserre 102, 12:30pm. Call 822-2889.

Centre for Southeast Asia Research Seminar

The Centrality Of ASEAN In ARF: Opportunities And Limitations. Chin Kin Wah, National U of Singapore, U of Toronto. CK Choi 120, 12:30-2pm. Call 822-2629.

Women's Studies and Gender Relations

Ngo Thi Tuan Dung, 1896 East Mall, 3:30-5pm. Call 822-9171.

Ecology and Centre for Biodiversity Research Seminar

Divergent Selection In A Polymorphic Butterfly. Durrell Kapan. Family/Nutritional Sciences 60, 4:30pm. Refreshments, 4:10pm. Call 822-3957.

Individual Interdisciplinary Studies Workshop

Deconstructing Disciplinarity/Constructing Interdisciplinarity: Intellectual Objectives And Academic Means. Pamela Azad, Health Care and Epidemiology; Sharon Fuller, Anthropology and Sociology. Green College, 4:30pm. Call 822-6067.

Respiratory Research Seminar Series

Sleep Apnea And The "RCMP". Dr. John Remmers, U of Calgary. St. Paul's Hosp. Gourlay conference room, 5-6pm. Call 875-5653.

19th Century Studies

Staging Peer Gynt: Being And Nothingness. Prof. Errol Durbach, Theatre and English. Green College, 8pm. Call 822-6067.

Thursday, Nov. 28

Law and Society Lunch-Time Seminar

Taxing Times For Women: Critical Perspectives On Canadian Tax Policy. Claire Young, Law. Green College, 12pm. Call 822-6067.

Centre for India & South Asia Research

Queer Guests And Gracious Hosts In The Marathi Sant Tradition. Vidyut Aklujkar, honorary research associate CISAR. CK Choi 120, 12:30-2pm. Call 822-2629.

Distinguished Medical Research Lecture

Pathogenesis Of Toxic Shock Syndrome: A Bedside To Bench Adventure. Dr. Anthony Chow. IRC#1, 12:30-1:30pm. Call 822-8633.

Concert

UBC Jazz Ensemble: The Music of Artie Shaw. Guest, Tom Colclough, clarinet; Fred Stride, director. Music recital hall, 12:30pm. Call 822-3113.

Science First! Lecture Series
Imaging The Earth: Experiments In The Lab And In The Field - With Numerous Examples Of The Unscientific Method. Rosemary Knight, Earth and Ocean Sciences. IRC#2, 1-2pm. Call 822-5552.

Pharmaceutical Sciences Seminar

Do COPD Patients Need To Be Vaccinated? Zahra Esmail, PharmD student. Cunningham 160, 1-2pm. Call 822-4645.

Pharmaceutical Sciences Seminar

Thrombolytics In Stroke. Bruce Lange, PharmD student. Cunningham 160, 1-2pm. Call 822-4645.

Philosophy Colloquium

Keeping Dynamics In Mind. Clifford Hooker, U of Newcastle, Australia. Buchanan D-202, 1-2:30pm. Call 822-3292.

H. R. MacMillan Lecture Series

Marine Conservation In The Atlantic - The Collapse Of The Cod Stocks And Prognosis For Recovery. Bob Gregory, Memorial U.

MacMillan 166, 2:30-3:30pm. Call 822-9695.

Genetics Graduate Program Seminar

Genetic Instability In DNA Mismatch Repair Deficient Hosts: Mutation Frequency And Spectrum Detected By A Transgenic Reporter Gene System. Dr. Frank Jirik, Medicine/Biomedical Research Centre. Wesbrook 201, 4pm. Refreshments. Call 822-8764.

Physics Colloquium Series

High Field Laser-Molecular Interactors. Paul Corkum, National Research Council. Hebb theatre, 4pm. Refreshments at 3:45pm. Call 822-3583.

Statistics Seminar

The Not-So-Smoother: A Discontinuity Preserving Smoothing Method. Paige Eveson, Statistics. CSCI 301, 4-5pm. Refreshments. Call 822-0570.

Issues in Post-Secondary Education

New Realities, New Directions, New Institutions - The Changing Higher Education System In British Columbia. Peter Jones, president, U College of the Fraser Valley. Green College, 4:30pm. Call 822-6067.

Green College Special Event

Ainumoshir, A Peoples' Land: History Of Japan Viewed From The Northern Perspective. Sherry Tanaka, Interdisciplinary Studies.

Green College, 5:30pm. Call 822-6067.

Green College Special Event

Life In Nibutani. Koichi Kaizawa, Chairman of Nibutani Self-government Association. Green College, 8pm. Call 822-6067.

Green College Special Event

A Performance Of Ainu Traditional Dance Music. Ainu Traditional Dancers. Green College, 8:30pm. Call 822-6067.

Friday, Nov. 29

Pediatrics Grand Rounds

Health Promotion And The Physician - Lobbying For Change. Dr. D. Smith, Pediatrics. GF Strong auditorium, 9am. Call 875-2307.

Lecture

Alfred Kinsey And Magnus Hirschfeld: Early Sexologists As Collectors Of Gay Erotica. Tom Waugh, Concordia U. Green College coach house, 12:30pm. Call 822-2759.

Occupational Hygiene Program Seminar Series

Kiln Emissions And Potters Exposures. Bob Hirtle, research scientist, Health Care & Epidemiology. Koerner lecture theatre G-279, 12:30-1:30pm. 822-9595.

Faculty Women's Club Lecture

How Life Experiences Shape Her

Writing. Carol Shields, Pulitzer Prize-Winning author. Cecil Green Park House, 1pm. Call 224-4419.

Chemical Engineering Weekly Seminar

Prediction And Prevention Of Sheetbreak Using PLS And An Expert System. Ilse Li, grad student. ChemEng 206, 3:30pm. Call 822-3238.

Mathematics Colloquium

Mahler's Measure, Entropy And Elliptic Curves. David W. Boyd, Mathematics. Mathematics 104, 3:30 pm. Refreshments at 3:15 in Math Annex, 1115. Call 822-2666.

Department of Linguistics Colloquium

Phonological Development As Constraint Reranking. Joe Pater. Buchanan penthouse, 3:30pm. Refreshments. Call 822-5594.

Saturday, Nov. 30

Reading/Signing

Kit Pearson, children's author. Bookstore, 1:30pm. Call 822-0587.

Vancouver Institute Lecture

Canada: Can We Survive? Prof. Alan Cairns, Political Science. U of Saskatchewan. IRC#2, 8:15pm. Call 822-3131.

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: kdes@unixg.ubc.ca.

Fun and Fitness

UBC Community Sport Services offers adult ballet, gymnastics and ice hockey classes for beginners. No experience is necessary. For more information call 822-3688.

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, Task Force Building, 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 3 one-hour appointments at UBC. Experiments will examine different aspects of hearing and communication abilities. Honorarium for some studies. Please 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.

Eczema Study

Volunteers needed. 12-40 years of age. Must have a current flare of eczema. Able to attend 5 visits over a 15 day period. Honorarium to be paid upon completion. Call 875-5296.

Multisite Fungal Infection Study

Jock itch, athlete's foot, irritation beneath the breasts or ringworm. Volunteers needed. Must have at least 2 different sites of skin infections. Seven visits over 12 weeks. Honorarium paid upon completion. Call 875-5296.

Psoriasis Laser Study

Volunteers needed. The UBC Division of Dermatology is seeking volunteers with psoriasis who are not currently receiving medical treatment for psoriasis. We are testing a potential new laser therapy for psoriasis. Volunteers who complete the treatments and follow-up visits will receive a stipend. Call 875-5254.

Christmas at the Shop in the Garden

November/December 1996. Fresh foliage wreaths and baskets, tree ornaments and table centrepieces made by the "Friends of the Garden" available from November 25 while quantities last! Great selection of gifts too! All proceeds help the garden grow. UBC Botanical Garden, Shop in the Garden, 10am-5pm. Call 822-4529.

Garden Hours

Nitobe Memorial Garden open 10am-2:30pm weekdays only, Botanical Garden and the Shop-in-the-Garden are open 10am-5pm daily (including weekends). Call

822-9666 (gardens), 822-4529 (shop).

Parents with Babies

Have you ever wondered how babies learn to talk? ... help us find out! We are looking for parents with babies between 1 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, Department of Psychology, UBC, 822-6408 (ask for Nancy).

Herpes Zoster (Shingles) Study

Participants required to take part in clinical dermatology trial at Division of Dermatology, 855 West 10 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.

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.

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.

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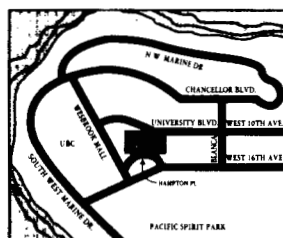
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Study to investigate denture comfort, cost

by Gavin Wilson

Staff writer

Anyone who has suffered the loss of their teeth will tell you that few things in life are as inconvenient, embarrassing — and costly.

The advent in recent years of titanium implant technology has greatly improved the lives of those who wear dentures, but its high price puts it beyond the reach of many who need it most.

Now a \$400,000, four-year Faculty of Dentistry study is looking at the cost and design of dental prostheses used with implants, to see if they can be better made, and at a lower cost.

"We are investigating which designs work best, as well as the cost of making and maintaining prostheses," said project director Dr. Joanne Walton, an associate professor in the Dept. of Clinical Dental Sciences.

"Practitioners have their own sense of what works, but it is not backed up by research. By looking at commonly used designs, we may find that one of the least expensive dentures is just as good as the most expensive. If so, it makes sense to offer that alternative to patients," she said.

"We want to know what will bring the greatest good to the greatest number of people."

About 70 per cent of the population over 65 has at least one denture. And between 30 and 40 per cent of Canadians over 65 have no teeth at all in either jaw.

Conventional dentures—difficult to fit, sometimes painful—are often poor substitutes. That's what made titanium im-

plants the biggest advance in dental care in 50 years.

The expensive procedure sees two or more titanium cylinders implanted into the bone of the lower jaw. Titanium is a biologically compatible metal that bone cells can adhere to, firmly attaching it to the jaw. Short studs are left protruding above the gum and dentures equipped with special fasteners simply snap onto them.

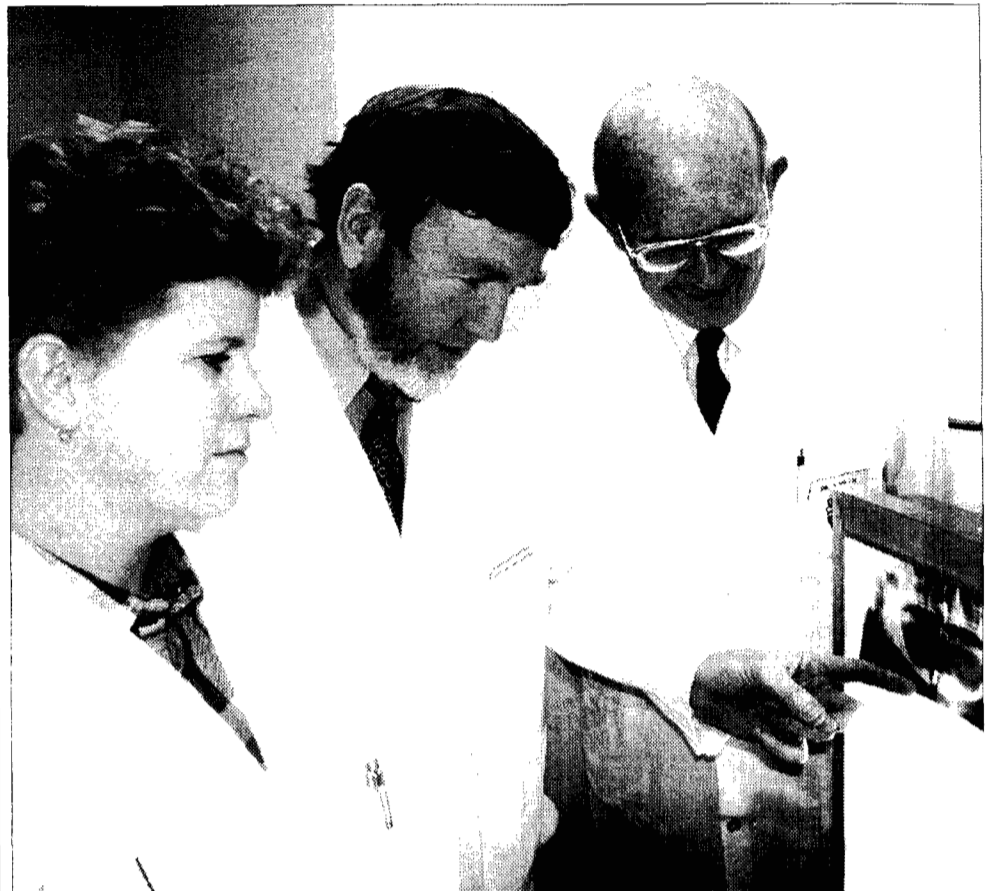
"Many people who get implants say they have not had such a good, firm fit since they had their own teeth," Walton said. "We see a lot of people who are severely handicapped by tooth loss, and sometimes they cry and hug us because they are so happy at the difference it makes. As a dental clinician, it is a very exciting field to be in."

But as implants have become more common, Walton and other clinicians have found that problems can develop with the prostheses they retain. The research literature has little to say about this.

The UBC study will attempt to remedy this by looking at issues such as prostheses breakage, patient satisfaction and keeping dentures properly adjusted, said Michael MacEntee, professor of Clinical Dental Sciences.

Another major focus is cost. With as many as five implants required to fit a prosthesis, the cost can range as high as \$12,000, prohibitive for a senior on a fixed income.

"It is not a trivial amount of money. That's why we feel it's important to look at the economics and cost-effectiveness of implant prostheses," MacEntee said. "No-



Gavin Wilson photo

A study at the Oral Implant Clinic aims to give dental prostheses wearers better and less expensive care. Assoc. Prof. Joanne Walton, project director, examines an X-ray in the clinic with Prof. Michael MacEntee and Clinical Asst. Prof. Julian Collis.

body has really analysed the cost and its implications before."

The study is asking for volunteers who will receive implants and dentures for just \$1,800, including follow-up repairs and adjustments for two years at no cost.

All dental work will be done by qualified professionals, not students, and will use only proven techniques and materials. All that is asked of participants after

the implants are in place is to attend regularly scheduled dental appointments.

The study is funded by the National Health Research Development Program of Health Canada and Nobel Biocare, the Swedish company which produces the titanium implants.

For more information or to participate in the study call the Oral Implant Clinic at 822-5583.

Global warming heats up Canada's North

by Charles Ker

Staff writer

Projected global warming in Canada's northwest over the next 50 years would result in more forest fires, landslides and significantly reduced water levels in lakes according to a study commissioned by the federal government.

A six-year regional study of the effect of climate change in the Mackenzie Basin was recently completed and results of "what-if" scenarios presented to stakeholders in the area.

"It's not just a matter of whether climate warming will change the physical capability of the land itself, but what happens to those people who live and work in the areas in question," says Stewart Cohen, project leader for the Mackenzie Basin Impact Study.

The United Nations Intergovernmental Panel on Climate Change has concluded that increased concentrations of carbon dioxide and other trace gases will lead to a warming of the world's climate. Retreating permafrost could potentially release huge sources of methane trapped by ice in the Canadian northwest.

Cohen, a member of UBC's Sustainable Development Research Institute (SDRI) and an Environment Canada scientist, led a team of researchers drawn from universities, institutes and government research centres across the country. Stakeholders involved in the study included representatives from aboriginal groups and industry as well as municipal, territorial, provincial and federal governments.

With a total area of 1.8 million square kilometres, the Mackenzie drainage basin is the largest of any river system in Canada. Stretching 4,241 kilometres, the Mackenzie River is the second longest river in North America next to the Mississippi.

Cohen says the purpose of the study

was to produce an integrated regional assessment of climate change scenarios for the entire watershed. He adds that the study is one of the first of its kind to assess climate change impacts on terrestrial and freshwater ecosystems as well as the communities which depend on them.

A warming trend of 1.5 C this century, plus other signs of climate warming in the basin, such as thawed permafrost, prompted a study of the area which encompasses parts of the Yukon and Northwest Territories as well as northern B.C., Alberta and Saskatchewan.

Cohen says the basin may be particularly sensitive to variations in its climate because it has many transition zones such as the tree line and the northern limits of agriculture.

"In the North, agriculture could quite conceivably expand so the question becomes what would it expand onto," says Cohen. "It could be wildlife habitat, forestry or land on aboriginal territory. How would stakeholders respond?"

Scenarios of climate change suggest that the region could warm up by 4 to 5 C during the middle of the 21st century. These scenarios would affect the land, water and wildlife in many ways: water levels in Great Bear and Great Slave lakes would decline to below current minimum levels; forest yields would decline due to an increase in forest fires; increased thawing of the permafrost and accompanying landslides would occur in the Beaufort Sea coastal zone and Mackenzie Valley south of 60 degrees north and expand in northern areas; and caribou would be harmed by a rise in summer temperatures, which would probably be accompanied by an increase in harassment from insects.

A full report of the Mackenzie Basin Impact Study is expected in December.



Terri Snelgrove photo

Have Your Cake And Be Eaten Too

Delighting audiences young and old for generations, Engelbert Humperdinck's *Hansel and Gretel* plays the Frederic Wood Theatre to Nov. 30. Based on the popular fairy tale, the classic German opera stars Emma Turnbull as Hansel, Phoebe MacRae as Gretel and James McLennan as the witch. *Hansel and Gretel* is a co-production with the UBC School of Music, directed by famed soprano Nancy Hermiston, director of the school's opera division. For show times and ticket information, call 822-2678.

News Digest

Provincial and municipal dignitaries joined members of the university community in marking the newly completed expansion of the Faculty of Education's Neville Scarfe Building with a plaque unveiling Nov. 12.

Guests included Joan Smallwood representing the provincial government, which funded the renovations project, and Vancouver City Councillor Lynne Kennedy, a graduate of the faculty.

Initiated in 1988, the project was designed to consolidate the faculty from 18 locations across campus. Construction began in 1993.

Improvements include construction of the Library Block which provides new facilities for the Education Library, an addition to the Teacher Education Office and a complete seismic upgrade of the original building.

Vancouver-based Hotson Bakker Architects carried the project to completion.

•••••

The Coast Club UBC Tennis Centre opens Nov. 15. The centre has a total of 14 courts, including four indoor courts and will be available for public use, as well as for UBC students, faculty and staff.

The centre offers a full range of instructional programs including Weekend Whip Ups, and month-long Match Point clinics. Booking fees are charged to all members, including students, and are less than \$10 per hour.

Centre administrator Lisa Archer said the Rooster Riser membership, which allows court use from 6:30 a.m. to 8:30 a.m., should be of particular interest to faculty and staff who want to play tennis before work. Brian Hall is the head pro, and student coaches will assist with lesson programs. For information on the centre, call 822-2505.

•••••

Post doctoral fellows and graduate students are invited to apply for partial funding to work with the Crisis Points Group at the Peter Wall Institute for Advanced Studies. Successful applicants will work on pure and applied projects related to models of non-linear dynamic systems.

The competition is open to scholars in all fields and departments, including interdisciplinary students, providing that a clear relationship can be shown between the applicant's qualifications and research interests and those of the Crisis Points Group.

The focus of the applicant's work could be concepts from a specific discipline to the understanding of crisis points and how models of such systems can be used to guide practical decision-making, or interdisciplinary development of crisis point concepts and models themselves.

Applications, due by Dec. 15., should include a curriculum vitae, a statement of the applicant's research interests and a statement of sponsorship from a UBC faculty member containing an indication of the source of the remainder of the applicant's funding.

For more information see the group's Web page at <http://bee.econ.ubc.ca/crisis.html> or call 822-4782.

•••••

Prof. Emeritus Dr. Harold Copp will be honoured by the Osteoporosis Society of B.C. with a gala dinner at the Waterfront Centre Hotel on Nov. 21.

Copp is being honoured for his discovery of calcitonin, a calcium-regulating hormone which inhibits bone loss. It is one of the most widely used therapeutic agents for the treatment of osteoporosis, with annual sales in excess of \$1 billion.

Osteoporosis—now recognized as a major health hazard—is the third leading cause of death in seniors, after heart disease and cancer. One in four women over 60 years and one in two over 70 are at risk.

Copp was the first professor of physiology at UBC and one of the founders of the medical school. His life-long interest in bone and calcium metabolism led to his discovery of calcitonin in 1961.

Although approved for use in the United States in 1984, calcitonin is not yet approved for the treatment of osteoporosis in Canada, although it is available by prescription for other uses. It is also a powerful pain killer.

Copp is a Companion of the Order of Canada, a Fellow of the Royal Societies of Canada and London and was one of the first inductees into the Canadian Medical Hall of Fame when it was established in 1994.

The gala dinner is the society's major event for November, which is Osteoporosis Awareness Month. All proceeds of the \$100-a-plate dinner will go toward educational programs and other aims of the society.

Call 731-4997 for tickets or more information.

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The deadline for the November 28, 1996 issue of *UBC Reports* is noon, November 19.

Accommodation

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Staff photo

Dunking For Dollars

Doug Napier, chair of last year's United Way campus campaign, was one of a parade of personalities who were dunked at Plant Operations' annual United Way Oktoberfest party. Plant Operations' fund-raising efforts continue this month with a Greek lunch and bake sale on Nov. 20 starting at 11 a.m. At \$236,260, the campus campaign is close to achieving its \$290,000 goal by Nov. 30.

Caring profession draws more men

by Stephen Forgacs

Staff writer

A record number of men have enrolled in the first year of the UBC School of Nursing's Bachelor of Science in Nursing (BSN) degree program.

The enrolment of 14 men in first year brings the total number of undergraduate males in the BSN program to 36 out of 532 students. Four of the 132 students in the master's program are male.

Barbara Paterson, an assistant professor of Nursing who has done research on the topic of men in nursing, said changes in society are leading to a gradual increase in the number of men entering the nursing profession.

"I think there is a societal trend toward recognizing the value of caring professions," Paterson said. "And the nursing profession is trying hard to better inform people about what nurses do."

The nursing profession has welcomed men into its ranks Paterson said, although in the 1950s and '60s there was some concern that men would dominate upper level or administrative nursing positions.

Mark Zieber, a master's student in Nursing, said his experience has been a good one.

"The general attitude among nurses and nursing faculty that I have encountered has been very positive toward the presence of men in the profession," he said.

Paterson said that some television programs such as the popular hospital drama show ER, which portrays the events in a busy emergency ward, are helping promote a positive image of nurses as professionals and decision makers. But negative stereotypes of shallow or seductive female nurses continue to be reinforced in movies and on television. And, there is a decided absence of male nurses in movies and television shows

about health care, Paterson said.

Other perceptual barriers preventing men from entering nursing exist as well, Paterson said. In her study of 20 male nursing students enrolled at various levels in baccalaureate nursing programs, she found that men were concerned about playing the care-giver role.

"Beyond the bimbo stereotype is the stereotype of the nurse as the female care-giver, and men don't automatically associate with that role. They think it will require things of them that they don't have," Paterson said. "The beginning students in my study were concerned that they would have to be very emotional and hug people. They didn't realize that male manifestations of caring are just fine."

Raymond Thompson, the only male professor in the School of Nursing, said a shift in the way society views caring professions, which are often thought of as being "women's work," is needed if men are to stop viewing nursing as a profession that threatens their masculinity.

Thompson first enrolled in a nursing program that attracted a fair number of men in Halifax in 1961, and later did graduate work at the University of Western Ontario where he was the only male in the master's program.

Zieber has also shared the classroom with only a handful of male students and agrees that the general perception of what care is has to change. He also believes men have a very important role to play in nursing.

"The fact that the nursing profession has been predominantly women for many years has tended to steer the perception of what care is," he said. "Males in general do not view their care as being highly emotional, but I have seen many cases where men have been very emotional in giving care."

Teams hit ball field

The UBC Thunderbirds football team's season came to an end with a loss to Saskatchewan Nov. 9 in the Western conference final. Saskatchewan, winner of the Hardy Cup, advances to the Churchill Bowl Nov. 16 in Kitchener, Ont. against the Ontario champion. The T-Birds end the season 5-3 in Canada West play and 5-5 overall.

UBC's men's and women's basketball teams open their 20-game conference schedule away from home with two games each against Calgary Nov. 15-16. The teams return home for games three and four Nov. 22 and 23 against provincial rivals the University of Victoria. The men play at 8:00 p.m. and the women play at 6:15 p.m. both days.

In volleyball, both the men's and women's teams open their Canada West schedule at home, also taking on Calgary Nov. 15-16. The men play at 8:00 p.m. Nov. 15 and 6:15 p.m. Nov. 16, while the women play at 6:15 p.m. Nov. 15 and 8:00 p.m. Nov. 16. Volleyball and basketball games take place in War Memorial Gym.

The Thunderbird hockey team takes to the rink Nov. 16-17 against the Regina Cougars in Regina, and return home for games at the Thunderbird Winter Sports Centre against the Manitoba Bisons, Nov. 22-23 at 7:30 p.m. and Nov. 29-30 against the Brandon Bobcats, also at 7:30 p.m.

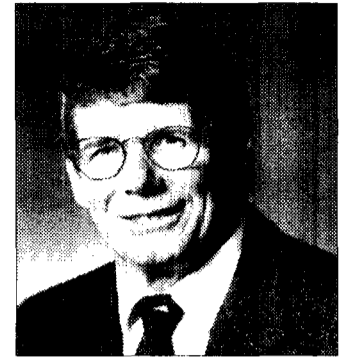


Please Recycle

People

by staff writers

Goeff Atkins has been named associate vice-president, Land and Building Services. Atkins, who assumed his new position Oct. 28, will report to the vice-president, Administration and Finance. His responsibilities will include Campus Planning and Development, Utilities and Plant Operations. Atkins comes to UBC from Saskatchewan where he was manager of buildings and facilities operations and maintenance for the City of Saskatoon. Prior to that he managed Edmonton Transit in Alberta.



Atkins

.....

Dr. Kevin Wade, an ophthalmologist at the UBC Eye Care Centre, has been awarded the Ross C. Nurse Doctoral Fellowship for the support of theoretical and practical research and studies in blindness and visual impairment. Wade will be looking at the importance of a combined approach to the medical and social impact of juvenile rheumatoid arthritis. This condition, which affects 25,000 children in Canada, can result in severe vision loss.

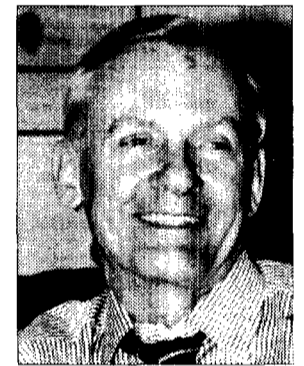
This combined epidemiological, medical and social study will be unique in Canada.

.....

Ivan Head, professor in the Faculty of Law and Chair in South-North Studies, gave the keynote address on Oct. 25 at United Nations headquarters to mark World Food Day.

World Food Day has been observed at the UN since 1984. Previous keynote speakers at ceremonies marking World Food Day have included John Kenneth Galbraith and Javier Perez de Cuellar.

Prof. Head will deliver the Convocation address on Nov. 17 at Carleton University where he will also receive an honorary Doctor of Laws degree.



Head



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Feature

Living laboratory

What looks like a park is a valuable research resource

by Stephen Forgacs

Staff writer

It's a scorching mid-August afternoon and Peter Sanders is standing inside the gate at the entrance to the 5,157-hectare Malcolm Knapp Research Forest facing down a group of surly teens who want to take their dogs with them into the forest.

"Sorry folks, no dogs," Sanders tells them.

"Oh, and why is that?"

"Because this is a research forest. No dogs, no horses, no mountain bikes."

The group, obviously hoping Sanders will go away, mills around the gate for a while before two of them take the dogs and leave.

"We welcome visitors on foot," says Sanders, director of UBC's University Research Forests. "Unfortunately there always seem to be people who feel the need to violate our rules and impede our ability to do research undisturbed, even though we're located right beside a large provincial park that permits horses, dogs and mountain bikes."

More than one million people live within an 80-kilometre radius of the forest. It is estimated that between 20,000 and 40,000 people visit annually to hike on the 140 kilometres of road and 30 kilometres of trails, and to participate in the range of educational and research programs that take place in the forest.

And, although the increased interest fits well with its goals of providing research and educational opportunities, the flow of visitors can sometimes jeopardize a wide range of carefully controlled research projects or cause damage to sensitive areas.

While he works to improve visitor facilities and generate revenue for maintenance of trails, Sanders must at the same time ensure the forest can fulfill its mandate by providing a protected area.

On a given day he might play the role of logging or research supervisor, forest ranger, and administrator before lunch, then help a film crew—who have paid to be there—find the right spot to film, and check on some unattended research projects in the afternoon, before driving to UBC to attend a late afternoon meeting. Evening might find him keeping a finger on the pulse of local politics at a Maple Ridge municipal meeting.

The Malcolm Knapp Research Forest, located in Maple Ridge and bordered by Golden Ears Provincial Park and Pitt Lake, covers an area nearly 13 times the size of Vancouver's Stanley Park.

The forest is managed and operated by Sanders and a full-time staff of four including professional forester Cheryl Power, who screens new research projects, plans educational activities and oversees the forest's silviculture program; technicians Rick St. Jean and Dave Tuokko; and secretary Gerd Strangeland. Temporary staff members include Kirsty Gartshore, a recent UBC forestry graduate who works with visiting international students, and technical assistant Alexandru Madularu, a Romanian forester who's working with Power to gain Canadian forestry experience.

Although UBC has controlled the land since 1943, it acquired the forest gradu-



Stephen Forgacs photo

Wood Science doctoral student Stephanie Fabris extracts a core sample in the Malcolm Knapp Research Forest. Fabris is using samples taken from different trees and at different heights to determine how tree spacing affects wood qualities.

ally in the form of Crown grants starting with 3,600 hectares in 1949, and another 1,200 in 1968. A Crown woodlot license was acquired on the western boundary in 1986. The university logged its first section in 1956.

At any one time there are as many as 120 research projects being carried out in the Malcolm Knapp Forest, Sanders says. And, since 1949, more than 700 research projects have been initiated there by UBC, Simon Fraser University, private groups and the federal and provincial governments. The research, which ranges from the study of amphibians and timber harvesting techniques to star gazing, is what sets the forest apart from most other forest or wilderness preserves in North America.

Within minutes of entering the forest it becomes apparent that just about everything that goes on here is either a research project or a potential research project.

"The Malcolm Knapp forest is a repository of not just information, but research science," Sanders says, as he drives his four-wheel-drive truck past tree after tree tagged with colorful plastic ribbons. They identify the locations of the dozens of research projects underway in the forest.

"This bridge is an old ferry ramp we bought," says Sanders, guiding his truck across the metal span. "I've got a capital program that allows us to build a new bridge every year, and every bridge will be different. By experimenting with different bridge structures we create research opportunities into road construction as well as new bridges."

During a brief tour of the forest, Sanders points out project after project.

In a shaded ravine, UBC master's student Leanne McKinnon, and research assistant Simon Vari, have set up equipment on a small suspended platform to measure "sun fleck use efficiency" in Western red cedar.

At another site, Wood Science PhD candidate Stephanie Fabris is taking core samples from cedar, hemlock and Douglas fir, an act that often involves strapping on logger's gear and climbing

metres above the ground for a sample. The samples will be analysed for density in an attempt to measure the effect of competition—related to tree spacing—on the variability of wood properties.

The forest is particularly well suited for research purposes, Sanders says, thanks to a high degree of variation in the terrain, which ranges from swampy lakeside areas to steep, densely forested slopes. Trees range in age from 450-year-old trees to second and third growth. Sanders recently harvested for the second time in an area that was originally logged and reforested by UBC in the 1950s. The forest is also home to a large wildlife population including bobcats, cougar, deer, coyotes, wild goats and between 20 and 25 bears. Animal habitat includes 17 lakes. Marion Lake, located in the central eastern part of the forest, has been the subject of more than 240 research studies.

Few areas have been so well studied and controlled for such a long period of time, making it a particularly valuable resource. The Malcolm Knapp forest has 50 years of climatic data and 30 years of stream chemistry and flow data on certain creeks.

Research projects are carefully screened before being given the go ahead. Strict procedural rules ensure that anything that is added to the environment as part of a project is later removed, Sanders says.

But it is also a working forest in which logging operations are carried out at different locations year round. The practice of harvesting timber is vital to its operation and serves a number of purposes, Sanders says.

Timber sales generate about 85 per cent of the research forest's operating budget allowing it to rebuild roads and bridges that were neglected and fell into disrepair in earlier years, as well as to support educational and research programs, and to maintain the forest trails and resources for recreational use.

Unlike neighbouring Golden Ears Park, the Malcolm Knapp forest doesn't receive government support for maintenance of

its recreational facilities.

Logging in the forest also provides opportunities for researchers to study the effects of timber harvesting methods on a multitude of related systems, from deer populations to vegetation. And the ability to carefully control the harvest allows for experimentation in logging techniques.

Finally, the logging activity is a reminder to the community that the area is a working forest.

Despite the importance of active logging, a visitor would have to know where to go to find it in progress at a given time. The research and educational component of the forest dominates the landscape and is the forest administration's highest priority.

Among the educational initiatives that take place is a successful national program run by Science World and supported in part by an endowment created by UBC Nobel laureate Michael Smith. Each summer two groups of 60 elementary school teachers spend a week at the Loon Lake camp in the Malcolm Knapp forest. The camp was built in 1949 to house visiting students and researchers and, because of its importance in allowing large groups to visit for extended periods, Sanders has made finding the money to upgrade it a priority.

David Vogt, Science World's director of science, works with Sanders and scientists from UBC and SFU as well as researchers involved in projects in the forest, to give the teachers a unique immersion in science.

"We take elementary school teachers from across Canada with little or no background in science and give them an intensive wilderness experience following in the footsteps of scientists and science communicators," Vogt, an astrophysicist, says.

"The aim is to give them a chance to feel, experience and do some science and have them take it back to the classroom."

Thanks to the relaxed setting at the Loon Lake camp and a program that includes canoeing and hiking with learning, Vogt says the program is well-received by teachers and scientists alike.

"Almost universally they say this is the best professional development experience they've had," Vogt says.

In addition, hundreds of students visit the forest each year for educational purposes. UBC forestry students attend a three-week field course on forest management. Courses are also held for a wide range of audiences from elementary school students to forest workers. Students from around the globe visit to conduct graduate research or to fulfill a course requirement of their home university. Sanders maintains a list of research ideas for those who arrive without direction.

While the benefits derived by teachers, students, researchers and hikers are obvious, Sanders points out that the forest contributes many less tangible benefits.

"By maintaining this land as a working research forest, we open doors to a better understanding of our natural environment and, in so doing, gain insight into the way we must interact with our forests to secure a sustainable future."