

Inside:

- 3 Spring ground-breaking for Northern Forest Biology Building
- 3 LUCKY 7 lives up to name
- 7, 8, 9, 10, Convocation '89 memories
- 12 Teaching award for Petrone

Lakehead



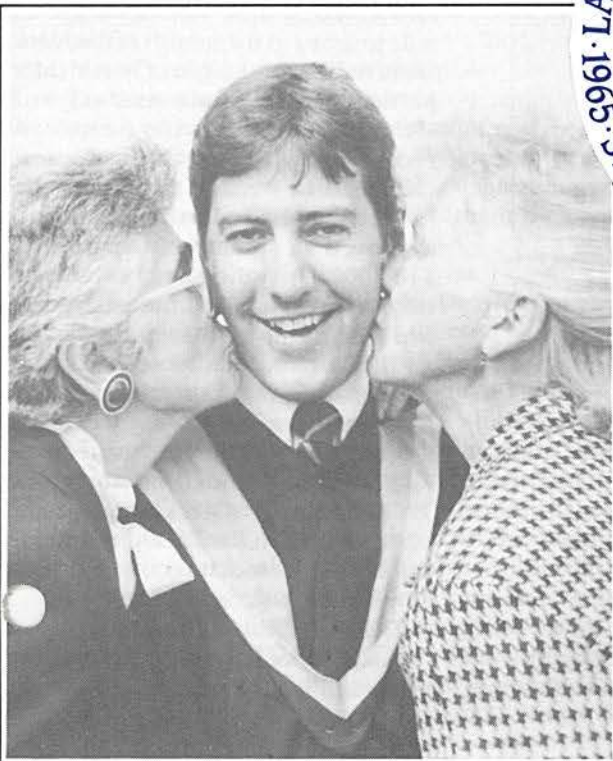
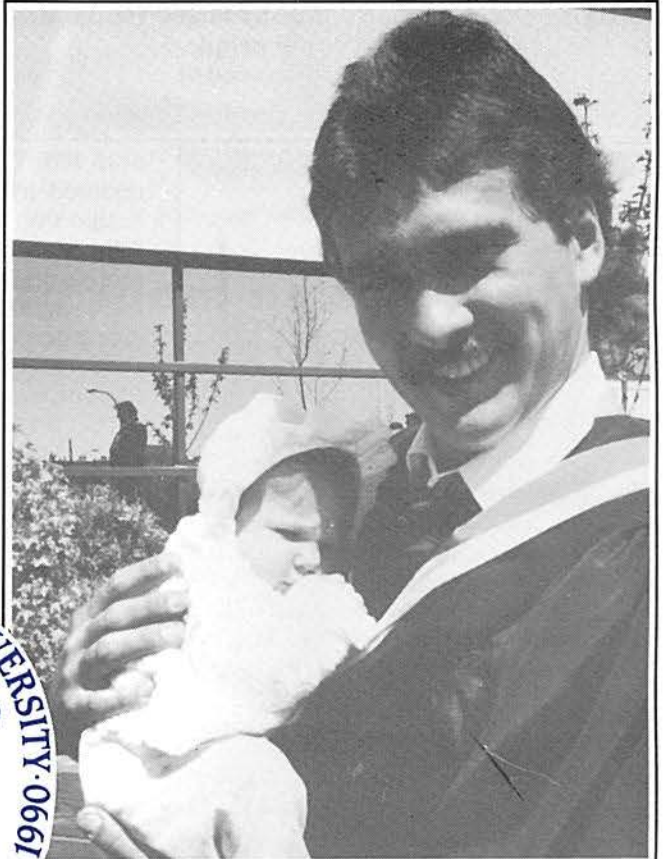
University

Agora

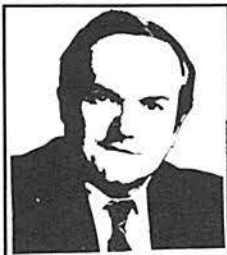
THUNDER BAY, ONTARIO

VOL.6. NO.6

JUNE 1989



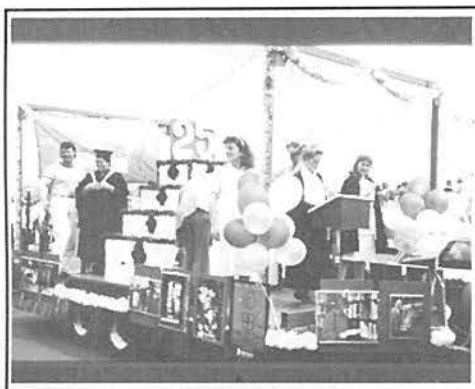
Report From The President



Dr. Bob Roschart

Lakehead University Float

Congratulations to all of those who participated. The Lakehead University float was most impressive, as were our people, and my 25 year old car made it to the end of the parade.



Floating along: Lakehead University's entry into the Shriners' Parade looked great. Jim Podd and Norma Gibson were responsible for pulling everything together and creating a first-class float.

Vice-President Weller Re-appointed for Second Term

At the conclusion of the review process, Vice-President (Academic) Weller has been re-appointed for a five-year term. In reviewing the role of Vice-President (Academic) within the institution, the Review Committee has stressed the importance of the intra-university role and the day-to-day management responsibilities of this senior academic administrative position.

Dialogue '89 - A Success

Over 260 guidance staff, as well as university liaison representatives, from all the Ontario universities, participated in the annual Dialogue forum at Lakehead University from May 17 to 19, 1989. The feedback from the meeting indicated very strong support for both Lakehead University and the conference organization. Special recognition is deserved of Gwen Wojda, Pentti Paularinne, and all the many

helpers, but especially the staff support given by the Registrar's Office. Lakehead first hosted this event in 1971.

What is an L.U. Affinity Card?

It is a Master Card with a photograph of Lakehead University on it. Lakehead University becomes the latest Canadian university to offer, as part of Alumni Services, an "affinity card". Each and every expenditure charged to the card results in a financial contribution to the Alumni Fund. If you use credit cards, it is a painless way to donate. If interested, contact Frances Harding in Alumni Services.

Architect Selected

The Firm of Tett and Landy, in association with Carley and Phillips, has been retained by the Board of Governors to design the new Student Centre/Regional Education Centre Project. Two working groups representing potential users are in the process of being formed in order to give operational advice to the architect. Stephen Phillips of the firm of Carley and Phillips, has been involved in similar projects at the University of Waterloo.

Provincial Budget

On the surface, it is difficult to say anything inspiring about the recent Provincial Budget. Many of the new initiatives are socially progressive, but the cumulative tax bite is beginning to add up. Saving this, however, is one thing. At the gasoline station this morning, the owner said that he had no grumbles about increased gasoline taxes. Is it that Canadians are so "well off" that taxes are of little concern?

I doubt it. I suspect that it is more a reflection of our passive attitude when it comes to government. Special interest groups do a good job getting their message to government. I am less convinced that the general public is as effective.

Finnish University President to Visit Lakehead University

Dr. Esko Rieppula, the Rector of the University of Lapland, is visiting Lakehead University this month and is a special guest at Convocation. The University of Lapland is located in the very progressive northern Finnish community of Rovaniemi which is located on the Arctic Circle. It is a university that specializes in Social Sciences, Law and Education and, in addition to being the head of the University, Rector Rieppula is also Chairman of the Executive Commit-

tee of the City Administration and, as well, is a local entrepreneur.

Lakehead University Women Win Big

Congratulations to the Silver Jubilee Team in the Royal LePage Run for Women. The team successfully beat out all challenges and won first place for the Corporate Award for most entries. In spite of the snow, there was a good turnout of women representing faculty, staff, faculty wives and students.



Winners: Lakehead University entry of 100-member Silver Jubilee team in the Run for Women. was organized by Linda Phillips. Diane McBride, above, was one of those to brave the snow.

Canada Sea to Sea

Twenty-five of our Outdoor Recreation students and Dr. James Smithers are now working their way down the 1,200 mile journey to the mouth of the Mackenzie River. Mayor Knight of Fort McMurray participated in a gala send-off in Fort McMurray on Victoria Day (in spite of the recent snow). Just prior to leaving Lakehead University, the group was informed that the Federal Government had approved a grant of approximately \$105,000 to pay the summer student salaries. National media interest in the 1989 trip is high with a CBC reporter as well as an "Equinox" writer travelling on the entire trip with the four canoes. In 1789, Mackenzie was on his way to the Pacific Ocean and made a wrong turn near Fort McMurray and ended up at the Arctic, 1200 miles later. Mackenzie, four years later, made it to the Pacific, several years prior to the much-recognized trip of Lewis and Clark.

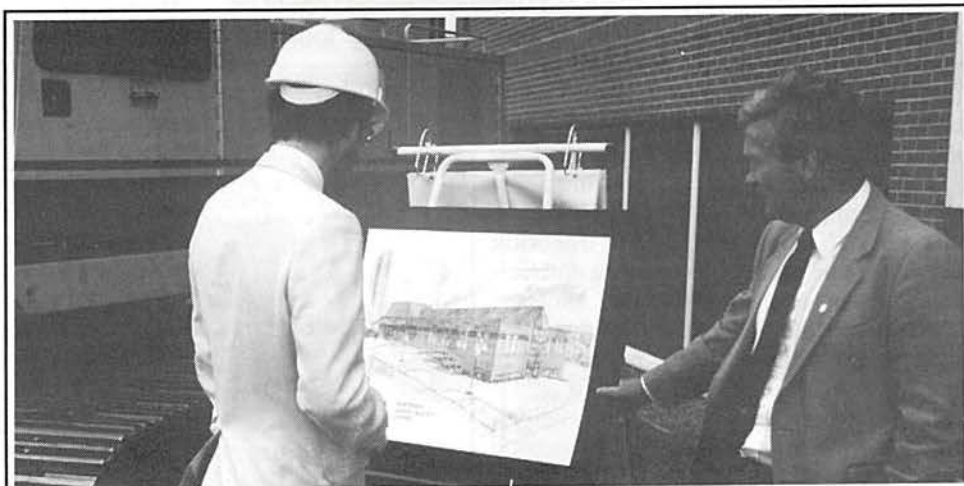
Old Fort William has been supportive of this venture in terms of both historical input and loaned equipment.

University growth continues, new research centre under construction

Work has started on a \$4 million research centre at Lakehead University.

The Northern Forest Biology Centre will provide office, administration and laboratory space for eight Ministry of Natural Resources research scientists and related administrative and technical support staff. The building will also accommodate up to four post-graduate students, visiting scientists and post-doctoral fellows working on approved research projects.

The building is going up just west of the Chancellor Paterson Library. The project is expected to take about one year to complete. The architect is John Stephenson from Walter Kuch & John K. Stephenson Architects of Thunder Bay.



Research centre: The Northern Forest Biology Centre will encourage more co-operative research projects between the Ministry of Natural Resources and the University. The \$4 million building is going up next to the Chancellor Paterson Library.

Lucky 7 overcomes setback to zoom near top spot

The LUCKY 7 lived up to its name, earning a second place finish for Lakehead University's entry in the 1989 Shell Canada Fuelathon.

LUCKY 7 and 26 other student-designed vehicles competed for top prizes late last month at the test centre in Oakville, Ont. Although the University of Waterloo's Astral came in first, LUCKY 7 pulled off a second place finish among university entries. However, a professional Shell research team finished second overall.

Lakehead took second place in spite of wet, tricky track conditions. The University also earns \$2,000 for its efforts in the competition.

Lakehead's entry suffered a setback during a trial run when driver Diane Hyde was thrown after the vehicle hit a bump. According to team manager Art Rob, Hyde required a few stitches and was not allowed to continue because of team concerns about her health.

Substituting in the driver's seat was team mechanic Harold Danilkewich. The substitution meant a major weight difference. Danilkewich, weighed in at 188 lbs, twice the weight of Hyde and the car, both of which weigh 94 lbs.

Repairs were also made to the car, but they were minor. "We were able to patch it up," Rob said. "It meant a couple of late nights, though." The final student member of the team was mechanic Frank Schauble.

Dr. Seimer Tsang, faculty to the team and chairman of mechanical engineering, had high hopes for the LUCKY 7. "This is the 13th Fuelathon," he said before leaving for the competition. "Maybe naming the car



Very lucky: Lakehead University's seventh entry into the Shell Canada Fuelathon proved to be a lucky one. The LUCKY 7 finished second among the university entries. Pictured above are Diane Hyde, in the car; Lakehead President Bob Rosehart at left; Dr. Dianne Common, right; and Dr. Seimer Tsang to the rear.

LUCKY 7 with L for Lakehead and U for University will counter the (unlucky number) 13." This was Lakehead's seventh entry into the Shell Fuelathon.

This year's vehicle was a re-designed version of the 1988 entry. The LUCKY 7 sported front-wheel drive and rear-wheel steering. In addition, a fiberglass body was used to improve the aerodynamic characteristics of the car. The engine was the same Honda G100 76 CC engine used during the last two years. The sleek design

and modifications inspired the team to hope for the best.

"In my opinion it's the best car we've ever had," Hyde said before leaving for Oakville. "I'm hoping for at least second (place)."

It is that enthusiasm that will carry next year's team through the 1990 Shell Canada Fuelathon. "We have to beat Waterloo next year," Tsang said. "This car could do very well."

Who's who in fish world listed in new book

A book published by two Lakehead University people could be subtitled: Everything you've ever wanted to know about local fish, but didn't know who to ask.

Walter Momot and Connie Hartviksen have released a 300-page book titled *Fishes of The Thunder Bay Area of Ontario*. Illustrations were done by local wildlife artist Karen Spinney-Helmer. The official book launch was held last month and the book has been well-received by fishing enthusiasts. Momot is a professor of biology, Hartviksen is a biology research associate and Spinney-Helmer is a biology lecturer at the University.

"It is a usable source book for anglers, tourists, hobbyists, naturalists or anyone in science," Hartviksen said. "It should be a standard piece of equipment for every angler's tackle box."

The book contains an inventory of 500 lakes and 35 streams describing the water body locations and what fish can be found in each. The area covered ranges from White River to Atikokan. The book details the fishes' average length, weight, records and whether it is common or rare to the area. It also describes the fins, color, habitat, food and spawning of fishes.

Momot said the book began as a dusty box of notes and partial drawings given to him by the late naturalist Keith Denis. Denis

has received the information from Dr. A.E. Allin, a hobbyist who collected fish extensively until his death in 1966. Much of Allin's collection is now in the Royal Ontario Museum.

This finished book contains more than 80 pen-and-ink illustrations. She noted that the drawings had to be so technically perfect, they had to contain the correct number of scales along the fishes' lateral lines.

The book was sponsored by the University's Senate Research Committee, the Thunder Bay Salmon Association and the North Shore Steelhead Association of Thunder Bay.



Fish facts, not tales: Walter Momot, centre, and Connie Hartviksen worked to compile the handbook of fishes in Northwestern Ontario. This book is a handy guide for anglers, naturalists, hobbyists and science students.

Lakehead's Dilley part of international rural planning

Rural areas are more than "a resource for city people."

Lakehead University's professor Robert Dilley is part of an international effort to raise awareness of concerns held by rural areas around the world.

Dilley is the Canadian editor for the 1988 International Yearbook of Rural Planning. "We're trying to draw people's attention to the problems of rural areas," he said. "Attention has focused more in recent decades on urban problems, (and) rural areas have been regarded as a resource for city people." He was also involved in the 1987 edition of the yearbook.

The yearbook idea arose from a British publication called the Countryside Planning Yearbook, edited by Andrew Gilg, who decided to go international by adding sections on the Western World.

Dilley got involved in the project after meeting Gilg at a conference.

"I must have made some impression," Dilley said. "He invited me to be the North American editor." However, Dilley said the job was too much for one person and recommended dividing the job between a Canadian and an American editor.

"Nobody really thinks of rural areas as something that needs to be cared for," he said. "But this (attitude) has changed slightly with concerns over environmental assessment."

The yearbook includes significant legislation dealing with rural problems and planning, he said. Dilley works with a network of correspondents from coast-to-coast. There is also a series of literary reviews which cover publications such as books, government documents and journal articles. "As editor, it is my job to prevent overlap," he said.

The yearbook also includes a number of research articles dealing with techniques or particular problems in rural planning. "As editor, I contact people for articles." He mentioned that Thunder Bay-Atikokan MP Iain Angus wrote about government policy on grain trade.

"Next year's volume will have a new name and will probably contain an article on the effect of free trade on agriculture," Dilley said.

Dilley is continuing with his interest in rural issues, both local and international.



Latest annual yearbook: Professor Robert Dilley served as Canadian editor for the 1988 International Yearbook of Rural Planning. He also worked on the 1987 yearbook. Work is underway for the 1989 International Yearbook.

Re-tracing Mackenzie's search for Northwest Passage

by Maureen Martin

The stereotyped image of a university professor does not include paddling canoes 12-hours a day while battling hordes of ravenous insects and coping with unpredictable weather. Unless one is referring to Lakehead University's Dr. Jim Smithers.

Smithers, a professor of Outdoor Recreation, admits he is more comfortable working 16-hour days seven days a week planning canoe treks than he is writing scholarly papers. "It's not exactly an academic, contemplative life," he said of his career. "I'd rather do the trip than write about it."

Lakehead's adventurer is off on another expedition: the re-creation of Sir Alexander Mackenzie's quest for the Northwest Passage. He will be travelling with 25 students and another leader, Derek Apple, project assistant and an Outdoor Recreation graduate. This year is Phase I of a proposed five-year project. Participants will journey 2,048 miles from Fort McMurray, Alta., to Whale Island in the Arctic Ocean this summer. "It's a relatively ambitious project," he said.

Smithers had a taste of this voyage in 1984. "Old Fort William asked us (Outdoor Recreation) to do a historical recreation of the trek from Montreal to Old Fort William," he said. "We decided to do the trip as historical as possible." Aside from dressing in voyageur clothing and paddling in reproductions of original voyageur canoes, participants stopped in communities along the way to make presentations.

"Professionally, it was very good for the students," Smithers said. The trip provided students with an opportunity to pick up organizational skills needed for long voyages.

"Travelling several thousand miles with 30 people and a very definite time-table is quite different from four people in two canoes going from A to B at their leisure," he said.

"Since the trip was very successful, we started looking for similar projects," he said. While considering various projects, he came across the 200th anniversary of Mackenzie's expeditions -- and saw a great opportunity. Coming up with the idea was easy; finding backing was not.

During the search, Smithers crossed paths with the Alexander Mackenzie Trail Association, which was meeting with the

One Step Beyond organization. The two organizations joined forces with Lakehead University to make the re-creation of Mackenzie's expeditions possible.

The Sir Alexander Mackenzie "Canada Sea-to-Sea" Bicentennial Expeditions will re-create and commemorate the 200th anniversary of the first recorded crossing of Canada from the Atlantic to the Pacific Oceans. Phase I, which is underway, will run from May to August 1989.

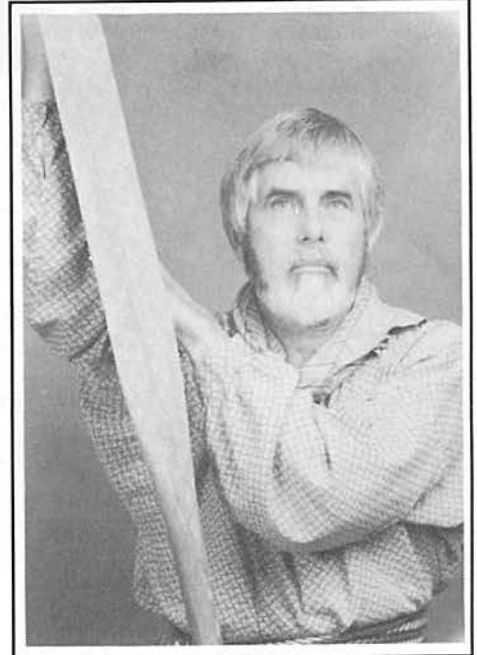
Although there will be 12-hour paddling days, unpredictable weather and swarms of insects, life will not be all hard work for the modern voyageurs. Presentations and historical re-enactments will be given in communities along the route. The 105-day trek will combine the rigors of voyageur life with live theatre.

Not only will the project commemorate Mackenzie's search for the Northwest Passage, it will educate Canadians about an important part of the nation's history. Early explorers such as Mackenzie and the voyageurs helped develop Canada in the 18th century by expanding the fur trade.

Smithers said there will be no canoe trips in 1990, but the education element will be strong. A \$50,000 grant from the Gordon Foundation has been received to design curriculum material to teach students about Canadian explorers, including Sir Alexander Mackenzie. "There is a generation that is historically and geographically illiterate," Smithers said. "Canadians know more about Daniel Boone and Davey Crockett than they do about Mackenzie." Next year's project will centre on correcting that problem. Students will help with the creation of material to highlight Canadian history.

Trips will resume in 1991. The expeditions may be the spark needed to create a national heritage trail to preserve and interpret this route for future generations. The Alexander Mackenzie Trail Association hopes to create a heritage trail designed along the lines of the Lewis and Clark trail across the United States.

The Mackenzie Expeditions will be as accurate as possible -- including the presence of females on the trek. "Mixed groups are better for long trips," he said. "Both groups seem to temper the extremes of



Westward ho! Professor Jim Smithers has embarked on a canoe trip to the Arctic to re-create Sir Alexander Mackenzie's journeys. Smithers, Derek Apple, project assistant, and the 25 students will return in August.

each group." Smithers said the presence of women on such long expeditions is a well-documented historical fact. Taking females on the 1989 trek will serve two purposes, he said. "It shows women can do this type of thing and recognizes that Native women had an important role in the success of such undertakings."

"It's strange," he said. "Here we have predominantly Anglo Canadians, mostly from Central Ontario, who are travelling across the country recreating a very important part of French Canadian history." With a chuckle, he summed up the trip. "Basically we're travelling around singing French songs -- badly."

Along the way, participants will take part in the Territorial Canoe Festival in the Northwest Territories during July. Smithers said the group will provide "color" for the event but will not be competitors.

Smithers and company are expected to reach Whale Island by July 30. After a ceremonial event, they will paddle to Inuvik, from which point they will return home. The modern voyageurs will return to Thunder Bay around Aug. 7.

(The office received a call from the adventurers the day the paper went to press. They are right on schedule and experiencing no major difficulties.)



Re-tracing Mackenzie's search for Northwest Passage

by Maureen Martin

The stereotyped image of a university professor does not include paddling canoes 12-hours a day while battling hordes of ravenous insects and coping with unpredictable weather. Unless one is referring to Lakehead University's Dr. Jim Smithers.

Smithers, a professor of Outdoor Recreation, admits he is more comfortable working 16-hour days seven days a week planning canoe treks than he is writing scholarly papers. "It's not exactly an academic, contemplative life," he said of his career. "I'd rather do the trip than write about it."

Lakehead's adventurer is off on another expedition: the re-creation of Sir Alexander Mackenzie's quest for the Northwest Passage. He will be travelling with 25 students and another leader, Derek Apple, project assistant and an Outdoor Recreation graduate. This year is Phase I of a proposed five-year project. Participants will journey 2,048 miles from Fort McMurray, Alta., to Whale Island in the Arctic Ocean this summer. "It's a relatively ambitious project," he said.

Smithers had a taste of this voyage in 1984. "Old Fort William asked us (Outdoor Recreation) to do a historical recreation of the trek from Montreal to Old Fort William," he said. "We decided to do the trip as historical as possible." Aside from dressing in voyageur clothing and paddling in reproductions of original voyageur canoes, participants stopped in communities along the way to make presentations.

"Professionally, it was very good for the students," Smithers said. The trip provided students with an opportunity to pick up organizational skills needed for long voyages.

"Travelling several thousand miles with 30 people and a very definite time-table is quite different from four people in two canoes going from A to B at their leisure," he said.

"Since the trip was very successful, we started looking for similar projects," he said. While considering various projects, he came across the 200th anniversary of Mackenzie's expeditions -- and saw a great opportunity. Coming up with the idea was easy; finding backing was not.

During the search, Smithers crossed paths with the Alexander Mackenzie Trail Association, which was meeting with the

One Step Beyond organization. The two organizations joined forces with Lakehead University to make the re-creation of Mackenzie's expeditions possible.

The Sir Alexander Mackenzie "Canada Sea-to-Sea" Bicentennial Expeditions will re-create and commemorate the 200th anniversary of the first recorded crossing of Canada from the Atlantic to the Pacific Oceans. Phase I, which is underway, will run from May to August 1989.

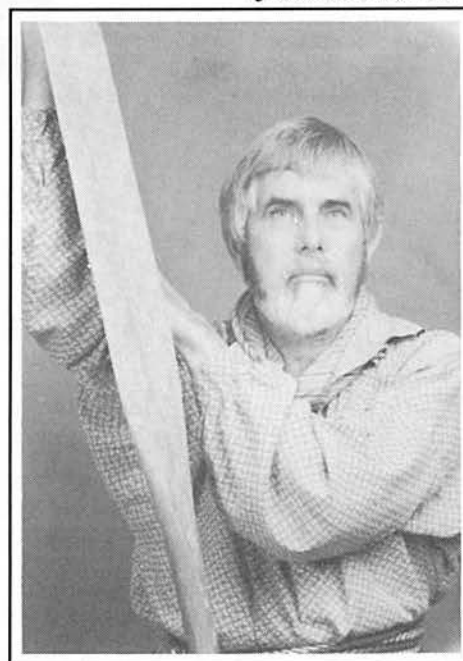
Although there will be 12-hour paddling days, unpredictable weather and swarms of insects, life will not be all hard work for the modern voyageurs. Presentations and historical re-enactments will be given in communities along the route. The 105-day trek will combine the rigors of voyageur life with live theatre.

Not only will the project commemorate Mackenzie's search for the Northwest Passage, it will educate Canadians about an important part of the nation's history. Early explorers such as Mackenzie and the voyageurs helped develop Canada in the 18th century by expanding the fur trade.

Smithers said there will be no canoe trips in 1990, but the education element will be strong. A \$50,000 grant from the Gordon Foundation has been received to design curriculum material to teach students about Canadian explorers, including Sir Alexander Mackenzie. "There is a generation that is historically and geographically illiterate," Smithers said. "Canadians know more about Daniel Boone and Davey Crockett than they do about Mackenzie." Next year's project will centre on correcting that problem. Students will help with the creation of material to highlight Canadian history.

Trips will resume in 1991. The expeditions may be the spark needed to create a national heritage trail to preserve and interpret this route for future generations. The Alexander Mackenzie Trail Association hopes to create a heritage trail designed along the lines of the Lewis and Clark trail across the United States.

The Mackenzie Expeditions will be as accurate as possible -- including the presence of females on the trek. "Mixed groups are better for long trips," he said. "Both groups seem to temper the extremes of



Westward ho! Professor Jim Smithers has embarked on a canoe trip to the Arctic to re-create Sir Alexander Mackenzie's journeys. Smithers, Derek Apple, project assistant, and the 25 students will return in August.

each group." Smithers said the presence of women on such long expeditions is a well-documented historical fact. Taking females on the 1989 trek will serve two purposes, he said. "It shows women can do this type of thing and recognizes that Native women had an important role in the success of such undertakings."

"It's strange," he said. "Here we have predominantly Anglo Canadians, mostly from Central Ontario, who are travelling across the country recreating a very important part of French Canadian history." With a chuckle, he summed up the trip. "Basically we're travelling around singing French songs -- badly."

Along the way, participants will take part in the Territorial Canoe Festival in the Northwest Territories during July. Smithers said the group will provide "color" for the event but will not be competitors.

Smithers and company are expected to reach Whale Island by July 30. After a ceremonial event, they will paddle to Inuvik, from which point they will return home. The modern voyageurs will return to Thunder Bay around Aug. 7.

(The office received a call from the adventurers the day the paper went to press. They are right on schedule and experiencing no major difficulties.)



Visitors on campus



New perspectives: Lakehead University was visited by a delegation from Bunkpurugu, Ghana. The group is visiting to gain a new perspective on educational and health problems. The five-member delegation spent some time getting acquainted with the University. Pictured at left is Lakehead liaison officer Oliver Pfeiff (centre), and delegates Lawrence Kwotuah and Janet Anafu. Other members not pictured are John Laari, Nelson Jatuat and Siat Kanturib. The group came to Thunder Bay under the auspices of CUSO (formerly Canadian University Service Overseas). Bunkpurugu has a twinning agreement with Thunder Bay. The program encourages an exchange of information on coping with various problems associated with regions isolated from central areas.

Computer kids: The 1989 Computer Contest drew a number of students from Thunder Bay and area. Pictured at right is the senior team from Manitouwadge working out computer problems for the contest. Dr. Clem Kent of the Mathematics Department co-ordinated the event. Winners in the senior and junior divisions won individual prizes. The schools of the winning teams received a Zenith "Easy PC Desktop." In the senior division Lakeview High School took top spot while Port Arthur Collegiate Institute and Beaver Brae District High School from Kenora tied for second. In the junior division Sir Winston Churchill Collegiate & Vocational Institute took first place, followed by Nipigon-Red Rock District High School in second place and Westgate Collegiate & Vocational Institute in third.



Dialogue '89: The delegates at Dialogue '89 met to discuss educational needs of the future during a three-day gathering at Lakehead University. Added to the intellectual discussions were a number of social events. The group pictured to the left were attending a Taste of the North dinner, featuring buffalo, partridge, and lake trout. From left to right, Brenda Steen, Assistant Registrar; Herb Pettipiere, Director of the Ontario Universities' Application Centre, and his wife June; and Pentti Paularinne, Lakehead University's Registrar. The three-day conference was titled "Threshold of the 90's" and examined ways to deal with the trends and issues many universities may face in the next decade.

Kenney-Wallace

Offers timely advice

Graduates were advised to "be international, focus on excellence and be on time."

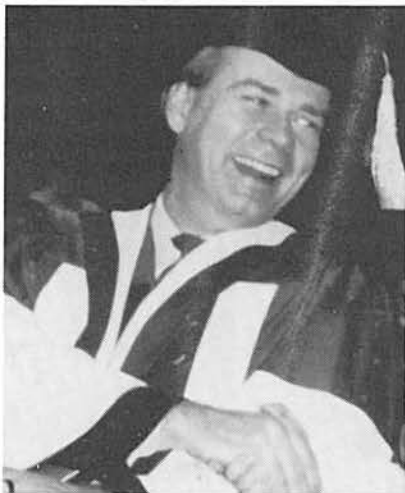
Dr. Geraldine Kenney-Wallace, Chairman of the Science Council of Canada, offered advice to graduates in the afternoon session of Convocation.

"Graduation is a right of passage," she said. "It allows you to say -- and say with authority -- 'I do not know, but I'll find you the answer as soon as I can.'" Kenney-Wallace went on to say that "life is really about getting the questions right and knowing which way to turn to begin finding the answers."

Graduates were told that they were "graduating into the Real Time Global Village and they must be aware of what was happening elsewhere in the Village in order to make timely decisions about the direction of their own lives."

"Don't be tempted to make decisions on what you thought it (the question) was," Kenney-Wallace said. "Go out and open your eyes and make decisions for what it is. Make decisions on time for the world that's rapidly unfolding."

From left to right, Dr. Bill West and his wife Mary, University Fellow Mr. Wallace Bryan and his wife, Harriet, and Dr. Adrienne Clarkson stand proudly during introductions at noon hour ceremonies beside Lake Tamblyn. Top, Registrar Pentti Paularinne assists Dr. Geraldine Kenney-Wallace with her gown at the afternoon ceremony where she received an honorary science degree. Dr. Peter Mansbridge is all smiles after receiving his doctor of Humane letters.



Mansbridge's Advice: "Refuse to be Ordinary"

Peter Mansbridge followed his own advice and spoke about things he knew - his early reporter days in northwestern Ontario, his fond memories of Thunder Bay and credibility in professionalism. The well-known anchor and CBC journalist described his work: "you're a witness to the most memorable times of our lives and you get to share the experience with so many others."

He told the graduates that a lot was being asked of them. "For journalists the challenge is a big one" he said, "... we're expected to be judges of good taste, leaders of opinion, forums for opinion, detectors of trends, critical investigators, corruption finders, guardians and crusaders for justice - and we're supposed to be entertaining too."

He argued that no matter what career grads had chosen, the challenges are just as real. "The people you deal with want the best... why not give it to them. I mean the best. The world is full of adequate. Do the best job possible. Do your best each day and know you've done your best. Know you haven't cut any corners. I would beg you, refuse to be ordinary."

High winds and near-freezing temperatures threatened right up to Convocation Day. But Saturday May 29, 1989 was a clear, sunny day that warmed the people and events.

There was indeed pomp and ceremony at the largest graduating class in the university's 25 year history. Two fullhouses at the morning and afternoon ceremonies heard thought-provoking and entertaining speeches by Dr. Peter Mansbridge and Dr. Geraldine Kenney-Wallace. For each graduand, there was his or her moment of recognition walking across centre stage to receive a diploma or degree.

There were behind the scene stories lost in the excitement of the day: a grad rushing out to nurse her newborn baby before receiving her degree, the grandparents over from "the old country" who sat teary-eyed as a grandchild knelt in front of the Chancellor to receive personal congratulations. There was the 67 year old Red Lake bus driver who graduated with a degree in sociology after 10 years of continuing education courses while working the night shift. The list also includes a deter-

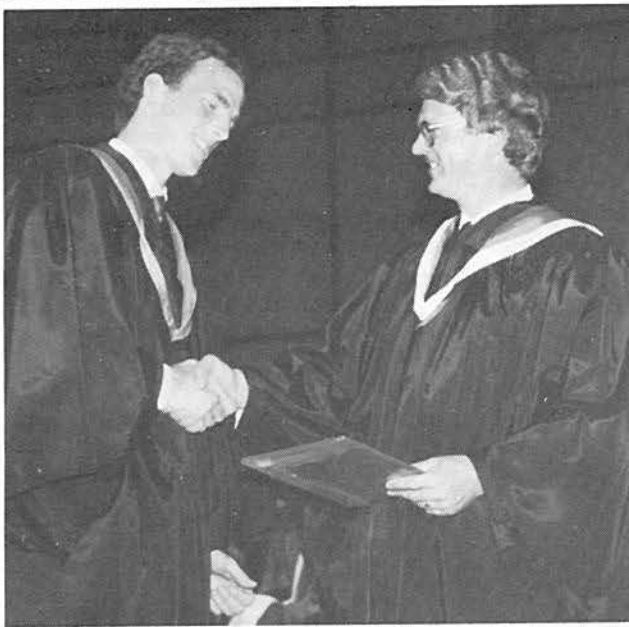
mined woman who took 25 years to complete her BA in history, taking her first course in 1964 but stopping her studies to raise her family.

Dean Braun has been in frail health and missed convocation for the first time, but he and his wife brought joy to many when they arrived at noon-hour to share the Silver Jubilee Opening Ceremony.

A large team of people work behind the scenes to make Convocation a celebration that each graduate, family and friends will always remember and cherish. This team includes the registrar's office, printing, graphics, security guards, food service workers, secretaries, alumni and many other caring souls. Grounds and housekeeping staff work around the clock to spruce up the campus.

The Chronicle-Journal showed its community spirit and produced a special commemorative tabloid recognizing the efforts of more than 1,300 students.

Take a bow team!



*Celebration at C
honours bachelo
gratulations fro
Cbancellor's Me
Margot Hodgson
Sociology. Seco
compl...! bis B
winner Koch Leto
Bernard Weiler (
wife Margaret; f
Tambllyn. Third
all smiles as she
daughters pose f
worked for all fo*



vocation '89! Photos from left top row: "I made it" says Mike Siska who earned his (Social Work; Mark Pumala BSc(Hons) won the Geology department prize and gets con-
 bis parents; Phyllis Anderson BScN(Hon) RN won the Dean Braun Medal and the
 for top part-time student; and the determined woman in centre of top right photo is
 bo took courses off-campus for 10 years to complete her Bachelor of Arts degree in
 row: Registrar Pentti Paularinne congratulates Rob Foster, Rhodes Scholar, who
 Hon winning a few awards along the way; looking cool in shades, Poulin Award
 neau; at McElroy, First Graduate of Lakehead University, cuts the cake with Chancellor
 be made and decorated by Ute Hickin); Dr. Gary Locker visits with Dean Braun and bis
 t of the noon-hour crowd attending Silver Jubilee Opening Ceremonies beside Lake
 r: Wan Rajibab Wan Musa graduated with a degree in Business Administration and is
 ses with Malaysian friends; Professor and Mrs. Robert Dilley and their four delightful
 a family portrait; the four presidents of Lakehead pose with Linda Phillips, who has
 and proud mom Ethyl Everett and son, Dr. Lorne Everett, 1989 Alumni Award winner.

Convocation '89 award winners

THE POULIN AWARD

An award for outstanding citizenship to the student selected by his fellows, the Faculty and Administration as contributing most to the welfare of the University through his student activities.

M. Roch Lionel Letourneau

THE PRESIDENT'S AWARDS

Awards given annually to the graduating students who have occupied positions of responsibility in the students' organizations and who, by their activities and achievements, have earned the gratitude of the University.

David Simon Bogdonov BEng (Civil)

Robert Franklin Foster BSc (Hons)

Patrick Walusiku Matakala BScF (Hons)

Donald Arthur Nault BPE (Hons)

Frank Angelo Sacino BA BED

Steven Stang BEng (Elect)

Lorraine Ann Thomson BScN (Hons)

Anthony Kevin Yozipovic BA

THE ALUMNI HONOUR AWARD

Awarded to an alumnus who has made an outstanding achievement in one or more fields of endeavour.

Lorne Everett PhD

THE DEAN OF ARTS AND SCIENCE'S MEDALS

To the highest-ranking students in Arts Three-Year program: **Derek Phin Apple** BA, BOR (Hons)

Four-Year Program: **Sabine Micheala Fels** BA (Hons)

Honours Bachelor of Social Work Program: **Joanne Margaret Dagsvik** BA BSW (Hons)

Fiona Dianne Karlstedt BA BSSW (Hons) *ex aequo*

THE DEAN OF ARTS AND SCIENCE'S MEDALS

To the highest-ranking graduating students in Science

Three-Year Program: **Peter John MacDonald** BSc

Four-Year Program: **Robert Franklin Foster** BSc (Hons)

DEAN BRAUN'S MEDALS

Awarded to the highest-ranking graduating students in the Faculty of Professional Studies

Honours Bachelor of Commerce: **Janice Yvonne Gagnon** BComm (Hons)

Peter Allan Myllymaa BComm (hons) *ex aequo*

Bachelor of Administration -- **Doris Irmgard G. Wohlfarth** BAdmin

Honours Bachelor of Outdoor Recreation -- **Peter Nelson Labor** BOR (Hon)

Library Technology -- **Heather Marie Manty** Dipl Lib Tech

Bachelor of Engineering -- **Karl Alois Unger** BEng (Elect)

Engineering Technology -- **Gordon Andrew Rae** Dipl Eng Tech

Honours Bachelor of Science in Forestry -- **John Andrew McLaughlin** BScF (Hons)

Forest Technology -- **Gerald Allen Regier** Dipl For Tech

Honours Bachelor of Science in Nursing -- **Phyllis Darlene Anderson** BScN (Hons) RN

Honours Bachelor of Physical Education -- **Donald Arthur Nault** BPE (Hons)

THE GOVERNOR-GENERAL'S GOLD MEDAL

Awarded to the highest ranking student in the graduating class of the masters degree

Karen Ann Charles BA (Hons) MA

THE LIEUTENANT-GOVERNOR'S MEDAL

Awarded to the highest ranking graduating student in the three-year Bachelors' degrees

Karen Leigh Molly BA

THE DEAN OF EDUCATION'S MEDALS

Awarded to the highest ranking graduating students in Education Bachelor of Education (Primary-Junior):

Christine Eva Burkowski BA (Hons) BED MA

Bachelor of Education (Junior-Inter) **Bonnie Jean Sutherland** BSc BED BOR (Hons)

Bachelor of Education (Inter/Senior):

Jeffrey Robert Buck BA (Hons) BEDM

Master of Education: **John Gordon Bird** BA MED

THE GOVERNOR-GENERAL'S SILVER MEDAL

Awarded to the highest ranking student in the graduating class of the Honours Bachelors' degrees

John Andrew McLaughlin BScF (Hons)

THE GOVERNOR-GENERAL'S COLLEGE BRONZE MEDAL

Awarded to the highest ranking student in the graduating class of the Diploma programs

Gordon Andrew Rae Dipl Eng Tech

THE CHANCELLOR'S MEDAL

Awarded to the highest ranking part-time student in the graduating class of the Bachelors' or Honours Bachelors' degrees

Phyllis Darlene Anderson BScN (Hons) RN

CANADIAN INSTITUTE OF FORSTRY GOLD MEDAL

Awarded to the graduating student in the Forestry Degree program, who is judged to be the best all-round student in scholarship, sports and citizenship

Edward Henry Hoffman BScF (Hons)

PROFESSOR EMERITUS TITLES

Martin H. Greenwood MA

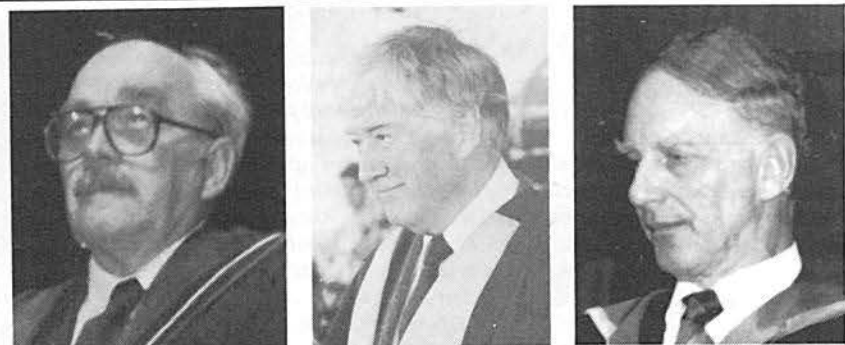
Professor Emeritus of Anthropology

George Alexander Harrower, BSc, Msc, PhD

Professor Emeritus of Physics

Gordon Russell Mott B Arch, MBA

Professor Emeritus of Civil Engineering



Professors emeriti Greenwood, Harrower and Mott

Papers/Publications & Special Projects



Alan Bowd, School of Education, was invited to present a paper at the Third International Conference on Native Children with Exceptional Needs, Winnipeg, Manitoba, April 20 - 22. Dr. Bowd's paper was entitled "Adapting teacher behaviour to culture differences in learning".

Walter Crowe, School of Business, recently presented two, one-day seminars to a group of senior managers from Atlantic Canada. They took place in Saint John, New Brunswick.

The subjects were "Materials Management - a Leap Forward for the Purchasing Function", and "Short Term Demand Forecasting for the Materials Manager".

Crowe has given seminars on these and similar topics across Canada from time to time.

Professor Crowe recently participated in a workshop at the Wellington School of Medicine, New Zealand, where he exchanged ideas on community medicine, and the impact of the newly introduced Health Boards upon health care and health care economics in New Zealand.

He was the guest of the Director-General of Health, and was privileged to visit senior health administrators in several centres in New Zealand.

Patricia Vervoort, Visual Arts, presented a paper entitled "Dutch Art Abroad: Van Gogh Canadianized" at the Low Countries and the World Conference at University College, London (England) on April 12, 1989. The paper will be published by The Centre for Low Countries Studies, University College, London.

Dr. Harun Rasid, Associate Professor of Geography, presented an invited paper at an International Conference on Flood Problems in Bangladesh, held at Concordia University, Montreal on May 11 and 12, 1989. The title of his paper was "Mini-projects for a mega-problem: A pragmatic solution for the flood problems in Bangladesh".

The conference was organized by the International Society of Bangladesh and was sponsored by CIDA and IDRC. There were papers presented by distinguished scholars from Harvard University, University of Illinois, University of Toronto, University of Manitoba and University of Dhaka, Bangladesh, as well as representatives from USAID, CIDA, IDRC, World Bank

and a number of NGOs in India and Bangladesh who also made presentations.

Dr. Rasid was invited to present another paper at a symposium organized by the Association of North Dakota Geographers, which was held at the university of North Dakota, Grand Forks, April 21st. The title of his paper was "Hazards of living on the edge of the Great Lakes: The American and the Canadian case experience".

Dr. S. Y. Mansour, Associate Professor, Department of Electrical Engineering, had his paper entitled "Power Systems Minimum Fuel Cost Dispatch Using Piecewise Loss Models", presented at the Canadian Conference on Electrical and Computer Engineering, Vancouver, B.C., November 1988. The paper was co-authored with Dr. D. H. Kelly of the University of Alberta, Edmonton, Alberta.

Dr. Thomas M. K. Song, Professor of School of Physical Education, Co-ordinator of Human Performance Laboratory, has been invited to Université Laval in Quebec City this summer. Dr. Song will be a visiting research professor doing research work on "Effects of Electrical Stimulation on Metabolism" and "Nuclear and Mitochondrial DNA Polymorphisms on Athletes". Dr. Song has received the third consecutive Ontario-Quebec Exchange Program Grant and research grants



from Laval and Lakehead University for his research work.

For the second year **Dr. H. Cumming**, professor of Fish and Wildlife Management in the School of Forestry, served as a member of a three-man committee reviewing performance of forest companies during the first five years of their Forest Management Agreements with the government of Ontario.

The FMAs, which replace existing licensing arrangements with an Agreement which requires the companies to manage the forests in the FMA area on a sustained-yield basis. In addition to harvesting, the FMA holder is responsible for all planning, regeneration and other silvicultural activities necessary for proper forest management, including the construction of access roads. The role of the review committee was to assess the commitment of the companies to their obligations as identified in the Agreements.

The committee included detailed examination of company records, discussions with company and Ministry personnel, and field inspections by ground and by helicopter. Committee conclusions from the 1987 reviews are published under the title Forest Management Agreements Third Five-Year Review 1982-1987 and are available from the Ministry of Natural Resources Public Information Centre, Room 1460, Whitney Block, 99 Wellesley Street West, Toronto, Ont., M7A 1W3. Results of the 1988 review should be available soon.



Researchers: The Fourth National Conference on Research at Small Universities was held at Lakehead University in April. Left to right are Dr. Ralph Heintzman, Executive Director, SSHRC; Dr. Paule Leduc, President, SSHRC; Dr. Arthur May, President NSERC; Dr. Murray Lankester, Director, Graduate Studies & Research at Lakehead.

The People Page

Provincial award for Petrone

New face



Beth Huston, HBA Political Studies student, is new to Lakehead. She will be spending the summer working with Alumni's Frances Harding to help organize the

alumni re-union. "I'm learning a lot," Beth said. "I like the independence and creativity I'm allowed to exert." However, she noted there is "quite a bit of responsibility, too." Come the fall, Beth will return to classes. She is not certain what she will do once her studies here are complete. "I'm thinking about law school, but I haven't made up my mind yet," she said. In the meantime her energy is directed to the job at hand. "Co-ordinating a reunion is a lot of work . . . a lot of details."

Baby Faces

Dave Zelkovich and his wife Lori have a baby girl. Their bundle of joy arrived Easter Sunday.

Phys. Ed.'s Peter Crocker and his wife Linda have a baby girl. Julisa was born May 17, 1989, and weighed in at 7 lbs and 2 oz.

The Human Resources office needs temporary "floater" employees. A floater could be called in to work when a regular staff member is ill, for example, or on vacation. Assignments can vary from one day to several weeks in length.

For more information, please call extension 8578 or come by the Human Resources office to fill in an application.

University summer fun camp

Lakehead University is holding a fun camp for kids ages 7 years to 12 years. The full and half day sessions will run 8:30 a.m. to 4:30 p.m. Monday to Friday.

The two-week sessions begin July 4. For more information, please call the Pool Office at 8656.



Professor Penny Petrone has won a provincial award for excellence in teaching. Dr. Petrone, professor in the School of Education, was one of 13 Ontario professors to receive the 1988 OCUFA

Teaching Award. Winners of the Ontario Confederation of University Faculty Associations are selected for superior work in such instructional areas as the classroom and/or laboratory, for course preparation, team teaching and audio-visual presentation. Winners are chosen by a committee of faculty and also includes student representation.

Appointments

Art Davies has been appointed Special Advisor to the Vice-President (Administration) on Campus Construction. Jim Podd is the Acting Director of Campus Development.

Geraldine White has been appointed Coordinator of the Learning Assistance Centre on a full-time permanent basis.

The July issue of the Agora will list all new appointments (Chairmen and Directors) for the upcoming term.

Fond Farewells



Father Tim Flaherty who has been at Lakehead for two years, said goodbye to his many friends at the end of May. "Father Tim" will

continue his studies in Toronto. Joy Lawson, Director of Student Services, said he will be missed, not only as chaplain but as a fine teacher. Fr. Flaherty taught two courses in education.

Counsellor Irmo Marini said Fr. Flaherty "turned out to be a great asset in many ways." In addition to spiritual counselling, Father Flaherty "helped with the work load in personal counselling and he will be greatly missed."

Kay Hakala, "gave 'em hell" at her Bon Voyage party in May. Singling out many friends during 15 years at Lakehead, Kay recounted the stories and people behind the scenes during her various positions at the university. She started full-time with the University in 1974 as office supervisor in the Registrar's Office. Two years later she moved to Campus Development where she served as a secretary until her retirement this year.

Kay's farewell party had a large turnout and she was greeted by many well-wishers who were sorry to see her leave.



French competition: The Lakehead University Modern Language Competition drew talented representatives from local high schools. Left to right, Professors Andre Cloutier and Alain Nabarra, of the Department of Languages, who acted as judges, share a little joke with 1989 winners Kathy Madzovic (Hammariskjold), Kathie McCuaig (Sir Winston Churchill) and Karen Wenckebach (Hammariskjold).

Research News

From The Office Of Graduate Studies And Research

Research Officer: **Trish McGowan**



NEWS FROM NSERC General Research Grant

We recently received news from NSERC concerning our 1989/90 General Research Grant (GRG). The allocation for the GRG Program, including Small University Supplements (SUS), has stayed the same as that of 1988/89, with a total program budget of \$7 million. This results in a lower multiplication factor on the base, and hence, a lower GRG, as our total grants from NSERC remained fairly stable over the two-year period. The base is comprised of all 1988/89 grants to researchers at each university for the following: operating grants; infrastructure grants; northern supplements; collaborative special projects grants; strategic research grants; cooperative R and D grants; and forestry research development project grants. The SUS is given to universities with adjudicated grants of less than \$1 million. Our 1989/90 Basic GRG is \$44,000 and SUS is \$8,000, for a total NSERC GRG of \$52,000 (down from \$55,000 last year).

Research Partnerships

NSERC's University-Industry programs are being expanded, with the addition of a university-government program component and a \$3.5 million budget increase. Under the expansion, the UI programs and the newly created university-government programs will be regrouped under the name "Research Partnerships", with a total budget of \$31.3 million for 1989/90.

As the result of negotiations with some federal government departments that have programs for the support of university research, NSERC struck the first accord late in 1988 with Agriculture Canada. Under the agreement, Agriculture Canada will match funds committed by industry to research at universities. NSERC also will match industry's contribution if the application meets its standards. Individual projects will have a ceiling of \$150,000 per year in total support.

Discussions are underway with other departments, including Fisheries and

Oceans, Environment Canada and Energy, Mines and Resources. If the talks are successful, new programs will evolve, with a variety of arrangements: some may be similar to that with Agriculture Canada, involving significant industry support; others may involve little or no private sector commitment, and take the form of chairs rather than project grants. Details on new initiatives with government departments will be announced as soon as they become available.

1989 Microelectronics Fund Competition

The proposals received during the first Request for Proposals under this program were directed largely to the more traditional fields of Computer Aided Engineering and Test. NSERC found that too many proposals were aimed at tackling gate level verification and VLSI layout-problems which plagued industry 3-10 years ago, but which are, for the most part, solved.

The remaining \$3.4 million will be targeted at accelerating the development of tools in support of system level design of hardware/software - intensive electronic or opto-electronic products. Funding priority will be given to proposals for research on Tools and Methodologies for Hardware and Software Intensive Systems, in the following areas: Architecture Exploration, Specification, Automatic Synthesis, Performance Modelling and Verification.

The deadline for submission of applications for this competition is: **June 30, 1989.**

Postgraduate Scholarships for Employed Scientists and Engineers

It is a common misconception that NSERC postgraduate scholarships are available only to persons currently registered as students. In actual fact, any individual who meets the academic and citizenship requirements may apply for such a scholarship.

NSERC is particularly interested in encouraging scientists and engineers who currently are employed to consider returning to university to obtain a master's or doctoral degree in the natural sciences and engineering. There are three ways in which such people may obtain a NSERC scholarship in support of a period of full-time study and research at a graduate school:

-recent bachelor's graduates who hold a deferred NSERC postgraduate scholarship may return to university within the two-year maximum deferral period;

-anyone who meets the basic eligibility requirements may apply to NSERC in the fall of any year through the annual scholarships competition for an award which may be taken up in the following summer or fall;

-In 1989, on an experimental basis, persons who are currently employed in a scientific or engineering capacity, who did not apply for a scholarship in the fall of 1988, and who intend to return to university in the fall of 1989, may apply to NSERC for a special one-year scholarship.

A small number of scholarships are available for such persons on a first come - first served basis. Applications will be accepted by NSERC until July 15, 1989. Their evaluation will be based on the same criteria used by the selection committees in the regular competition. Winners of these awards will, in most cases, be eligible to apply for further scholarship support via the regular competition.

Those interested should also be aware that there is no limit on the amount of supplementary financial support received from any source other than the federal government. It is possible, therefore, for an employed person to return to graduate studies without a major drop in income, provided that the employer is willing to grant a leave of absence with partial salary.

NSERC/SSHRC Master's Scholarships Program in Science Policy

A program of Master's scholarships in science policy was announced recently by NSERC and SSHRC. The new program is the first to be supported jointly by the two granting councils: NSERC will provide the funds and SSHRC will administer the program. A multidisciplinary selection committee is being established jointly by the two councils, and will include representatives from the natural sciences and engineering as well as from the social sciences and humanities. Students from all disciplines who have completed an undergraduate degree are eligible to hold an award under this program. Approximately six scholarships will be awarded in the first competition in 1989/90.

The deadline for applications will be: **December 1.**

Further information and application forms will be available in July.

{Research News continued on page 14}

... More Research News {continued from page 8}

NEWS FROM SSHRC General Research Grant

The General Research Grant (GRG) awarded to the University is a performance-based award calculated on the basis of a three-year moving average of new and continuing grants from the Research Grants and Strategic Research Grants Programs. The differential rate applied to our past performance is 20%. Our GRG for 1989/90 is \$3,543 (down from \$3,847 last year).

Block Travel Grant for International Conferences

The Travel to International Scholarly Conferences (TISC) grant is made on an annual basis to the university. The amount of this block grant is calculated according to an established formula which provides a base amount (\$2,000), plus an amount determined by the size of each institution's previous GRG (approximately 17.4% of our 1988/89 GRG). This year's award is \$2,671 (as compared to \$2,383 last year), and will be adjudicated through the Senate Research Committee's established funding for conference travel competitions (September 15, January 15, and May 15).

The Research Grants Program

At its April meeting, Council approved in principle the major thrusts which were recommended by the Courtney committee in its final report on the Research Grants Program. The most important result of the Courtney committee's work is the introduction of person- and program-based funding in the Research Grants Program. Under the new system, applicants for funding will be evaluated on their record of research achievement and funding will be awarded for more general programs of research rather than for specific projects. The intent of these changes is to reduce the effort involved in preparing research proposals and to provide greater stability of funding.

In the evaluation of applications from established researchers, rankings will be obtained by according a weight of 70% to the record of previous research achievement and 30% to the proposed research program. In the case of new scholars, this weighting will be reversed: 30% to the track record and 70% to the quality of the research proposal. A minimum of 10% of the Research Grants budget will be set

aside for new researchers each year. For the Fall 1989 competition, the existing rules will be used. The first competition under the person- and program based system will take place in the fall of 1990.

Other matters which were addressed in the context of the discussions on the Research Grants Program include the statement of objectives for the program, which now incorporates the training of future researchers, where appropriate; the affirmation of the essential role of external assessments in the peer adjudication process; and the structure and administration of block grants to universities. As of 1990/91, the General Research Grants and Travel Grants to International Conferences programs will be merged into one block grant to universities. Calculation of block grants in future will include a base amount linked to the number of social sciences and humanities faculty in each institution, as well as a performance supplement which would be earned according to a formula similar to the one used at present. The block grant will be made without pre-determined allocations for the GRG or TISC. The purpose of this merging is to make it easier for universities to handle the receipt and reporting of the funds, and to enable Council to release the information earlier.

The Strategic Grants Program

Council has approved the final report of the Task Force on Priorities regarding the future direction of the Strategic Grants Program. The Task Force based its recommendations on the results of the One-Time Experimental Program, the responses to a consultation document sent to the research community last summer, and the conclusions of a formal evaluation of the strategic programs which was undertaken by the SSHRC Program Evaluation Office last year.

The report on applied ethics, submitted by the Canadian Federation for the Humanities under the One-Time Experimental Program, indicated that there are gaps in Canada's research capability in this area. The report indicated that there is an urgent need to coordinate the ethics research effort in Canada, particularly in the areas of biomedical, environmental, and professional and business ethics. Thus, SSHRC will introduce a new theme on Applied Ethics in 1990/91.

The theme on The Family and the Socialization of Children, established in 1981, has helped to increase knowledge in this area and has produced research re-

sults of interest to policy makers, particularly at the provincial level. As this theme has met its objectives and as special incentives are therefore no longer deemed to be necessary in this field, this theme will be concluded after the 1989 competition.

Two of the remaining themes, The Human Context of Science and Technology and Managing the Organization in Canada, will be refocused in order to respond more closely to the needs and expectations of society. In response to concerns raised by the public and private sectors on the assessment of the social relevance of proposals and their potential contribution to public policy, Council has decided to involve experts from relevant socio-economic sectors on the selection committees.

In order to encourage the dissemination of strategic research results and to ensure that knowledge produced through the thematic programs reaches potential users and practitioners outside the academic community, applicants in future competitions will be required to include in their grant applications a description of the measures which will be taken to disseminate their research findings to other researchers, policy makers, practitioners and the public. The current budgetary restrictions of \$400 a year for dissemination activities will be modified in order to allow researchers to allot up to a maximum of 10% of the total value of their grant for the dissemination of research in Canada.

The Seed Money Program, which provided grants of up to \$5,000 to assist researchers in formulating research proposals, has not met its objective. The program evaluation demonstrated that the success rate for applicants who have received seed money grants is lower than the success rate of those who have not received such a grant. Therefore, the program will be discontinued after the 1989/90 competition.

Canada Research Fellowships Program

A fourth and final competition for Canada Research Fellowships will be held in 1989. Forty new awards will be made in this competition. Council has relaxed the restrictions on the universities' half of the funding to allow us to use whatever funds are available; the funds no longer have to be from a private sector source.

{Research News continued on page 15}

... More Research News {continued from page}

Joint Initiatives Program

The primary objective of the newly approved Joint Initiatives Program will be to develop stronger research links between the academic, government and private sectors on issues of mutual concern within areas of national priority. It is designed to encourage multi-sectoral consultation and multi-disciplinary approaches in the study of contemporary issues; to promote consultation on the definition of needs within a sector; to encourage communication among researchers and users of research; to ensure rapid and effective dissemination of new knowledge to users; and to help integrate strategic research results with policy making and socio-economic development.

Under this program, SSHRC would fund jointly with the public or private sectors a number of initiatives. All joint initiatives will be administered using a competitive program-based adjudication process involving peer review. Discussions are in progress between the Council

and various public and private sector organizations on jointly financed and managed funding programs. Council will soon be announcing joint programs with the federal departments of Justice, the Solicitor General and Communication. A budget of \$900,000 has been allocated for this program.

GRANTS AWARDED

Drs. Peter Crocker and Marcel Bouffard (Physical Education & Athletics) have been awarded a research grant by the Canadian Fitness and Lifestyle Research Institute for a project entitled "Challenge in Physical Activity: Ways of Coping by the Physically Disabled". The purpose of this study is to investigate how cognitive appraisal and coping strategies are interrelated and how coping influences challenge resolution and affect.

Dr. Peggy Knowles (Biology/Forestry) has been awarded a grant by the Ontario Ministry of the Environment's Research Advisory Committee for a re-

search project entitled "Genetic Differences Between Damaged and Healthy Sugar Maple Throughout Ontario". The intent of the research is to study the genetic component underlying damaged sugar maple stands as well as damaged individual trees using isozyme analyses. The hope is that the research may lead to the delineation of a more pollution-resistant genotype in sugar maple.

RESEARCH OPPORTUNITIES

Killam Research Fellowships

The Killam awards of the Canada Council are intended to support scholars of exceptional ability engaged in research projects of broad significance and widespread interest in any of these fields: humanities, social sciences, natural sciences, health sciences and engineering. The purpose of the awards is to provide released time to a scholar who wishes to pursue independent research for a period of up to two years.

The application deadline is **June 30, 1989.**

Ask Dr. Weir

Professor,
Department
of
Chemistry



Dr. Neil Weir

Q. We are hearing a lot about the destruction of the ozone layer. I have two questions: (a) If ozone is destroyed by sunlight, why is there any left there at all? and (b) I have heard that one molecule of a chlorofluorocarbon (CFC) can destroy ten thousand molecules of ozone. Surely this is impossible; or is there something else going on?

A. In order to understand the answers, we must begin with a brief chemistry lesson (it's not too technical, so don't stop reading!) Ozone has the formula O_3 , and it consists essentially of an atom of oxygen (O) joined to an oxygen molecule (O_2). In the upper atmosphere (stratosphere) (ca. 20 km above the earth), the high energy

ultra-violet radiation from the sun is absorbed by ozone, and this leads to its decomposition into an oxygen atom and a molecule of oxygen. At the same time, of course, the ozone is acting as a filter preventing the harmful radiation from reaching the earth. However, oxygen atoms and molecules join up once again to re-form ozone molecules. Eventually the destruction and the formation reactions reach a state of equilibrium; i.e. for each ozone molecule destroyed by radiation, another is formed from an oxygen atom and a molecule somewhere else in the stratosphere. So the damage is reversible, provided an equilibrium is maintained, and thus there will be a certain concentration of ozone in the stratosphere. Obviously the equilibrium has been disturbed in the region ("the hole") over Antarctica.

Now to the second question. Unfortunately, it is not impossible for one CFC molecule to destroy ten thousand ozone molecules; indeed under certain conditions, this figure can increase by a factor of ten, and the reason is that the reactions involved are that of the simple $A+B=C$ type.

CFC is released on earth travel slowly through the troposphere (lower atmosphere) up into the stratosphere (this process can take periods of a few months to two years to occur) while they are stable indefinitely in the troposphere, they absorb the

high energy radiation in the stratosphere, and this leads to the formation of chlorine atoms by the breaking of carbon-chlorine bonds (the other bonds in the CFC; i.e. the carbon-carbon, carbon-hydrogen and carbon-fluorine are much stronger). The chlorine atoms are reactive and they immediately attack ozone molecules to produce oxygen and chlorine monoxide molecules, i.e. one CFC has destroyed one ozone molecule. However, chlorine monoxide also absorbs the radiation and it is very rapidly decomposed into atoms of chlorine and oxygen. The same chlorine atom as destroyed the first ozone molecule then goes on to destroy a second. This process can be repeated a large number of times, since the chlorine atom is constantly regenerated. Thus it is entirely possible that one CFC molecule (through the intermediates of a chlorine atom) will destroy ten thousand ozone molecules (the oxides of nitrogen can act in a similar fashion). The above complex reaction is called a chain reaction, and its effects could be greatly decreased if CFC's were replaced by hydrocarbons or fluorocarbons. Incidentally, not all chain reactions are destructive. If it were not for chain reactions, we would not have common plastics like polystyrene, PVC and some types of synthetic rubber.

Campus Calendar

To include your Department's event or activity in the Campus Calendar, please call Flo Sherren at 8300 or mail your information to SN1002. **Deadline for the July Agora is June 21, 1989.**

June

WEDNESDAY, 7

Alumni

Volunteer Supper begins at 5:30 p.m.
Annual General Meeting begins 7:30 p.m.
Faculty Lounge
Cash Bar

WEDNESDAY, 14

SEMINAR FOR INVENTORS

"MAKING YOUR INVENTION A REALITY"

Guest Speaker: Norm Rolston, a successful inventor and creator of the "Able Walker"

Sponsored by Innovation North/Lakehead University and the Central Canadian Inventors Association

8:00 - 10:00 PM

RYAN BUILDING ROOM 2047

ADMISSION FEE IS \$15.00 PER PERSON

Tickets from Innovation North: 343-8124 and LUSU 343-8259

THURSDAY/FRIDAY, 15/16

Spring Session - Examinations

SATURDAY, 17

3rd ANNUAL LUCC PICNIC

Staff/Students & Families
Saunders Fieldhouse
Family Baseball - 9:30 am
Full day of activities & prizes
Happy Hour - Faculty Lounge
Cash Bar for adults
Juice and Pop for children

WEDNESDAY, 21

Hump Day BBQ

Fun begins at 5 p.m.
All Staff, Faculty, Alumni, Students and Friends of Lakehead University are welcome
Tickets available at LUSU and Office Services

July

SATURDAY, 1

CANADA DAY - University Closed

MONDAY, 3

Canada Day Holiday -- University Closed

THURSDAY, 4

Summer Session full-courses and half-courses commence

FRIDAY, 7

Alumni Annual Golf Tournament

Centennial Golf Course

Tee times: 4 to 5 p.m.

Dinner 7:30 p.m. Cash Bar

Tickets available at Alumni House

Call: 343-8155

Final date for refunds on withdrawal from Summer Session full courses and half courses which commenced July 4

Final date for registration and changes in Summer Session full-courses and half-courses which commenced July 4

WEDNESDAY, 12

Final date for withdrawal without academic penalty from Summer Session full courses including distance education

BED and BREAKFAST

in our turn-of-the-century home just minutes to the University of Toronto and downtown. **Rates from \$40.**
Ashleigh Heritage Home, Toronto, Ont. Tel: (416)535-4000.

MONDAY, 17

Board of Governors' Annual Meeting
4:00 pm
Senate Chambers

DAILY FOREIGN TELEVISION NEWS

Mexico, Madrid, Warsaw, Tokyo, London, Moscow, Rome, Jerusalem, Teheran, Paris.

BB2011

9 AM - 5 PM

EVERYONE WELCOME

FOR RENT

Older North Ward 3-bedroom brick house in good condition available September 1. Reasonable rent for tenant who assumes responsibility for normal maintenance. 345-2627.

3 bedroom house on large lot with garage and deck available August 1. Call 343-8300. \$750 plus utilities.

Agora

The AGORA is produced by the Information Office, Department of Community Relations, Lakehead University, Thunder Bay, Ontario. It is published monthly (except August), and is distributed free of charge to the University's faculty and staff, local government, media, business and friends of the University. Credit is appreciated when material is reproduced or quoted.

Director of Community Relations:

John Russell,

Editor: Katherine Shedden

Assistant: Maureen Martin

Calendar: Flo Sherren

Photography: Peter Puna

Graphics: Ben Kaminski, Debby Tew

Printing: Rainbow

Address correspondence to:

Editor/ Agora

Information Office SN1002

Lakehead University

Oliver Road, Thunder Bay, Ontario, P7B 5E1

(807) 343-8631 or 343-8300

celebrating
our Silver Jubilee



Canada Post
Postage paid Port paye

First
class
class
classe

219