



EDUCATION, RESEARCH AND SERVICE

Arboretum master plan maps the next 15 years

President Burt Matthews has accepted a recommendation contained in the University of Guelph Arboretum Master Plan 1986 that the Arboretum be repositioned within University administration.

As of Oct. 1, the director of the Arboretum has a reporting responsibility to the dean of research, says Matthews.

According to an executive summary by the Arboretum master plan steering committee, headed by Prof. James Taylor, Landscape Architecture, the Arboretum has served as an important resource unit to OAC, especially the departments of Horticulture, Landscape Architecture and Environmental Biology, but its true focus is University-wide in education, research and service to the community. The Arboretum has not received enough financial support within OAC over the past five years to develop its fullest potential, says the summary. Present constraints within the college could further jeopardize existing programs and the completion of the Arboretum's collections.

OAC Dean Freeman McEwen says the Arboretum should develop a higher profile, and he would like to see the Arboretum Centre continue to be used by both University and city groups as a conference centre and an educational facility. McEwen says he's pleased with the report, but he has a reservation — many of the recommendations call for substantial funds, and the Arboretum has not been seen as a high priority. He also has a concern about the Arboretum Centre, which was built by OAC alumni; he would like assurance that alumni feel comfortable with any changes in administrative structure or functions.

Eight recommendations

The recommendation to reposition the Arboretum is one of eight presented by the committee, which also addressed goals and objectives, a long-range plan, operating plan and base budget, policies, staff structure and administration, boundaries, and public

involvement.

Matthews says he has discussed the recommendations in general with others, and he has forwarded them to the dean of research, Larry Milligan. He says a new Arboretum director is expected to be in place by Jan. 1 to succeed retiring director Erik Jorgensen.

Matthews says there appears to be a general overall acceptance of the remaining recommendations, and the five-year plan seems reasonable, but funding considerations will depend on resources available.

Continued on page 2.

Natural areas are important to the Arboretum's major goals of **education and research, below, and providing services to the public, such as Maple Syrup Days, right.**

(Photos by Herb Rauscher, Illustration Services)



Master plan *Continued from page 1.*

Goals and objectives

The master plan lists three major goals for the Arboretum: (1) to serve as an *educational* facility for the University. The objectives are to maintain a major collection of woody plants, specialize in types native to southern Ontario, develop demonstration areas, label plants, and to maintain a resource room and herbarium for reference purposes, a resource staff for teaching and liaison, and areas of natural vegetation as a resource for ecological education;

(2) to serve as a *research* facility for the University, the greater scientific community and industry. The objectives are to establish and maintain a major botanical collection of native and exotic woody plant material, develop a record-keeping system, establish and maintain a gene bank of native, rare and other significant woody plant material, participate in international plant conservation and seed exchange programs, and maintain an acquisition policy that supports research objectives. Other objectives are to conserve significant on-site unmanaged natural areas for biological and interpretive research, retain research and support staff to initiate and assist in the liaison and operation of research activities, and to promote Arboretum resources to the research community; and

(3) to provide a *service* to the University, appropriate interest groups and the general public. Objectives are to provide nature interpretation facilities and educational programs for the public, maintain high standards of esthetic quality in the development of plant collections and support facilities, accommodate cultural programs and meetings compatible with the character of the Arboretum, incorporate horticultural displays, sculpture and other art forms that are complementary to the master plan, accommodate passive recreational uses compatible with the site and other uses, create a facility of interest for visitors to the Guelph area, develop a barrier-free environment accessible to all, and establish and maintain an outreach program to encourage an appropriate level of public involvement and support.

User needs study

The long-range plan, a guide for physical development and management for the next 15 years, is based on the results of a user needs study, a resource inventory and analysis, and an evaluation of the existing and proposed botanical collections. The committee says the design principles guiding the plan incorporate biophysical resources, zoning, activity and orientation nodes, movement systems, open space system, framework plantings, collections and maintenance. Long-term plans include improvements to Grant House, which is now rented out to tenants, to create a centre for horticultural activities with a gift shop, tea-room, meeting rooms and demonstration gardens.

Operating Plan and Base Budget

More than 10,000 people participate in Arboretum programs each year, and the com-

mittee recommends that the present educational and cultural programs be maintained. It also says new programs related to horticultural applications should be considered and that academic programs should be offered in cooperation with existing units, such as Continuing Education.

The 1985/86 base budget for the Arboretum was \$386,950; \$46,500 of that was a grant from the Ministry of Natural Resources and the remaining \$340,450 came from OAC's Ministry of Colleges and Universities funding. The committee recommends a new base budget to be phased in over the period of the five-year plan. The five-year budget for capital and operating costs is \$406,350 (in 1986 dollars) in 1986/87, rising to \$479,500 (in 1986 dollars) in 1990/91. Some \$521,000 will be required over the next 15 years for capital projects. The committee says outside funding should be found for these projects; this would reduce University support by \$213,000 over the first five-year period.

Two policies

The report draws attention to two policies—research and educational. The research policy encourages in-house and co-operative research within the context of the Arboretum's goals and objectives; the educational policy says the Arboretum's central role is as a support facility for academic teaching in undergraduate and graduate programs.

Staff Structure

New professional positions are recommended—a plant breeder with a research orientation and a landscape architect. The existing curator position would remain full time with some teaching responsibilities, says the committee, and the two new positions and those of the director and biologist should be faculty cross-appointments with about one-half time for Arboretum business. Net salary cost increase would be negligible.

There would be many advantages to cross-appointments, says Taylor. They would knit the Arboretum more closely into the University's academic structure and provide better liaison between the Arboretum and various departments. The Arboretum is not being used as a teaching aid as much as it could, he says.

Five formal advisory committees are recommended to guide policy and management of the facility; internal, external—made up of senior people from appropriate related

institutions, the city, the public and special interest groups—and research, education and development review committees.

Additions to Arboretum

The committee recommends the addition of two parcels of University property to the Arboretum acreage. The first, to the south, is designated as environmentally sensitive land and it is mainly for this reason that the committee believes it should be made part of the Arboretum. The other, a field on the north side of Arboretum Road, would give the Arboretum an entry point and knit its lands more closely to the campus. Survey respondents say the Arboretum is too far away from campus, a problem the committee says is partly perceptual. Making the walkway to the Arboretum visually pleasing is expected to draw it closer to the main campus.

Public involvement

Current levels of public involvement in the Arboretum should be maintained and increased over time, says the report. At some future date, a "Friends" organization should be instituted for fund raising, program development and delivery, and operation of activities associated with the proposed Grant House complex. The report also recommends that the new director establish a funding drive for the capital projects to be administered within an Arboretum Development Fund. The target would be \$50,000 per year over the first five-year period.

'Excellent plan'

Jorgensen, who retires at the end of the year, says no other institution has a plan as thorough and explicit as Guelph's. "I'm delighted to see the experiences of the Arboretum put down on paper in such an excellent manner. I feel good about leaving now, with such an excellent plan for the future." Matthews also praises the work of the steering committee. He describes the master plan as "thoughtful and forward looking."

Established in March 1985, the committee consisted of Taylor, Jorgensen and Prof. David Smith, Botany. Planning staff members were Brooks Wickett and Jean Anne Wightman. John Ambrose, Steve Aboud, Dorothy Blacklock, Ron Kelly, Henry Kock and Alan Watson, all Arboretum staff members, also played an important role in preparing the report, says Taylor. 0

Questionnaires out for CEASE project

Prof. Sid Gilbert, Sociology and Anthropology, says Phase 1 of his "Career and Education Achievement in the Student Environment" (CEASE) project is under way. Questionnaires have been sent to each of Guelph's 2,836 Semester I students and "returns are coming in nicely," he says.

Gilbert received a \$27,686 Social Science and Humanities Research Council grant to examine how university reality lives up to students' expectations and also to look at differences between students who continue their education beyond first semester and those who

drop out. (See "University Attrition Study Gets SSHRC Support, *at Guelph*, May 29, 1986.)

"It's very important that people respond, so the sample is representative," says Gilbert. To encourage response, he has placed flyers around campus and advertisements in the student newspaper, the *Ontarion*. He is also seeking permission to have research assistants visit large first-year classes to encourage students to answer and return the questionnaires.

Gilbert expects to have returns for analysis by the end of October. 0

Management policy required to save Great Lakes shoreline

by Pamela Healey

Cottagers on the Great Lakes watched lifetime investments being washed away during storms in the spring and late fall of 1985 as their beaches, lawns and even houses disappeared into the lakes.

They are blaming water levels that are close to the highest of this century and pointing the finger of responsibility at the government.

Profs. Robin Davidson-Arnott and Reid Kreutzwiser, Geography, say the problem is not just the lake levels but poor management of shoreline development, which allowed people to build vacation properties in potentially hazardous areas. The researchers studied the causes of last year's damages, which amounted to more than \$25 million, and concluded there is a need for an overall coastal zone management policy.

The Great Lakes shoreline has been extensively developed for recreation, housing, agriculture and industry. But many shore areas consist of erosion-prone glacial sediment. During periods of high water, severe wave action results in loss of land, damage to buildings and depreciation of property values. Problems caused by wave erosion and flooding continue to increase as the shoreline is further developed.

Davidson-Arnott and Kreutzwiser say long-term, above-average precipitation is causing another period of high lake levels. Shoreline landowners think the water levels are the result of government intervention in the form of dams, diversions, shipping and the generation of hydroelectric power at Niagara Falls, and they are seeking compensation for their destroyed property. The two scientists say high levels are a natural phenomenon that human intervention could only alter by one or two inches — not enough to make a difference during a severe storm when strong winds can raise lake levels six or seven feet within 12 to 18 hours.

In an effort to protect their property, private landowners build many shore protection structures ranging from seawalls to metal groynes that protrude like piers into the water. A study by Davidson-Arnott and graduate student Holly Keizer found that 71 per cent of the structures built along the Lake Ontario shore in Stoney Creek failed within 10 years of construction. In addition, shore protection works reduce the esthetic qualities of the coast and, in most cases, exacerbate erosion problems.

Davidson-Arnott says shoreline building interferes with natural processes such as sediment movement and bluff erosion. Shorelines are dynamic physical features — incompatible with static buildings. He says that what's done by people in one shore area is bound to have implications elsewhere. For example, a dyking project at Point Pelee, intended to protect drained farmland, accelerated the rate of erosion in the adjacent national park.

Regulation of water levels interferes with the whole ecology of the coast, especially wetland areas that depend on fluctuations in lake level

for rejuvenation. Because these natural processes can't be controlled, it's necessary to have an overall coastal zone management policy that is conservation-oriented, the geographers say.

Opportunities do exist, however, for more effective management of the lower Great Lakes shore, they say. The data on physical processes is available but could be used much more fully, and alternative ways of modifying the coast should be considered. They'd like to see preventative strategies taken on the remaining undeveloped shoreline as well as initiatives to mitigate the damage already done, perhaps by allowing developed areas to return to natural systems or by public acquisition of beach front property.

Kreutzwiser has been appointed to a committee formed by Ontario's ministers of natural resources and municipal affairs to study long-term solutions for shoreline management along the Great Lakes. Both geographers hope this group will be successful in promoting the establishment of an effective government management policy and in changing landowners' misconceptions about the reasons behind property losses. 0

110 employee dependents get tuition scholarships

Guelph's new undergraduate tuition scholarship plan for eligible dependent children of University employees is now providing \$528 per semester for faculty dependents and \$614 a semester for staff dependents, says Roy Pella, director of Personnel. These amounts will be reviewed before next fall.

Sixty-six faculty dependents are at Guelph under the scholarship plan, and another 17 are attending the the University of Western Ontario — the only reciprocal university in the faculty plan. Seventeen dependents of professional/supervisory and exempt staff, and 10 dependent children of staff are receiving scholarships.

Pella reminds employees that dependent children must qualify for a scholarship. They must satisfy the University's entrance requirements by meeting the academic standards of the program they want to enrol in, or have a minimum overall scholastic average of 70 per cent upon admission, whichever is higher. Students who are admitted to a program but do not meet the scholarship requirement will become eligible by satisfying the academic continuation requirements of their program and by obtaining a minimum two-semester accumulative average of 70 per cent. In-course students can maintain their scholarships by satisfying academic continuation requirements of their program, says Pella. 0



Vice-President, Administration, Charles Ferguson, raised the United Way flag in front of the University Centre last week to mark the official kickoff of the campus canvass. With Ferguson are Don McIntosh, chairman of the campus canvass, Jim Rooney, centre, chairman of the Guelph United Way campaign and Robin Lee Norris, vice-chairman. The campus canvass goal is \$86,250. Watch the big thermometer at Rathby House to see how we're doing. The canvass ends Oct. 23. (Photo by Herb Rauscher, Illustration Services)

Centre for Genetic Improvement of Livestock sets standards for futuristic breeding programs

by Mary Dickieson

Senate's 1984 approval of the Centre for the Genetic Improvement of Livestock (CGIL) and last year's gift of a computer system from IBM Corp. of Canada have created a better working environment for researchers in the Department of Animal and Poultry Science, says Prof. Ted Burnside, part-time director of CGIL.

Although Guelph is already a world leader in livestock research, says Burnside, the centre allows the University to focus even greater attention on this area, make a bigger commitment to the genetic improvement of livestock and attract more long-term research funding. And the University's decision to give CGIL priority use of the IBM computer has boosted research productivity by removing budgetary restrictions and allowing unlimited access to computer time, he says.

CGIL oversees the work of five professors in the breeding area — Burnside, Brian Kennedy, Ian McMillan, Larry Schaeffer and Jim Wilton — but the wide range of CGIL projects often

calls for expertise from across campus as well as from government, artificial insemination centres, breed associations and livestock breeders.

These organizations also provide financial support to Guelph research, says Burnside, and in turn they enjoy the benefits of CGIL developments. "We are helping the Canadian livestock industry maintain its advantageous position in the breeding of livestock and in the worldwide export of semen, embryos and animal breeding technologies," he says.

Work and the benefits

The benefits include semi-annual dairy sire evaluation reports that rank sires of all major breeds for the production level, conformation and milking speeds of their daughters. Traits to be added in future include temperament and reproductive performance. Contracted by the Ontario Ministry of Agriculture and Food and developed by Schaeffer and Kennedy, the system mathematically analyses data files for an

accurate comparison of genetic merit. Canada was the first country to implement "Best Linear Unbiased Prediction" (BLUP) technology, which is now commonly used to assess dairy sires and has been implemented for beef cattle and pigs in some countries, says Schaeffer.

BLUP technologies have been added to the national cow indexing system first developed by Burnside in 1964 to produce a ranking system for dairy cows, and have been taken one step further to rank young dairy bulls on a pedigree index. Canada's indexes are the most accurate predictors of a young bull's ability to transmit desirable traits of any available around the world, says Burnside. Schaeffer and G.B. Weaver of Semex Canada initiated this work.

The national beef sire monitoring program operated by Agriculture Canada was researched and developed at Guelph. It employs BLUP technology and uses a multi-trait model. Wilton recently directed the development of a national sire proving system for the Simmental and Limousin breeds and CGIL has provided input into progeny testing and sire rating systems.

Through collaboration with the Natural Science and Engineering Research Council and OM AF's Red Meat Program, CGIL researchers are now comparing various evaluation procedures for performance-tested beef bulls and will shortly recommend an evaluation package for application in the Ontario Bull Testing Program.

Similar efforts in swine research led to the recent adoption of an evaluation system for record-of-performance tested pigs, with partial funding from the Ontario Pork Producers Marketing Board and OMAF. Agriculture Canada now manages the system and provides quarterly reports of estimated breeding value ratings. The first of its kind in the world, this system is an attempt to provide swine breeders with an effective tool for genetic improvement, says Kennedy. The development has stimulated demand for Canadian boar semen around the world, says Burnside.

A friend called 'Gil'

Although their past record is impressive, CGIL researchers agree that future developments will be achieved more quickly because of the IBM computer gift. Affectionately called "Gil," the computer has turned night into day for many researchers in the department, says Burnside. Because of the magnitude of the statistical analyses involved, most genetic research programs require several hours or even days of computer time and have traditionally been allotted computer time from "dusk to dawn," he says. "You might use the entire year's budget in a single week of daytime computing, if you could get on the system." Gil is used by more than 200 research assistants, professors and graduate students.

Continued on page 5.



The Polish ministry of agriculture recently presented a medal of scientific excellence and a plaque to Prof Ted Burnside, Animal and Poultry Science, as leader of a Canadian technical advisory committee that was involved with eight other countries in a just-completed 12-year experiment in Poland comparing 10 strains of black and white dairy cattle. Celebrating, left to right, are Profs. Brian Kennedy, Burnside, Helen Leitch of Semex Canada and Jim Wilton. Absent are Prof Larry Schaeffer and Dr. Morris Freeman of Semex. More than 2,000 Polish cows of each strain were used in the study, described by Burnside as the largest-ever experiment of its kind. Each of the nine countries involved — Canada, the United Kingdom, the United States, Israel, New Zealand, Sweden, Denmark, West Germany and the Netherlands — contributed a research team and semen for the study. Semex provided semen free of charge, and Canadian cattle emerged as one of the top four for dairy production, Burnside says.

(Photo by John Majorossy, Illustration Services)

Job opportunities



Drama students, left to right, Murray Oliver, Amanda Bloss and Pamela Wilson, enact a scene in a new version of Carlo Goldoni's *Servant of Two Masters* by Tom Cone. The play runs Oct. 20 to 25 at 8 p.m. at the Inner Stage in the MacKinnon building. Tickets are available at the box office in the University Centre or at the door.

(Photo by Herb Rauscher, Illustration Services)

CGIL Continued from page 4.

The computer will help CGIL to follow through on one of its prime objectives - the development of data base systems for livestock records that will ultimately save months of editing on many research projects, says Kennedy. In the dairy area alone, CGIL has inherited more than 2.5 million milk production records, which are maintained in the largest file for such records in Canada. Similar computer files have been created for other dairy traits, and there are comparable files for beef cattle, swine, poultry and other livestock groups.

A CGIL project has created a poultry science index to handle the data from laying hen trials that compare diets. Another study is examining the effects of short-term heat stress on the nutrient requirements of laying hens. McMillan says the poultry data base can be used to compare the importance of the various predictors of egg production and to look at the heritability of growth parameters.

McMillan is also involved in a study of brown and brook trout, using the Ontario government facility at Maple to breed trout with three sets of chromosomes instead of two. The CGIL computer is also assisting a study of the growth rate of Atlantic salmon at the Atlantic Research Centre in St. Andrews, N.B.

International resource centre

The centre serves as a resource for many other countries that want to adopt Canada's

animal breeding technologies and evaluation systems, says Burnside. It has helped the development of such programs in Mexico, Cuba, Malaysia, the United Kingdom, Sweden, Italy and Argentina. This fall, CGIL is hosting visiting professors from agricultural universities in Holland, Spain and Norway. Graduate and post doctoral students from around the world are welcomed in the department. Dutch students who were here this past summer say they gained extensive experience in animal breeding, and all were quick to commend the computer facilities at CGIL. In Holland, students and researchers alike are still burning the midnight oil, says student Wiljbrand Ouweldjes.

CGIL will continue to expand its international expertise through recently funded industrial research chairs in the areas of animal biotechnology and animal breeding strategies. NSERC and Semex Canada, which is owned by the Ontario Association of Animal Breeders, have contributed to three chairs. The chair in animal biotechnology has been filled by Dr. Keith Betteridge, formerly of the University of Montreal. An appointment to the chair in animal breeding strategies will be announced in the new year, and interviews are under way to fill the chair in molecular biology.

These three positions will bring scientists of established international recognition to the University to give leadership to imaginative new areas of collaborative research, says Burnside. "We have to stay abreast of new technologies and ensure that our scientists are as efficient and our breeding programs are as futuristic as the best in the world," he says. 0

As of at *Guelph* deadline Oct. 10, 1986, the following opportunities were available; **Analyst III**, Systems Development and Co-ordination, Computer Services. Salary range; \$27,956 minimum; \$34,945 midpoint; \$41,934 maximum. Normal hiring range; \$27,956 to \$32,848.

Clerk I, Library Personnel Office; temporary full-time Nov. 3/86 to April 3/87, maternity leave. Hiring range: \$247.17 to \$268.03 per week.

Stenographer, Department of Clinical Studies; temporary full-time from Oct. 17/86 for approximately six months. Hiring range: \$255.27 to \$277.38 per week.

Porter, Veterinary Teaching Hospital; temporary full-time from Oct. 22/86 to Jan. 21/87 approximately. Probation rate; \$9.82 per hour.

Research Assistant, Department of Land Resource Science; grant position. Salary commensurate with qualifications and experience. **Technician**, Environmental Biology. Salary range; \$448.76 minimum; \$519.80 job rate (level 5); \$645.49 maximum.

Research Station Clerk, Eramosa Research Station, OVC. Salary range; \$291.19 minimum; \$336.53 job rate (level 5); \$419.16 maximum.

The following positions were available to on-campus employees only:

Custodian 4, Housekeeping Department. Job rate: \$10.70 per hour; probation rate; \$.20 per hour lower than job rate.

Sanitary Equipment Operator, Grounds Department. Job rate; \$11.82 per hour; probation rate; \$.20 per hour lower than job rate.

Administrative Assistant I, School of Hotel and Food Administration. Salary range: \$348.55 minimum; \$401.64 job rate (level 5); \$497.00 maximum.

Administrative Assistant to the Bursar, Financial Services. Salary range; \$348.55 minimum; \$401.64 job rate (level 5); \$497.00 maximum.

Treasury Clerk, Alumni Affairs and Development. Salary range; \$348.55 minimum; \$401.64 job rate (level 5); \$497.00 maximum.

Secretary, Department of Physics. Salary range; \$282.66 minimum; \$322.58 job rate (level 5); \$397.36 maximum.

Secretary, Elora Research Station, OAC. Salary range; \$282.66 minimum; \$322.58 job rate (level 5); \$397.36 maximum.

Property Insurance Assistant, Financial Services. Salary range: \$348.55 minimum; \$401.64 job rate (level 5); \$497.00 maximum.

Secretary to the Chairman, Department of Computing and Information Science. Salary range; \$282.66 minimum; \$322.58 job rate (level 5); \$397.36 maximum.

It is the University's policy to give prior consideration to on-campus applicants. To determine availability of University employment opportunities, contact employment services and training, Level 5, University Centre.

Appointments

Prof. Robin Ollerhead has been reappointed as chairman of the Department of Physics for a second five-year term from May 1, 1987, to April 30, 1991.

Briefly

A TOWN AND GOWN ecumenical evening worship, sponsored by the Ecumenical Campus Ministry (Anglican, Presbyterian, United), is planned for Oct. 19 at 7:30 p.m. in Room 103, University Centre. Music will be provided by Bob Foote and members of the University community. There will be no ecumenical service on campus that morning.

THE ARBORETUM and the Department of Music are sponsoring the ninth season of Arboretum Days. The Nature Centre will be open from 9 a.m. to 3:30 p.m., and the OAC Centennial Centre from 1 to 4 p.m., with a variety of collections on display. At 2:30 p.m., there will be a free concert in the centre featuring the Canadian Saxophone Quintet. In the morning and early afternoon, the Arboretum trails will be open for those who wish to walk through the Victoria Woods. The quintet presents works from renaissance to ragtime; their program will include "Rondeau" by Mourret, madrigals arranged by P. Harvey, "In a Sentimental Mood" by Duke Ellington and "Saxophobia" by Weidoeft, arranged by Galluzzo.

THE SURPLUS SALES Department, Blackwood Hall, has the following items for sale on a closed bid basis; one wing-style brown velvet arm chair and three brocade upholstered arm chairs (SD#072); a combination Dwyer two-burner electric range/sink/ refrigerator (SD# 172). Closing date for all bids is Oct. 23 at 4 p.m. For information and viewing, contact the sales office at Ext. 8139.

EQUALITY FOR ALL, a seminar sponsored by the Mac-FACS Alumni Association, is Oct. 18 from 9 a.m. to 4 p.m. Keynote speaker is MP Patrick Boyer, chairman of the committee on equality rights. Interest sessions include; mandatory retirement, employment equity and part-time work, access by the disabled and family violence. Cost of \$35 includes lunch. For more information and to register, call Ext. 2122.

NUCLEAR SAFETY POST CHERNOBYL is the topic of a talk by R.A. Brown of Ontario Hydro Oct. 21 at 4 p.m. in Room 113, Physical Sciences building. Brown will discuss the accident at the Chernobyl 4 reactor, the damage to the reactor and the health effects on the plant staff and surrounding population. He will also examine possible ramifications of the accident for Ontario Hydro's CANDU reactors.

THE FALL SYMPOSIUM of the Guelph-Waterloo Program for Graduate Work in Physics is Oct. 28 at 2:45 p.m. in Room 112, Engineering Lecture Hall (adjacent to the Physics building) at the University of Waterloo. Topics are: "Localized States in Amorphous Silicon; Are We Getting the Picture?" with Waterloo's dean of science, D.E. Brodie, and "Current Issues in Hadron Spectroscopy" with Prof. Gabriel Karl, Physics. Prof. Iain Campbell, director of the program, will present a "state-of-the-union" message on the program's first five years.

A BETTER WORLD meets Oct. 16 at noon in Room 132, MacKinnon building. Prof. Lila Engberg, Family Studies, will speak on "Income Generation and Food Security; Problems for Women in Malawi."

A SUMMER INTERNSHIP PROGRAM offered by the UN Development Program provides on-the-job training experience for eight to 10 weeks during the summer. Applicants should be pursuing a postgraduate degree in development-related studies and be proficient in two of UNDP's working languages (English, French and Spanish). For more information and application forms, contact Susan James, Development Education Program, Centre for International Programs, Ext. 6914.

WITCH'S CAULDRON is the title of the Arboretum's Sunday afternoon walk Oct. 26; it leaves from the J.C. Taylor Nature Centre at 2 p.m. You're invited to discover the creatures of myth and mystery with the Arboretum's resident witch.

OPEN HOUSE at the Macdonald Stewart Art Centre is Oct. 26. From 1 to 4 p.m., a special appraisal program will take place with Geoffrey Joyner and Erik Peters, who will give verbal descriptions and evaluations of Canadian and European paintings, sculpture, drawings, prints, decorative art and books. Jewelry, coins, stamps or furniture are not included. Cost for the appraisal is \$5; a written estimate may be ordered for \$25. Other events include the opening of an exhibition from the University of Hawaii called "International Shoebox Sculpture" and a studio program for children.

SCIENCE AND TECHNOLOGY in the World Food Crisis, an international conference, runs from Oct. 23 to 26. Keynote speaker Alexander King, president of the Club of Rome, will discuss "The World Food Crisis: Problems and Prospects." Other speakers and panelists are invited from Pakistan, Sweden, Japan, the Philippines, Italy, China and India as well as Canada and the United States. Registration and more information are available from Continuing Education, Johnston Hall.

MIDWIFERY — AN ALTERNATIVE is a discussion and question period sponsored by the Guelph Community Health Centre Working Group Oct. 29 at 7 p.m. at the Delhi Recreation Centre, Delhi Street. For more information, call Monica at 822-0499 or Bruce at 836-2187, evenings.

THE WOMEN'S RESOURCE CENTRE is sponsoring a noon-hour concert with singer/songwriter Faith Noland Oct. 31 in the University Centre courtyard.

THE FACULTY CLUB is offering a jumbo shrimp special for members only Oct. 17 at 4 p.m. Cost is \$3.75 plus tax per half dozen; tickets are available at the club office.

THE BOARD OF GOVERNORS meeting scheduled for Oct. 23 has been cancelled. The next regularly scheduled meeting will be Nov. 27.

THE GUELPH COIN CLUB meets Oct. 21 at 7:30 p.m. in the Co-operators Insurance building, Room 7AB. Guest speaker Terry Aitkin of Stratford will display and discuss the pounds, shillings and pence of New Zealand. Other displays and an auction will conclude the evening. Call Mike Hollingshead, 824-0647 or 822-2910, for more information.

PUEBLITO CANADA, a non-profit charitable organization, needs Canadian volunteers to work in the Dominican Republic. Application deadline is Jan. 31 for departure in June 1987. Volunteers receive room, board and a small honorarium to cover essential living costs and are required to pay their own expenses to and from the project and for Spanish-language training. For more information, contact Susan Cox, Pueblito Canada, 69 Sherbourne St., Suite 523, Toronto, Ont. M5A 3X7.

A JOB-HUNTING WORKSHOP will be offered by Career Services, Counselling and Student Resource Centre, Oct. 25 from 9 a.m. to 4 p.m. Anyone interested in attending should register by 4 p.m. Oct. 24 at the Connection Desk, Level 3, University Centre.

CONVERSATIONS, a 10-week course for relatives of students whose first language is not English, begins Oct. 16 at 7 p.m. Register at the Connection Desk, Level 3, University Centre.

THE ANNUAL Christmas Crafts Sale of the Guelph Creative Arts Association is Oct. 26 from 11 a.m. to 4:30 p.m. at the Delhi Street Recreation Centre. On sale will be one-of-a-kind gifts of crafts and paintings by area creators. For information, call 821-5813.

Waterloo approves microwave link

University of Waterloo board of governors gave approval Oct. 7 to setting up a corporation, jointly owned with Guelph, to hold the licence for and operate a 15 GHz microwave link. The link will be used to conduct lectures and seminars simultaneously on both campuses.

Guelph's board of governors approved the establishment of G.W. Link Inc. Sept. 25. (See *at Guelph* Oct. 9.) 0

Positions elsewhere

Athabasca University is seeking applications for a permanent appointment in the position of director of student services and a four-year renewable position as dean of arts and science. Applications should be submitted by Oct. 31 to; D. Peter Monk, Director of Personnel, Athabasca University, Box 10,000, Athabasca, Alta. TOG IRO.

Family studies curriculum conference hailed as model for other disciplines

"All on the Family," a recent one-day conference at Guelph devoted to the new family studies curriculum for Ontario elementary and secondary schools attracted 180 participants from across the province, and many more had to be turned away.

Faculty at the College of Family and Consumer Studies have been involved with the Ontario Ministry of Education in the development of the new family studies curriculum called for by the OSIS (Ontario Schools; Intermediate, Senior) document. The Council of Ontario Universities has encouraged all universities to assist in this new curriculum development and implementation.

Dr. Patricia Hames, education officer with the ministry's western Ontario region office in London, says the rationale behind the new curriculum guidelines was to update materials being taught in Grades 7 through 12 in Ontario, looking "at the need of education into the next century" and the elimination of Grade 13.

The conference, sponsored by FACS and the provincial family studies teachers' association, was a first step in giving teachers an opportunity to become familiar with the new material.

Dr. Richard Van Fossen, OSIS liaison officer for COU, says the conference more than lived up to his expectations. The combination of theory and application, and the co-operation between the University and the teachers' association in planning and hosting the one-day event suggest this conference could be used as a model by other subject areas, Van Fossen says. After the conference, he met with FACS Dean Richard Barham and Hames to discuss applying this style of conference to other disciplines.

Participants, mainly secondary school teachers, were able to choose two workshops dealing with basic theory and concepts underlying the curriculum. The sessions, covering such topics as parenting, housing and economics, were all led by FACS faculty. A variety of practical application sessions, led by experienced teachers, discussed strategies for drawing from theory to provide challenges in the classroom.

The conference also provided opportunities for dialogue among the teachers at the elementary, secondary and post-secondary levels. Hames says this communication was helpful to everyone, giving them insight into students' needs and problems at the various levels. Dr. Janet Wardlaw, associate vice-president, academic, says it was useful for faculty because it keeps them in touch with what is happening in the province's secondary schools.

Plans are under way to repeat the conference in January for those who had to be turned away from the first one. 0

Graduate news

The final oral examination of Colin Macdonald, Zoology, a candidate for a PhD degree, is Oct. 20 at 2:30 p.m. in Room 168, Botany & Genetics/Zoology building. The thesis is "The Influence of Diet on the Accumulation of Cadmium in Ringed Seals (*Phoca hispida* Schreber) in the Canadian Arctic." Macdonald's supervisor is Prof. John Sprague.

Interested members of the University community are invited to attend.

Smoking clinic planned

Because of the success of the first campus smoking clinic last spring, the University will offer another clinic in November, says Stu Brennan, employee relations, Personnel. It will begin Nov. 3 and will run for seven weeks from 7:30 to 9:30 p.m.

The last course was considered a success by all 19 of the people who completed the program, says Brennan. All of the 19 either stopped smoking or cut back substantially, he says. In evaluations of the course, participants commented on the relaxed atmosphere of the clinic and the friendliness and support of the director and the group. One participant said the clinic "taught me to respect myself" and encouraged a positive change of lifestyle.

All campus smokers are encouraged to take advantage of this opportunity to quit smoking with professional help, says Brennan. Cost is \$50. For more information or to register, telephone Ext. 6700.

Visiting professor

Dr. J.B. Richardson, senior pathologist at Montreal General Hospital, will be in the Department of Pathology from Oct. 20 to Oct. 31 on the Vice-President's Short-Term Visiting Professor Program.

Richardson's area of expertise is pathophysiology of the respiratory system. His studies on lung function using animal models have made him familiar with problems in studying the pathophysiology of respiratory infection in domestic animals. His studies on work of breathing and lung compliance have formed the basis for studies carried out in the departments of Pathology and Clinical Studies.

Richardson will present the following lectures; "The Comparative Innervation of the Airways" Oct. 21; "The Innervation of the Gastrointestinal Tract and Some Common Problems" Oct. 28, and "Human Pathology: Obstructive and Restrictive Diseases of the Lungs" Oct. 29. All lectures are in Room 220, Pathology building.

For those wishing to meet with Richardson, he will be located in Room 236, Pathology building, Ext. 4639. Appointments may be made through Helena Macado, Ext. 4600. 0

Our people

New appointees to the international editorial advisory board of *The Service Industries Journal* are **Monty Sommers** and **Bill Frisbee**, Consumer Studies, and **Tom Muller**, HAFA.

Letters to the Editor

What's wrong with this picture?

The Sept. 25 *at Guelph* contains a photograph of 16 smiling members of the advisory committee to the College of Biological Science — representing only *one gender* of humanity — thereby supporting the maxim that "if you don't know something, then you don't know that you don't know."

Prof. Elaine McCreary,
Department of Rural Extension Studies



Thomas Woodley of Campbellville, an eighth-semester zoology student, left, receives the Ronald Ko Prize in Parasitology from Prof. Roy Anderson, chairman of the Department of Zoology.

(Photo by Herb Rauscher, Illustration Services)

THURSDAY, Oct. 16, 1986

Red Cross - BLOOD DONOR CLINIC, 10 a.m. to 3:15 p.m., UC 103. CUSO - WORLD FOOD DAY Coffee Sale and Display, 10 a.m. to 4 p.m., UC courtyard.

Environmental Biology Seminar - INTEGRATED PEST MANAGEMENT in Glasshouse Crops, Joe Hussey, 11 a.m., Graham Hall 202.

Pathology Seminar - COMPENSATORY ADAPTATIONS of Myocardial Membranes to Chronic Metabolic Overload, P.J. O'Brien, 11:10 a.m., Pathology 220.

A Better World - INCOME GENERATION AND FOOD SECURITY; PROBLEMS FOR WOMEN IN MALAWI, Lila Engberg, noon, MacK 132.

Worship - ECUMENICAL CAMPUS MINISTRY, Fellowship and Conversation, noon to 2 p.m., PCH; Community Evening, 5 to 6:30 p.m., UC 332; EXPLORATIONS AND MEDITATIVE PRAYER, 5 p.m., Chapel, UC Level 5.

CSRC - RESUME CLINIC, noon to 1 p.m., register at the Connection Desk, UC Level 3, by 11 a.m.; CONVERSATIONS, register at the Connection Desk.

Concert - THE CANADIAN PIANO TRIO, 12:10 and 1:10 p.m., MacK 107.

World Food Day - STARVATION AND THE WORLD FOOD SURPLUS, Problems of Overproduction in Agriculture, panel discussion, 8 p.m., UC 103.

FRIDAY, Oct. 17, 1986

Schedule of Dates - LAST DAY for submission of student petitions.

Worship - ROMAN CATHOLIC MASS, 8:10 a.m., Chapel, UC Level 5.

Film - KOYAANISQATS!, 6:30 p.m.; HAROLD & MAUDE, 9:30 p.m., PS 105.

SATURDAY, Oct. 18, 1986

Seminar - EQUALITY FOR ALL, 9 a.m., general \$35, Mac-FACS Alumni \$25, students \$17.50, register Ext. 2122.

Macdonald Stewart Art Centre - THE ROMANTIC LANDSCAPE NOW, noon to 5 p.m.

SUNDAY, Oct. 19, 1986

Cycling Club - EVERTON, 27 miles, 10 a.m., UC south doors; BIKE WORKSHOP, 2 to 4 p.m., 61 Tiffany St.

Worship - ROMAN CATHOLIC MASS, 10:10 a.m., PCH; ECUMENICAL CAMPUS MINISTRY (Anglican, Presbyterian, United), Town and Gown Evening Worship, 7:30 p.m., UC 103; GREAT COMMISSION CHURCH, 10:30 a.m., PS 104, Sunday School available for children.

Arboretum - AUTUMN DAY IN THE ARBORETUM, walks leave at 1 p.m. and 3:45 p.m., J.C. Taylor Nature Centre; CONCERT — THE CANADIAN SAXOPHONE QUINTET, 2:30 p.m., Arboretum Centre.

Marriage Preparation - COURSE FOR ENGAGED COUPLES, 2 p.m., continues for six weeks. Register with the University Chaplains' office, Johnston Hall 151, Ext. 8909.

MONDAY, Oct. 20, 1986

CSRC - CAREER DEVELOPMENT ORIENTATION, noon, UC 301; RELAXATION TRAINING GROUP, 5 p.m., UC 442, register at Connection Desk by 4 p.m.; CAREER ASSESSMENT SERIES, 7 p.m., register at Connection Desk by 4 p.m.

Worship - ROMAN CATHOLIC MASS, 5:10 p.m., Chapel, UC Level 5.

Cycling Club - MEETING AND FLEA MARKET, 7:30 p.m., MacK 237.

Drama - THE SERVANT OF TWO MASTERS, 8 p.m., Inner Stage, MacK, continues to Oct. 25.

TUESDAY, Oct. 21, 1986

Pathology Lecture - THE COMPARATIVE INNERVATION OF THE AIRWAYS, J.B. Richardson, 11:10 a.m., Path 220.

Physics Lecture - NUCLEAR SAFETY POST CHERNOBYL, R.A. Brown, 4 p.m., PS 113.

CSRC - CAREER DEVELOPMENT ORIENTATION, noon, UC 301; WRITING ASSISTANCE, 5:30 to 9 p.m., Lib 359; HOW TO STUDY, 7 p.m., Lib, group viewing room; RELAXATION TRAINING, register at the Connection Desk.

Film - MARGARET LAURENCE; FIRST LADY OF MANAWAKA, noon, UC 334.

Worship - ROMAN CATHOLIC MASS, 12:10 p.m., Chapel, UC Level 5; ECUMENICAL CAMPUS MINISTRY, Bible Study, 5 p.m., UC 335; FAITHFUL CURIOSITY, 5 p.m., UC 334.

Our World - THE PHILIPPINES POST-MARCOS; WHAT'S CHANGED? 12:10 p.m., UC 442.

Environmental Biology Seminar - DEVELOPMENT OF MICROBIAL PESTICIDES, Joe Hussey, 3 p.m., PS 121.

LRS Seminar - MODELLING N TRANSPORT AND TRANSFORMATION IN FLOODED SOIL, Dennis Rolston, 2:10 p.m., LRS 124.

Interfaith Dialogue Group - LIVING THE LIFE; CODES OF ETHICS OF THE WORLD RELIGIONS, 7:30 p.m., UC 103.

Guelph Gay Equality - "AFTER YOU'RE OUT," discussion, 8 p.m., UC 536.

Senate - MEETING, 8 p.m., PS 113.

WEDNESDAY, Oct. 22, 1986

CSRC - CAREER DEVELOPMENT ORIENTATION, noon, UC 301; WRITING ASSISTANCE, 5:30 to 9 p.m., Lib 359.

Concert - CLIFF ERICSON, noon, UC courtyard.

Worship - ECUMENICAL CAMPUS MINISTRY, Holy Communion, 12:10 p.m., Chapel, UC Level 5.

Environmental Biology Seminar - MUSHROOM PESTS, Biology and Control, Joe Hussey, 4 p.m. Graham 200.

Cycling Club - PUSLINCH LAKE, 29 miles, 5 p.m., UC south doors.

THURSDAY, Oct. 23, 1986

Environmental Biology Seminar - MANAGEMENT IN GLASSHOUSE CROPS, Joe Hussey, 11 a.m., Graham 202.

Pathology Seminar - A COMPARISON OF SPOOROZYTE TRANSPORT in Immune and Native Birds Infested With *Emeria maxima*, D.P. Riley, 11:10 a.m., Path 220.

Worship - ECUMENICAL CAMPUS MINISTRY, Fellowship and Conversation, noon to 2 p.m., PCH; Community Evening, 5 to 6:30 p.m., UC 332; EXPLORATIONS AND MEDITATIVE PRAYER, 5 p.m., Chapel, UC Level 5.

CSRC - DECISION MAKING, 1 p.m., register at Connection Desk.

Conference - SCIENCE AND TECHNOLOGY IN THE WORLD FOOD CRISIS, registration, 3:30 to 7:30 p.m.; keynote address, 7:30 p.m.; reception, 9:30 p.m., PCH.

Film - LA CAGE AUX FOLLES, (film II), 7 and 9 p.m., Mac Hall 149.



is published by the University of Guelph for the University community and its friends every Thursday except during December, July and August when a reduced schedule applies. AT GUELPH is guided by an editorial policy approved by the President of the University. Views and opinions contained herein do not necessarily reflect official University policy. Letters to the editor, opinions, news items and other submissions are welcome. Deadline is seven days before date of issue unless specified. Stories may be reprinted with acknowledgement of source.

Editorial office: Public Relations and Information, Level 4, University Centre, Telephone: 1-519-824-4120, Ext. 3864. Executive Editor — Sandra Webster; Assistant Editor — Barbara Chance. NETNOR 134; DOI:SW at U.ofGUELPH.CoSy: swebster ISSN 0830-8489 Postage paid in cash at first class rates, Permit 1149, Guelph, Ontario N1G 2W1.