

Re-introducing a Grasslands Native

On a brisk April morning a small group of volunteers hike across a pasture towards a small knoll, carrying a precious cargo of Burrowing Owls. This group is led by wildlife biologist Ernest Leupin, (B.Sc. '92, M.Sc. '98), who has been working with these small, endangered owls since 1992.

The Burrowing Owl Reintroduction Program was started by UCC and the Ministry of Environment, Lands and Parks in 1992 with a \$5000 grant to UCC to begin studying the owls in the Kamloops region. The program is now in its seventh year and involves UCC, the Kamloops Wildlife Park, the Stanley Park Ecological Society, the BC Conservation Foundation, the provincial government and a large number of volunteers.

"Breeding is done at the Kamloops Wildlife Park and at a facility run by the Stanley Park Ecological Society in Vancouver," explains Ernest.

Dawn Brodie, an Animal Health Technology graduate, manages the Burrowing Owl Captive Breeding program at the Kamloops Wildlife Park, which includes ongoing research and caring for the owl breeding pairs and their offspring. When the babies are about five months old the Animal Health Technology students from UCC, under Dawn's supervision, take blood samples which are used to determine their sex and how each owl is related to the others in the group.

The blood samples are taken to Dr. Mairi MacKay at UCC whose fourth-year biology students do the genetic testing of the juvenile owls.

"The development of a DNA

test to determine the sex of these owls has been ongoing since 1992," says Mairi. "We think we have almost perfected the sex-testing technique. This year we couldn't determine the sex of three out of the 40 juvenile owls we tested from the Kamloops Wildlife Park."

The release of the juvenile owls to specific sites in the Kamloops region is coordinated by Ernest, who works on contract with the British Columbia Conservation Foundation.

Male and female owls receive two leg bands prior to release. One is color specific to the year of their release and the other is the US Fish and Wildlife identification number. "The Fish and Wildlife bands provide us with a way of monitoring migration routes," says Ernest.

"Part of the reintroduction program is to initially provide the owls with a series of burrows in an area," explains Ernest. "We have to make burrows because the burrowing mammals whose former homes the

Dawn Brodie holding a juvenile Burrowing Owl that is receiving its leg bands prior to release.

"The Burrowing Owl can be successfully released in the southern interior grasslands and can successfully reproduce."

Male Burrowing Owl. The black wire is part of the radio transmitter.



PHOTO: Ernest Leupin

PHOTO: Pat Lee

owls use have mostly been eliminated from this region. In the future we hope to reintroduce mammals such as ground squirrels and badgers to some of the locations that contain suitable Burrowing Owl habitat."

"In the spring our volunteers construct six or seven burrows in an area where we are going to release owls. The released pair can choose which burrow they want for the nest burrow and which ones they will use for hiding from predators."

The male juvenile owls are fitted with a radio collar prior to release. These are used for tracking the birds for one summer season, then the battery dies and the collar falls off. "In the first three years of the release program it was difficult to monitor individual birds and pairs," says Ernest. "Owls move frequently from their original release site but now the radio transmitters

greatly improve our ability to locate missing individuals."

"The Burrowing Owl can be successfully released in the southern interior grasslands and can successfully reproduce. When I started working on this project in 1992, for Dr. Tom Dickinson at UCC, we had very little information about Burrowing Owls in this area. I started collecting basic data on what the birds ate and what locations they preferred for their burrows. Tom has supervised UCC students every year to work in the field on this reintroduction program and the research has contributed a significant amount of information about the owls' behavior in the wild."

"Now, seven years later, we have improved breeding facilities, successful DNA sex-testing of the juveniles and higher survival and breeding rates of the released owls," says Ernest.



PHOTO: Pat Lee

Ernest releasing a juvenile Burrowing Owl into a prefabricated burrow.

B.Sc. Graduates

Ernest Leupin

"I was the first student at UCC to do a Directed Studies course in fourth year," says Ernest Leupin, (B.Sc. '92). "My study, in 1991, was to evaluate different songbird census methods. I have been involved with songbird studies since then, and always with Dr. Tom Dickinson at UCC."

"UCC was different than the university I was attending in Florida because of the personalized relationship with the instructors. In 1990 there were only 10 students in the upper level science courses so I had a great relationship with those 10 people and with the faculty who were always available to help us."

Ernest's family moved to Canada from Colombia in 1990 and Ernest started at UCC in first year sciences. In his second year he advanced to third-year science after receiving credits for his schooling in Florida.

After graduating with his B.Sc. in Animal Biology, Ernest was accepted to veterinary school, but instead, took his first job as a biologist working for the BC Conservation Foundation doing a riparian study.

"I have been working contracts with the Foundation ever since. The Foundation is a non-profit organization that carries out projects, such as the Burrowing Owl Reintroduction program, for the Ministry of Environment, Lands and Parks and for non-governmental organizations."

Ernest went back to university to complete an M.Sc. in Biology to further develop his research skills. "I wanted the credibility to train

other biologists, and develop experimental methods. I didn't have the expertise to draw from with a Bachelor of Science."

His Master of Science thesis, *The Effects of Harvesting on High Elevation Songbirds*, is a study of how original old growth forest songbird communities respond to various logging styles. Ernest sampled songbird populations for two years before the area was logged in different patterns and now has sampled the area after the logging. His research has found that certain birds respond negatively to the amount of canopy opening whereas others respond positively to the amount of forest edge that was made available. Ernest hopes to complete his Masters research by August.

Ernest, Tom Dickinson and Michael Murphy, (B.N.R.S. '96), have started Ecoscape, a consulting firm that will do environmental studies for a variety of clients in British Columbia.

Craig Pamplin

"I really enjoy research and couldn't see myself doing anything else," says Craig Pamplin, (B.Sc. '96), and now a Ph.D. chemistry student at UBC.

Craig grew up in Prince George and came to Kamloops in 1991 to do first year. "I started in Human Kinetics thinking I wanted to be a gym teacher, then I switched to Biology. In fourth year I decided to major in Chemistry and did a Chemistry Directed Studies project under Dr. Norm Reid."

After completing his undergraduate degree, Craig applied for an internship with the Lunar and

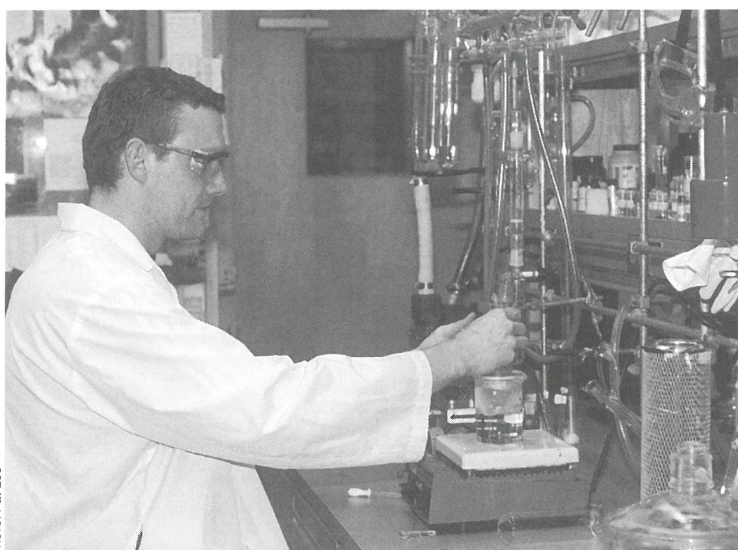


PHOTO: Pat Lee

Craig Pamplin in his research lab at UBC.

Planetary Institute which offers internships to science students in third or fourth year. Hundreds of people apply for these positions, but only 12 are selected.

"I left the day after Convocation in June and spent 10 weeks working at the Johnson Space Center in Houston," says Craig.

Craig worked on the identification and characterization of Martian soil analogs, which means he studied various volcanics from Mauna Kea in Hawaii and compared the results to Martian soils. By doing laboratory analysis of the rocks from an accessible volcano on Earth, and having detailed satellite imagery of the area, scientists can compare the imagery from Mars with what they see on Earth. This remote sensing technique allows scientists to determine what the Martian soils are made of because NASA doesn't have any actual samples from Mars.

"I went back last summer for two weeks to continue the research and I may go back again this summer."

Meantime, Craig is working full-time on his Ph.D. research and

teaching undergraduate labs at UBC. His thesis is entitled *Homogeneous Catalysis in Aqueous Solutions* which means he is looking at the separation of gas mixtures, or hydrodesulphurization, of gas streams. The practical application of this research is to find methods of removing sulphur from natural gas streams.

Peter Theobald

Peter Theobald, (B.Sc. '94), is from Enderby and initially went to UCC to take a couple of years of science in a community college setting.

"Then UCC really started to expand and I decided to stay," he explains. "The courses I did really well in were the lab courses. I like the practical aspects of science. I didn't want to get stuck sitting at a desk and I knew I didn't want to do just theoretical research."

"Getting my degree at UCC was great because it involved a lot more personal relationships with the instructors and we weren't stuck with a teaching assistant. Possibly a downside to all that personal attention is that it doesn't force you to learn more on your

own which actually benefits you more in a job."

"When I graduated I wasn't sure where I wanted to work. I started my job search by researching several technology guides available at the Vancouver Library. I picked out several companies I was interested in and sent them resumes. I went through some grueling interviews here at Creo, but at that time they were interviewing for positions that were due to be filled several months later."

Peter worked at Ballard for eight months before he accepted a job with Creo Products in Burnaby, B.C. He has been with Creo for two and a half years.

"We produce imaging heads plus associated hardware and software to transfer digitally stored images directly to printing plates."

This imaging equipment is designed and manufactured by Creo, and allows printing companies to bypass the film-to-plate step of the printing process, saving time and money.

"My current position is team leader for a group of people work-

ing on thermal imaging head integrators, which means I provide technical, administrative, and logistical support. I also assist the engineers on the project and do some production engineering myself."

"When I first came to Creo, I saw room for advancement. With education degrees ranging from diplomas to Ph.D.s, what Creo looks for is people with strong personal initiative and technical skills, as well as the ability to provide input in a team environment. What makes Creo really successful is that everyone has a part in improving the company's products."

"I have really enjoyed the working environment here as well as the challenges faced when working with a company that leads the printing/graphic arts industry in applied technology and I have no doubt that I will remain with Creo for some time."

Peter Theobald at Creo Products.

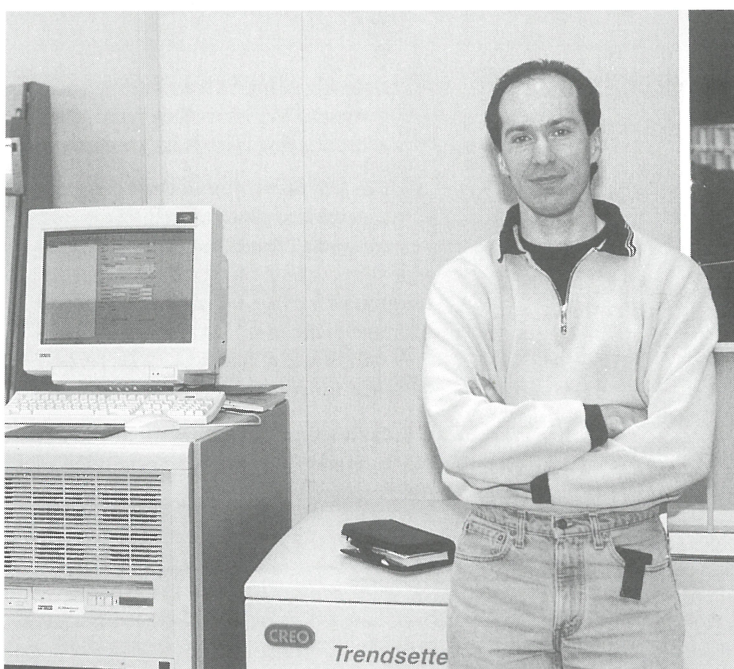


PHOTO: Pat Lee

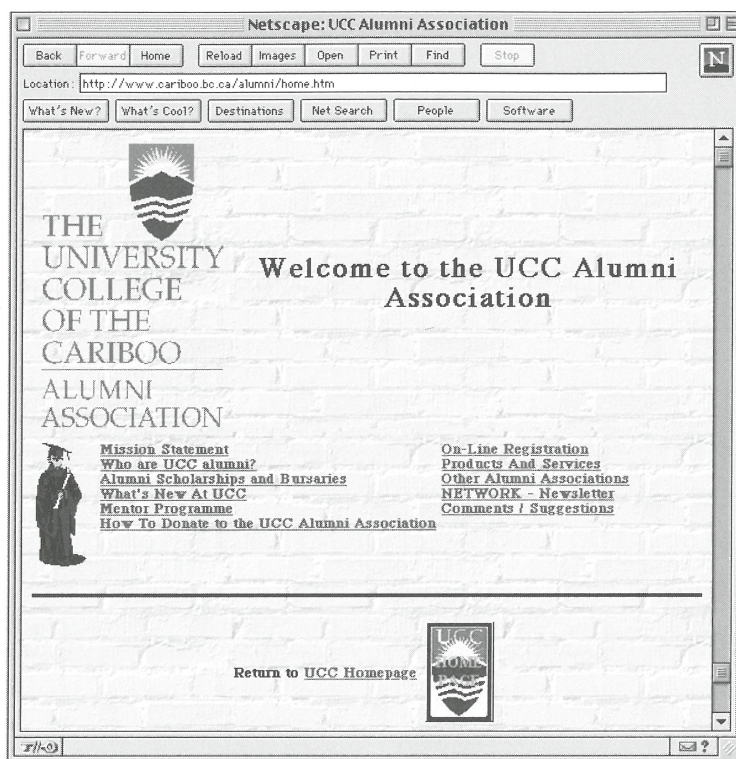


WHAT'S NEW?

www.cariboo.bc.ca

You can find the UCC Alumni Association at www.cariboo.bc.ca/alumni or if you are browsing through the UCC web site, you can find us under [Student Services](#).

- ★ You can update your mailing address with us on-line.
- ★ To make your contribution to students at UCC, click on the [Student Awards](#) on the Alumni's page.
- ★ As an alumna or alumnus of UCC you can use some of the services offered by the UCC Library. Check out the library's holdings under [Student Services](#), then [UCC Library Catalogue](#).
- ★ The UCC web pages are your guide to what's on, what's new. Check out the [UCC Events Calendar](#) at www.cariboo.bc.ca/uccevents/index.htm to see what is coming up on campus next week, or next month.



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UCC Mentoring Program

The Mentoring Program is an information and education program designed to help students and recent UCC graduates meet professionals in a variety of careers.

The Mentoring Program is not a job placement or recruitment service. It is an opportunity for volunteer mentors to share their knowledge with students to help them make the connection between their education and possible career paths.

Do You Want to Volunteer as a Mentor?

Contact the UCC Alumni Association office at (250)828-5267 or email us at alumni@cariboo.bc.ca. We will tell you about the program, answer your questions and send you some more information and an application form.

Have You Recently Graduated?

Are you still looking for the right career? You can participate as a Protege by contacting the Alumni office to sign up for the program. Give us a call today.

UCC Science Introduces New Elements

The science degree program at UCC began in 1989 as a partnership with UBC. Students graduating with a Bachelor of Science degree received a UBC credential. This year the science program at UCC comes of age as the first UCC B.Sc. degrees will be granted.

The science program at UCC began modestly by offering a General Science degree.

"General Science degrees are most helpful for education degrees but we quickly recognized that it was not the most popular with students," says Dr. Colin James, Acting Dean of Science and Health Sciences. "Students wanted to concentrate in specific disciplines. We now offer nine majors, including Animal Biology, General Biology, Ecological and Environmental Biology, Chemistry, Environmental Chemistry, Physics, Mathematics, Mathematical Sciences, and Computer Science."

"Over two hundred students have already graduated with a B.Sc. degree from UCC," says Colin, "and of these at least 20 have gone on to graduate school at UBC, SFU, University of Alberta, McGill, Texas A&M, and others. As well, many others have been admitted to professional schools in dentistry, medicine, veterinary medicine, law and education."

"We have introduced three new elements to the UCC B.Sc. degree," says Colin. "First, we broadened the scope of the science that all students need to cover by requiring them to take a broader selection of first-year science courses; second, we require students to take a unique Information Technology course; and third, we require all

students to take a second-year English course in Communications."

"The communications aspect is built on in third and fourth year with students writing a significant number of essays and reports and giving oral presentations. By the time they graduate, students should feel confident making oral and written presentations which employers appreciate."

"Some of the academically stronger students are given the chance to develop their communication skills further, and to enhance their research skills, by enrolling in Directed Studies 448 courses. These students work on research projects throughout the year under the direct supervision of a faculty member, complete a written report at the end of the year and do oral presentations in the spring to a panel of judges during a poster session. Most of the students who have gone on to graduate school had their first research experience in 448 courses."

Twenty-two fourth-year Science students from UCC, Okanagan University College and the University College of the Fraser Valley presented their Directed Studies research projects during a poster session in March. Four of the ten UCC students are pictured here explaining their work to faculty judges.

DIRECTED STUDIES 448

Poster Session

Laurel Martens, Biology

Effectiveness of Various Detergents for Cleaning Brewery Filters

Filters remove protein from beer that makes raw beer cloudy. These filters are cleaned with a protease, a bacterium molecule, that cuts up the large protein molecules into smaller sizes so they can be removed from the filters.

Barb Wheatley, Biology

DNA-Based Sex Testing of Juvenile Burrowing Owls

The 40 juvenile Burrowing Owls at the Kamloops Wildlife Park were tested using samples of their blood. Externally, the owls' sex is unidentifiable to us and the males and females need to be separated prior to sexual maturity.

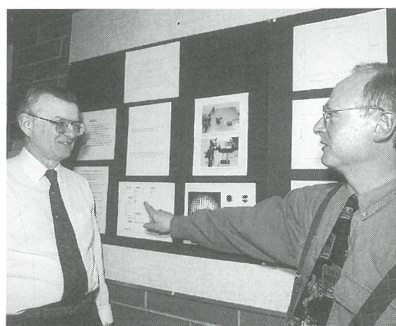
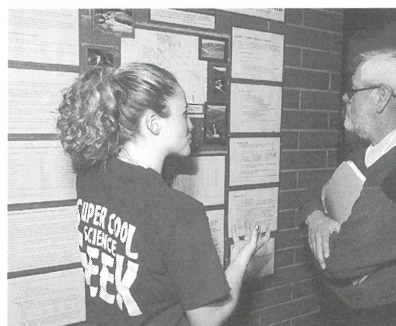
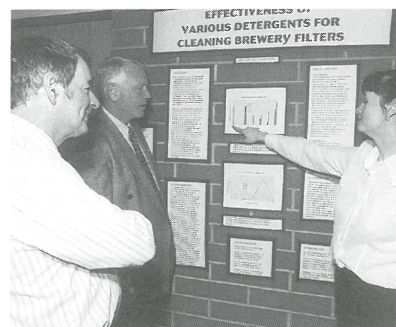
Marnie Gillis, Chemistry

Investigation of Kamloops Storm Water Quality and Seasonal Variation

Marnie began this study as a Co-op summer job and continued working on it throughout the winter as her research project. The objective of the study was to design and implement a storm water monitoring program for the City of Kamloops.

Ron Webster, Physics

Single Mode Optical Fibre Interferometric Temperature Sensor
Ron looked at light pattern changes as a function of temperature using a split laser beam.



FROM TOP: Laurel Martens with Dr. Colin James, foreground, and Dr. Neil Russell; Barb Wheatley with Dr. Gary Hunt; Marnie Gillis with Dr. Jim Davies; and Ron Webster with Dr. Roland Cobb.

ABOVE PHOTOS: John Enman



PATHFINDER

ALUMNI...

Ross Spina (UT '71) received his B.A. at UBC and his M.Ed. at UVic. Ross is the Director of Education, Technology and Program Development for the Kamloops School District. Ross has been a teacher, a principal and is now in the administration of education. Ross volunteers his time with Rotary and numerous community groups. **Roland Neave (UT '72)** received his B.A. in Geography from SFU in 1975. Roland started Wells Gray Tours as a summer job in 1972, then, after completing his degree, he worked full time on the company which celebrated its 25th anniversary last year. The Neave family has two endowments that support several scholarships in Geography, Tourism and Vocational Skills Training at UCC. **Judy Nielson (Leisure and Recreation Diploma '78)** is the Executive Director of Volunteer Kamloops. Judy worked at UCC for a few years after receiving her diploma, then worked at the Sagebrush Theatre. Judy's many years of experience working with volunteers has led to her current position.

Ross Boulanger (UT '83) is an Assistant Professor in Engineering at the University of California at Davis. Ross received his Engineering degree from UBC, his Master's and Ph.D. from the University of California at Berkeley. Ross, his wife and two daughters miss BC but love living in California.

Mark Madryga (UT '84) can be seen on BCTV doing the weekend weather, and heard on various radio stations in BC, including Radio NL and The River in Kamloops. Mark completed his B.Sc. at UBC in physics, meteorology, and oceanography in 1986 and currently works for Environment Canada at the Pacific Weather Centre in Vancouver. Mark and his wife have a one and a half year old son.

Todd Langstad (UT '90) B.Sc. Computer Science UBC is working for Microsoft in Seattle. Todd has been there five years and has worked on Windows 95, Internet Explorer 3.0, and

Windows 98. Todd is married and coaches kids' ice hockey and plays on the Microsoft hockey team. **Heather Hutchings (Human Service Worker Program Certificate '94)** is working at the Kamloops Regional Correctional Centre. Heather completed the certificate, then took the Justice Institute of BC's six-week program and immediately got a job. Heather is returning to UCC this fall to take third-year arts.

Lesley Robinson (B.Sc. '94) received her M.Sc. in Mathematics from SFU in 1997. Lesley now works at UCC as a sessional instructor teaching math and education courses. Lesley has four children, one son is currently attending UCC and next fall, one of her daughters begins classes here. **Vivianne Gayton (B.A. '96)** and **Tom McDougall (B.A. '95)** worked on the *Omega* newspaper while attending UCC. Tom and Vivianne were married in 1995 and had a baby boy, Lang, who was born last October. Tom is now the editor of the *Lakes District News* in Burns Lake, BC and Vivianne is a freelance writer.

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When the Earth Moved

After years of working to establish a prominent presence in Williams Lake, the forces of Mother Nature have moved the UCC Hodgson Road campus.

The Williams Lake campus, which saw a \$1.5 million expansion just a few years ago, was forced to find alternative facilities last summer because of underground movements that fractured the building and continue to strain the structure. An area of hillside where the campus is located, perhaps as large as 800 metres wide by 1600 metres long, has been moving downhill. Within this area, Williams Lake had also built a reservoir which was discovered to have been leaking up to 168,000 gallons of water a day from a two metre long crack in the concrete.

"Our campus building first experienced difficulties that we noticed in 1992," explains John Feller, Director of Facilities at UCC. "The building again came to our attention one morning in November of 1996 when a piece of concrete was found lying in a hallway. We immediately conducted an engineering evaluation of the problem and then closed the building for two weeks to do emergency repairs to restore the structural integrity and safety of the building. We also set up several monitoring systems, including laser survey of points on the building and geotechnical boreholes to monitor any further underground and building movements.

"In April of 1997 the movement started to accelerate and that gave us considerable concern," says John. "On June 10, 1997, it was recommended to the Board of Governors that, given the contin-

ued ground movement and effect on the building, people should no longer use the Williams Lake campus building."

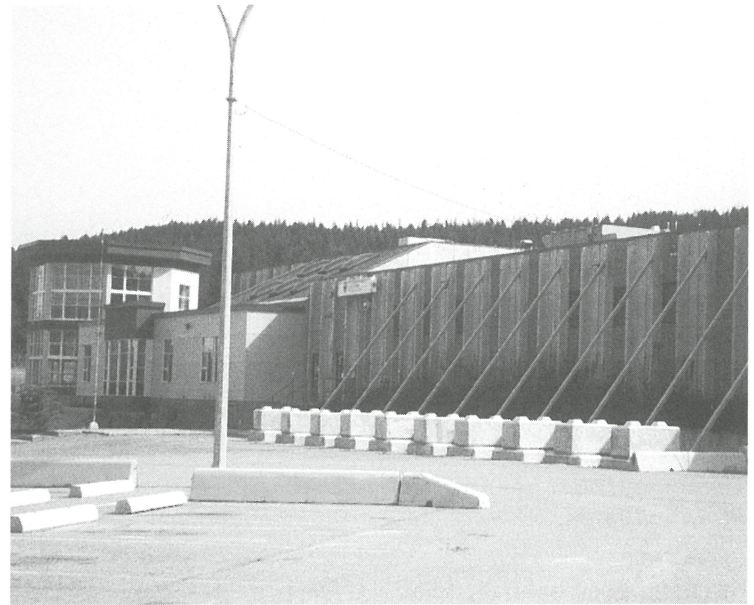
The UCC staff spent the summer trying to find accommodation for classes, offices, and labs. In the fall, staff and students were relocated to a variety of locations around town. Some programs moved in early September but it wasn't until mid-February of this year when the library was finally relocated downtown within a five minute walk of the administration offices and most of the leased classroom space.

"We had hoped to move the library at the end of December," explains Lynda Wilson, Dean of the Williams Lake campus, "but there was a delay with the negotiations and with renovations at the new location. A library requires appropriate fire separation and floor strength to accommodate the heavy weight of books, so a suitable site was difficult to find."

Board of Governors Vice-Chair Diane Bonnell says, "we were pleased to discover that enrollments in Williams Lake rose in the fall semester despite the relocation, and I attribute some of this success to the strong support UCC receives from the Williams Lake community."

There is an additional, positive aspect to the relocation of courses and programs as Dean Lynda Wilson points out. "We have a real presence in downtown Williams Lake. Everywhere you look, there are UCC signs, and we're working hard to make sure that all of our students have a good experience in our temporary facilities."

"In fact, word around the stu-



dent lounge at our new main campus is that students prefer the downtown location because it has easy access to shopping, restaurants and residential areas. Students at our other locations, however, miss the comraderie and campus spirit that existed when we were all under one roof."

UCC continues to promote its new presence downtown, in the newly named UCC Square. "The challenge for us," says Lynda, "is to ensure that everyone knows where to find us now that we are no longer 'on the hill'."

UCC continues to monitor the Hodgson Road building for any further movement. There has been some movement since last summer and there is "further evidence of damage such as further cracking and heaving of floors and extended cracks in the preformed concrete slab walls," says John.

The future of the building, and whether UCC can move back into it, will not be decided until completion of the engineering studies by UCC consultants, the City of Williams Lake and the BC Ministry of Transport and Highways in August 1998.

TOP: Former main campus building with bracing struts that were installed during the two-week closure in December 1996.

CENTRE: The new home of the UCC Library at Williams Lake.

BOTTOM: Barnard Square building.



Teaching Excellence Award ~ 1998



L TO R: Henry Hubert, John Karakatsoulis, Cheryl Lyall, Don Lawrence, Wil Daley.

Wil Daley, in the words of a fellow instructor, is a dedicated, supportive teacher who "has been successful in educating a population of people that few teachers have ever been able to reach." Wil has maintained a philosophy of "inclusive, self-reflective and co-operative learning."

Henry Hubert is described by students as a compassionate and patient mentor who listens to his students and "allows time for genuine insight." He is described as a person whose "generous attitude grant him integrity and professionalism, characteristics quite rare in today's world."

"Selfless, concerned and professional" and "inspiring, involved and knowledgeable" are words that students use to describe **John Karakatsoulis** who teaches in the Forestry/ Natural Resource Science program. John received 62 student nominations for this award.

Donald Lawrence is described as "an exemplary instructor in Visual Arts whose knowledge, dedication, communication skills, and

the time which he spends with students on both in-class and extra-curricular projects form the basis of his excellent teaching evaluations." His students say that "his door is always open to students: as a group, as an artist, and as a friend."

Cheryl Lyall has been teaching in the Nursing program for over 20 years and is described as "the most dedicated part-time instructor in the School of Nursing." She is a competent, knowledgeable educator with an infectious enthusiasm for nursing.



Scholarly Merit Award ~ 1998

Roger Yu's prime research area has been Discrete Mathematics, especially Graph Theory, for more than 13 years. He has published 17 research papers in international academic journals and presents an average of two papers per year at various international symposia. Roger is a Fellow of the Institute of Combinatorics and its Application.

Roelof Brouwer's prime research area in Computer Science is based on the use of fuzzy neural networks. He has published 12 research



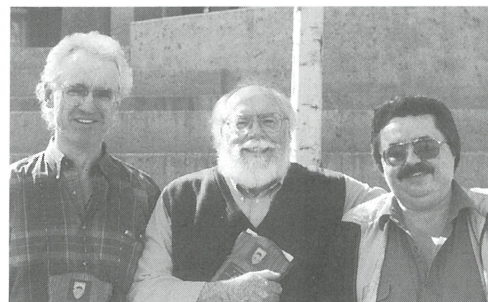
L TO R: George Johnson, Roger Yu, Roelof Brouwer.

papers in various international publications recently. He has interested two of his students in doing research in his field. Roelof maintains memberships in six professional and learned societies.

George M. Johnson focuses his research mainly on transitional and modern British literature, with special consideration in "psychical research" — the influence of various psychological theories on British novelists. He is a practicing biographer, and editor of two volumes of the *Dictionary of Literary Biography*. He has published three books, most recently on the little-known British writer, J.D. Beresford.



Distinguished Service Award ~ 1998



L TO R: Brian Mitchell, Reg McNamara, Brant Leigh. MISSING: Lynda Wilson.

Brant Leigh, UCC Computer Services

Reg McNamara, College Access and Extension Services

Brian Mitchell, UCC Bookstore Manager

Lynda Wilson, Dean of the Williams Lake Campus

ABOVE PHOTOS: Bronwen Scott

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