

guelph

UNIVERSITY NEWS BULLETIN

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Spring hearing with OCUA

Lack of adequate funds to provide the necessary overhead and equipment to maintain high quality, on-going research programs represents a major problem for the University of Guelph. This point is emphasized in the University's brief to the Ontario Council on University Affairs, (OCUA) to be presented at a hearing at Brock University April 14.

Each year, OCUA asks the universities to focus their briefs on certain aspects of their mission. This year, the Council asked that presentations deal with research activities and planned additions to graduate programs. At the University of Guelph, proposed new graduate programs include the Master of Agriculture (M.Agr.), with a potential enrolment of 50, (see *News Bulletin* 83 01 06) and the M.Sc. and Ph.D. in toxicology, (see *News Bulletin* 83 01 20).

When the Basic Income Unit (BIU) concept was first developed as a means of allocating provincial financial support based

on enrolment, the calculations included some provision for supporting university overhead and on-going research programs. The brief notes that the combined effects of increased volume of research at Guelph and reductions in the real value of the BIU have resulted in severe financial pressure.

The University has to face one of three choices, the brief states. It must curtail research, sacrifice teaching programs (many of which are already seriously underfunded) or find some means of recouping a larger share of research overhead from granting agencies.

Related to this problem is the lack of adequate capital support. That lack results in run-down of physical plant, failure to replace and maintain equipment, and the inability to obtain state-of-the-art equipment needed for research at the "leading edge". The brief acknowledges with appreciation the fact that the Natural Sciences and Engineering

Research Council (NSERC) has budgeted increased support for equipment grants in the past two years, and Ontario's B I LD Program has provided support for the same purpose.

The brief cites statistics showing that in 1981-1982, the University of Toronto spent \$65.025 million on research activities, McMaster spent \$31.891 million and Guelph, \$30.675 million. It is believed that only three or four other universities in Canada have equivalent research budgets.

Guelph's delegation to meet with OCUA includes President Donald Forster; Professor Howard Clark, Vice-President, Academic; C.C. Ferguson, Vice-President, Administration; Dean Carlton Gyles, Graduate Studies; Derek Jamieson, Office of the President; Cecil Franklin, Chairman of the Board of Governors; Professor R.G. Gentry, Faculty Association; and representatives of the Staff Association and the Central Student Association. □



Student sit-in continues

The sit-in by students opposing differential fees for foreign students continued into the second week of April with reduced numbers.

There were more than 300 students occupying the fourth floor of the University Centre last week before a two-bus delegation of about 125 students went to Queen's Park, Toronto. President Forster stated during the week that he will be recommending an expansion of the University's bursary program to help financially needy students. □

The 400 runners participating in the Fourth Annual Billy Taylor Memorial Road Race at the University enjoyed perfect weather for their 15-kilometer marathon. The winner, John Craig of the Olympic Club, lopped nearly three minutes off last year's record to finish in 45' 50:09. John Milligan and Manuel Savante, two University of Guelph runners, placed 2nd and 3rd in the Junior Division with 50:54 and 51:00 respectively.

OAC thanks outstanding farmers

The OAC has recognized two central Ontario farmers for their support of the College's teaching and research programs and for their contributions to agriculture. Robert C. Bechtel, Roslyn Park Farm, New Dundee, and John C. Benham, Benholme Farm, Rockwood have received the OAC Outstanding Service Award.

The Award, in the form of a formal citation and certificate, was presented to each winner at the recent annual OAC Recognition dinner. The dinner is one way faculty members of the College express their thanks to the many farmers who play host to classes and contribute in other ways to ongoing research and extension programs, says OAC Dean Clayton Switzer.

Mr. Bechtel's Roslyn Park Farm is the largest contract feed-lot operation in Ontario, marketing over 25,000 beef cattle each year.

He has pioneered a number of innovative concepts, such as the use of a computer to adjust rations on a daily basis. The farm makes extensive use of waste products from food processing in its rations and has provided leadership in waste management to protect the environment. In the past 15 years, more than 3,300 students have benefited from visiting Roslyn Park Farm, says Dean Switzer.

Mr. Benham's dairy farm is a good example of a well managed family operation, notes the Dean. The farm successfully integrates soil, crop, machinery and livestock management, stressing on-farm production of corn and high-protein alfalfa for the productive dairy herd.

In addition to having classes visit the farm, Mr. Benham has served as a guest lecturer, as a member of planning committees for innovative College programs, and as a speaker at meetings organized by OAC faculty members. His farm has provided sites for research plots and farm demonstrations. Mr. Benham has also served agriculture by providing leadership at senior levels in the Ontario Soil and Crop Improvement Association and the Holstein-Friesian Association of Canada.

Both winners are alumni of the OAC. Mr. Bechtel graduated in 1963 and Mr. Benham in 1951. Carla Bechtel and Anne Benham accompanied their husbands to the presentations. □

McLAUGHLIN LIBRARY

Between-Semester Hours

Wednesday, April 20 to Sunday, May 1

April 20 to April 25

Monday to Thursday 8:30 a.m. to 12 midnight

Friday 8:30 a.m. to 10 p.m.

Saturday and Sunday 10 a.m. to 10 p.m.

April 26 to May 1

Tuesday to Friday 8:30 a.m. to 7 p.m.

Saturday and Sunday 12 noon to 5 p.m.

Regular semester hours resume Monday, May 2.

Senators elected for winter term

Senate elections for the winter, 1983 term were held recently. The results are as follows:

Faculty: OVC, W.D. Black and R. Julian; CBS, S. Pfeiffer, U. Posluszny and S.R. Scadding; CSS, J.N. Benson, F.A. Dahms and J.L. Mottin; OAC, O.B. Allen, D.R. Arnott, E.E. Gamble, R. Protz and T.K. Warley; ARTS, L.W. Abbott, V. Matthews and M.E. Rogers; CPS, G. Ferguson, K.R. Jeffrey, J.P. Mokanski, M.J. Nye and J.B.M. Rattray, one seat is vacant.

Graduate students: OAC, Satya Singh; OVC, Joanne Cockshutt; University School of Rural Planning and Development, Patty White; CPS, K. Gerow.

Undergraduate students: B.A. Program, T. Gilbert, S. McFadyen, M. McManamna, P. Montgomery and L. Russell; B.Sc. Program, M. Dodd, J. Hewak, S. Jarrett, M. Walter and C. Wright; B.Sc.(Eng.) Program, Wardlaw; B.Sc.(Agr.) Program, B. Brown, R. Hall and D. Fox-Revett; B.A.Sc. Program, C. Clark and Pigeon; General Studies Program, E. Brady and C. Melville; B. Comm. Program, A. Bailey; Associate Diploma Program, A. King; D.V.M. Program, D. Kelton; B.Sc.(H.K.) Program, M. Tudor, and B.L.A. Program, V. Burt. □

Practitioners contribute to Externship Program

Students at the OVC will be fanning out across the Province to work for practising veterinarians during the next few months.

This activity, a form of co-operative education program called the Externship Program, provides students in their senior years with an opportunity to learn more about their chosen profession while being associated with a graduate veterinarian in an actual practice situation.

At the same time, the host practitioners have the satisfaction of knowing that, through their knowledge and experience, they are contributing to the educational program at OVC by enhancing the overall development of a potential colleague in veterinary medicine.

One aspect of the Externship Program involves the encouragement of host practitioners to meet regularly at Guelph for continuing education sessions. These meetings are expected to act as a catalyst for future discussion and information exchange between the College and practitioners. The first of these meetings was March 24. The host practitioners, as guests of the College, were briefed on Program details. Speakers delivered presentations about veterinary medicine, and other areas relevant to implementation of the Externship Program. □



A group of federal MPs, members of the Progressive Conservative Party committee on science policy, spent a day at Guelph recently. They reviewed laboratory facilities, exchanged views on strengthening Canada's research base, and explored the feasibility of closer ties between university and industry. They were particularly interested in the areas of biotechnology. Seated, left to right, J.G. Gilchrist, President D.F. Forster and T. Siddon. Standing, left to right, Professor H.C. Clark, Vice-President, Academic, Dr. Bruce Halliday, Dr. Lorne Greenaway, Dr. W.E. Tossell, Dean of Research, Gary Gurdin, and Dr. D.G. Howell, Centre for International Programs.

A HISTORY of Ontario, marking the bicentennial of the arrival of the Loyalists, will be published by the Ontario Ministry of Education and the Ministry of Colleges and Universities. It will be distributed to all students and teachers in the province's schools, colleges and universities this fall.

Work and wear

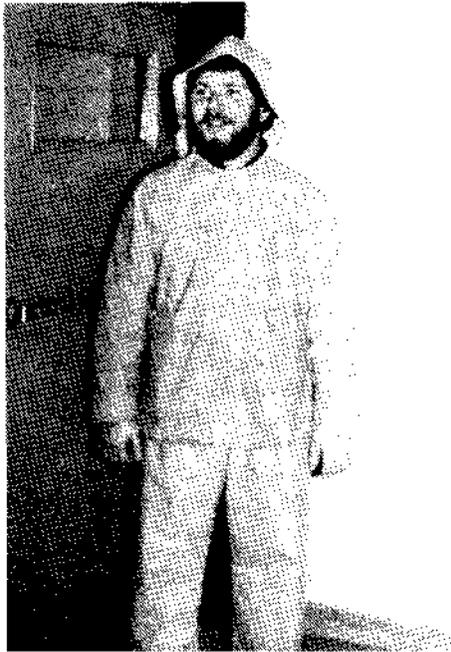
Researchers study occupational clothing

One of the problems of industrial accident prevention is the reluctance of workers to wear protective clothing that they perceive as too hot, heavy, restricting or unsightly.

Designers appear to have thought exclusively in terms of fabrics. They have generally failed to study the basic principles governing the production and use of occupational clothing. This is a matter of concern to an inter-disciplinary team of University of Guelph scientists called the Occupational Clothing Group.

The Chairman of the group, Professor Keith Slater, Consumer Studies, is surprised by this oversight, given the number of work-related activities for which protective clothing of some kind is mandatory. "When you consider all the different items of clothing specifically designed to protect against radioactivity, caustic, acid or toxic chemicals, intense cold and heat, dust and bacteria, as well as all the different operational demands on people working in these hazardous environments, it becomes clear that the subject has widespread ramifications."

The task of the group is to approach the subject from many different angles. The researchers are examining the rate at which the fabric's safety factor is lost under various



Tony Cengija dons protective "yellows" to work in the isolation unit at Veterinary Microbiology and Immunology.

internal and external working stresses. They are conducting laboratory tests which measure durability under a wide range of physical, climatic and other hostile conditions not necessarily directly related to the hazard for which the fabric was designed.

Other members of the Occupational Clothing Group are Professors Terry Graham and Bob Webb, of the Department of Human Biology, whose special interests are in environmental heat stresses and the different ways

in which men and women react to extremes of heat and cold. Professor Mike Matthews, Psychology, is concerned with the effect of different designs and textures on performance, work behavior, manual dexterity and personal comfort during periods of lengthy use. Professor Marjorie Wall, Consumer Studies, is approaching the subject from the point of view of design constraints and consumer acceptability.

All these factors are important, stresses Prof. Slater. "There is little to be gained in designing fabrics which break down in use or which, for physical, emotional or stylistic reasons, people are unwilling to wear. As examples, he noted that it took a major publicity campaign to persuade women working in wartime factories to wear hairnets for their own safety. Today, a hydro lineman may well be tempted to work without protective gloves if these interfere with the manual dexterity he needs to do his job. Similar considerations apply across a whole spectrum of situations in which skilled workers of either sex have to work in high risk situations, adds Prof. Slater.

A *FACS Sheet* on the subject clarifies the potential inherent in this research project. It notes that improvements in occupational clothing could increase productivity, reduce illness and accidents, and improve workers' attitudes about their jobs. Developments in the protective clothing field will also have spin-offs in the design of clothes for everyday work and play. Athletes and weekend sportsmen want clothes that offer protection from the heat or cold without interfering with performance, noted the article. □

THE GUELPH AUDUBON Wildlife Films will present the final film in its 31st series, "Wild Canada: Coast and Coast," Friday, April 15 at 8 p.m. in War Memorial Hall. Five films are scheduled for the 1983-1984 season and memberships are available now.

The Guelph Audubon Wildlife Film Committee has donated more than \$7,000 to a scholarship fund at the University to support an annual scholarship of \$500.

THE UNIVERSITY of Guelph Cycling Club is holding its first meeting of the spring semester on May 10 at 7:30 p.m. in Room 203 in the Athletics Centre.

FOUR FACULTY members at the University have received leave fellowships from the Social Sciences and Humanities Research Council of Canada for 1983-1984.

Professor Robert E. Ankli, Economics, Dr. Brian M. Earn, Psychology, Dr. Karen S. Korabik, Psychology, and Professor A.D. Yarmey, Psychology, were four of the 266 recipients across Canada.

Total SSHRCC leave fellowships amounted to \$3.5 million while postdoctoral fellowships totalled \$1.3 million this year. Leave fellowships are granted to university scholars doing research while on sabbatical leave.

THE MINISTRY of Education and the Ministry of Colleges and Universities have released the discussion paper *Continuing Education, The Third System*.

The statement emphasizes the commitment of both Ministries to the availability of continuing education for students at all levels.

Copies are available from Mowat Block, Queen's Park, Toronto, Ont. M7A 1 L2.

THE GUELPH Community Choir presents an evening of choral music on Saturday, April 16 at 8 p.m. at St. George's Church. Repertoire includes works by Bach, Haydn and Vivaldi. Tickets are \$4.00, and \$3.00 for students/senior citizens.

THE 11TH ANNUAL Southwestern Ontario Student Chemistry Conference was held at the University of Western Ontario recently.

Representing the University of Guelph were Ian Lorimer, Lou Ann Strickland, Marnie Richmond and James Landers, who gave talks on their fourth year honours projects. Of the 28 presentations, Ian Lorimer won the first prize of \$175 for his project on "Inhibition of 5'-Nucleotidase from Lymphocytes by Concanavalin A," supervised by Dr. F. Sharom. James Landers won the \$75 third prize for his project talk "Calcium Calmodulin and the Leucocyte," supervised by Dr. G. Elliott.

THE UNIVERSITY Women's Club of Guelph is holding its annual banquet on Tuesday, April 26 at 6 p.m. at Creelman Hall. The guest speaker will be Rabbi Gunter Plaut from Toronto and his topic is "Can Human Rights be Legislated?". Tickets are \$14.00 and are available from Betty Anne Stammers at 822-4051, Vera Kuder at 821-2886 or from The Calico Kitchen, 15 Quebec Street. Everyone is welcome.

THE ONTARIO VOLLEYBALL Association Technical Certification Clinics will be held in early May at the University of Guelph.

Those interested should confirm their participation either in writing or by phone by April 27th to facilitate clinic planning. Fees may be paid at the first session.

On Saturday, May 7th, the University of Guelph and the OVA will also host a regional player identification camp which is part of the selection process of the southwestern Ontario teams for the Ontario Summer Games to be held Labor Day weekend in Sudbury.

The camp for boys and girls born in 1965 or later, will run from 9 a.m. to noon and 1 p.m. to 4 p.m. The \$10.00 fee will include an OVA T-shirt. The team coaches are Brenda Willis and Rob Atkinson.

For information, telephone Doug Dodd, Coach, Gryphon Volleyball, Dept. of Athletics, Ext. 2216.

Teaching deserves same emphasis as research

*"A teacher affects eternity;
no one can tell where his influence stops".*

Henry Adams, American writer
and historian, 1838 - 1918.

The aims and objectives of the University of Guelph establish four inseparable areas of responsibility for this University. The first of these is teaching, followed closely by the provision of a setting and atmosphere conducive to the free discussion of ideas. The third and fourth responsibilities are the pursuit of knowledge both as a good in itself and as a means of solving world problems and the sharing of learning resources with the community at large.

However, there are people on campus who feel that teaching does not receive as much importance as it deserves, and plays second fiddle to research.

Dr. Howard Clark, Vice-President, Academic says that teaching is at least as important as research and that, in any case, the two should not be seen in competition. "Fundamentally, there can't be any conflict," he says. "We need to work much harder at finding more sophisticated means of evaluating teaching," he points out, adding that all Departments are now using student evaluations. "This system is well known to be the best single criterion, but it is not perfect."

Dr. Clark would like to see much more peer comment, particularly from the more senior professors who could advise new faculty members.

Professor Terry Gillespie, Land Resource Science, who is the University's co-ordinator for instructional development, agrees that current methods of evaluation are not ideal. However, peer evaluation by local or outside faculty members has not received much support from the people involved, he says.

"Although we are continually evaluating the research of our peers, faculty members are not generally willing to spend the time reviewing a colleague's teaching," Prof. Gillespie says. "It may be that evaluation by on-campus peers is too threatening and off-campus reviews are too complicated." He attributes this to the fact that research is often perceived to have a higher value than teaching in our institutions.

"After all, we're trained to conduct research, and we've never been taught how to teach," he says. The signal in universities all over the world is that teaching is not as valuable as research.

"We can't expect everyone to make teaching their number one goal, but I would like to feel that those who do elect to make it a priority are not disadvantaged."

Need P & T Guidelines for Teaching

Prof. Gillespie points out that this University has clearly defined criteria for

promotion and tenure based on a faculty member's research. "Now we need similar guidelines for people who make teaching their first priority," he says.

Professor Ron Subden, Botany and Genetics, has inspired many students, not only to do their best work in his course, but to follow careers in science. He also feels that teaching should have a higher priority.

Prof. Subden, who was recently awarded the University of Guelph Faculty Association's top award for teaching on this campus, feels that he has an advantage, having had two years of education training and several years teaching high school. He maintains that much of good teaching involves mechanics — things like cadence, proper voice trajectory and mannerisms such as speaking directly to the class rather than to the blackboard, the overhead projector or a sheaf of notes.

"One of the greatest exercises I ever went through was being videotaped in the classroom and then having a group of colleagues evaluate my performance," he says. "When I first saw myself, I thought — that man looks like he's selling a used car." Although he describes the exercise as "one that wipes you out," Prof. Subden recommends it as a learning experience.

Teaching Aids Available

A videotape evaluation service is available for faculty members, through the Office for Educational Practice which operates many teaching support services that vary from technical operations to media production, audio-visual and instructional development

programs. Workshops provide a forum for faculty members to explore information on teaching approaches, and outside people are brought in to offer fresh approaches to teaching, Director Ab Moore explains.

In addition, the Office is experimenting with Telidon as a teaching tool. "From an instructional point of view, Telidon has a profound potential for assisting undergraduate programs," Dr. Moore says, "both in testing and feedback programs for students and in the access to databanks that can provide us with up-to-date statistics in a wide range of fields." With microcomputers now available with Telidon capacity at a reasonable cost, the Office can also provide assistance to faculty members who wish to make their own Telidon electronic 'overheads' for students to examine on terminals in the lab.

In recent years the Office's instructional development grants have been used to develop videotapes for use in labs, slide-tape sets to complement traditional library and lab materials, simulation exercises, field work materials, computer exercises and course materials in such areas as philosophy and family studies, to name just a few. Each year about 20 grants are made with funding coming from the Alma Mater Fund.

Identify With Needs of Students

Although faculty members, administrators and students look for different attributes when they evaluate teaching, there is a common thread that runs through all teacher evaluations. Professor Isabel Alvarez, Languages and Literatures, winner of the

Continued on page 5.



Prof. Joe Cunsolo's third year mathematical modelling course got a practical lesson in the measurement of cardiac output when they visited the cardiac lab in the small animals clinic. From left are Dr. Dana Allen, Clinical Studies, technician Sara Mainguy, students Kathy Konopczynski, Cathy Holdsworth and Jo-Anne Langshaw, veterinarian Dr. Doris Nymeyer and Prof. Cunsolo, Mathematics and Statistics.

Program for teaching workshop

GRADUATE NEWS

When the dollars start to shrink, faculty members and students begin to feel the squeeze. The Office for Educational Practice is sponsoring a one-day program Wednesday, April 27 of demonstrations, panel discussions and speakers on methods of dealing with poorer faculty-student ratios, helping students become more independent in their learning styles and uses of computers and other technologies in teaching. Events take place in Room 204 of Landscape Architecture, except for the drop-in demonstration which is in Peter Clark Hall, University Centre.

From 9 a.m. to 9:55 a.m., Bill Scott, principal of Centennial CVI, Guelph, and Bernard Shapiro, director, Ontario Institute for Studies in Education, will speak on "Students in the 80s — How Well Can We Expect Them to Learn from Large Classes with Computer-assisted Instruction and more Independent Study?". The speakers will look at the questions from the high school and university perspectives.

From 10:15 a.m. to 10:40 a.m., there will be a discussion, "Students in

the 80s" with keynote speakers and two students.

Mini papers will be presented from 10:40 a.m. to 12 noon. Speakers are Professor Thom Herman, Psychology, on personal systems of instruction; Professors Les Thomas and Stu Hilts, Land Resource Science, on teaching problem solving; Peggy Patterson, Counselling and Student Resource Centre, on helping students become independent learners, and Professor Ted Swart, associate director, academic computer services, Institute of Computer Science, on teaching support from his area.

From 1 p.m. to 3 p.m. in Peter Clark Hall there will be a drop-in demonstration of ways to use microcomputers, video systems, microfiche and other teaching technologies.

From 2 p.m. to 3 p.m. there will be concurrent sessions on innovations in the Library and Telidon and teaching, and from 3:30 p.m. to 4:30 p.m., there will be panel discussions on computer-assisted instruction, dealing with the question, "Can Computers Teach and Save Time and Money?" □

Douglas Alan Holdway

The final oral examination for the degree of Doctor of Philosophy for Douglas Alan Holdway, Zoology, will be held Tuesday, April 18, 9 a.m., Room 168, Botany and Genetics/Zoology building. His thesis title is "The Effect of Growth Rate on the Proximate Composition and Maturation of Atlantic Cod (*Gadus morhua*).". Professor F.W.H. Beamish is his supervisor. □

Bernice Lucille Mills

The final oral examination for the degree of Doctor of Philosophy for Christopher Digby Food Science, will be held Thursday, April 14, 1:30 p.m., in Room 206, Food Science. Her thesis title is "Quantitative Mid-Infrared Transmission Analysis of Food Systems."

Professor Fred van de Voort is her supervisor. □

Christopher Digby Wren

The final oral examination for the degree of Doctor of Philosophy for Bernice Lucille Mills, Wren, Zoology, is Tuesday, April 19, 9 a.m., Room 168, Botany and Genetics/Zoology building. His thesis title is "Examination of Environmental Factors Affecting the Distribution of Mercury and Other Metals in Precambrian Shield Lake Ecosystems."

Professor Hugh MacCrimmon is his supervisor. □

Arumugam K. Kumaraguru

The final oral examination for the degree of Doctor of Philosophy for Arumugam K. Kumaraguru, Zoology, is April 20, 2 p.m., Room 168, Botany and Genetics/Zoology building. His thesis title is "Effects of Permethrin (N R DE-143) on the Bioenergetics of Rainbow Trout, *Salmo gairdneri* Richardson.

His supervisor is Professor F.W.H. Beamish. All interested members of the University community are invited to attend. □

THE OVC has just released its *Equine Research Report* for 1982. Copies of the report are available from the Liaison and Externship Programs Office at OVC, Ext. 3116.

JOB OPPORTUNITIES

Stenographer, Dean's Office, Family and Consumer Studies. Salary range: \$203.32 - \$298.07.
Technician, Land Resource Science. MTS IV. Salary range: \$322.84 - \$462.91.
Administrative Secretary, Philosophy. Salary range: \$267.14 - \$384.20.
Residence Grounds Machinery Operator, Department of Residences. Job rate: \$8.93. Probation rate \$20 per hour lower than job rate. Open to on-campus employees only.

Teaching

Continued from page 4.

Faculty Association teaching award for the College of Arts, says, "Primarily, we are teachers ... to do a good job we need to identify with the needs and aspirations of the students ... you can't teach and be detached."

Her view is shared by a number of students interviewed by the *News Bulletin*. First semester physical science student, Jenny Chong, describes it as "Manipulating the atmosphere." She says a good professor stimulates interest and makes the student want to pursue the subject further.

Fourth semester toxicology major Michelle Whittaker says she likes a professor whose enthusiasm keeps the class going right to the end, while Vicki Harris also says enthusiasm for the subject matter should shine through the lectures. "Nothing irritates me more than a faculty member who reads the same notes year after year," the fifth semester management economics student says.

Students share the concerns of peer and administrative evaluators when they say they expect a professor to be well-organized and have a comprehensive knowledge of the subject.

Some Alternatives

Discussions of teaching tend to come around to the subject of cutbacks in financing at the university level — financial decisions that lead to bigger classes, heavier workloads

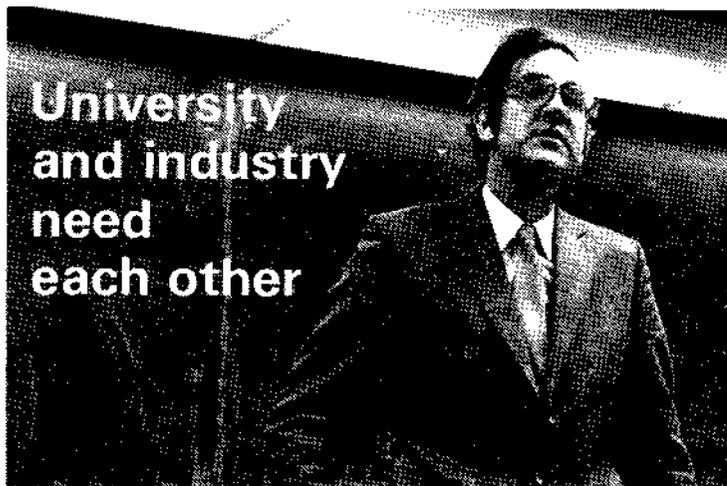
and increased frustration on the part of faculty members and students.

Dr. Clark says he would like to think that approaches to curriculum are not made just to solve budgetary problems. He suggests some courses can be restructured to put a greater emphasis on self-learning as one aid to teaching in tough times. "This would be a major job and no doubt take a lot of time, initially," he says, "but in the long run it would reduce the demand on faculty time and resources."

In difficult financial situations, faculty members need to look at basic objectives when planning courses. For example, a science faculty member might ask, "What are the real educational objectives of this course?," and "Is the current science lab the best way of imparting the desired skills?," the Vice-president, Academic says.

Dr. Clark points out that lecture hours could be reduced in many courses, freeing faculty members to use their time to better advantage and giving students an incentive to use the library facilities to search out factual information.

The Vice-president, Academic, a chemist, sees the increasing tendency toward specialization as a danger in that it leads faculty members away from the concept of liberal education. "It is important that faculty should see their primary role as educators, not as chemists or physicists or veterinarians. The faculty must recognize that their primary loyalty is to the University as an educational institution rather than to their discipline." □



9r. Derek Burke.

The problems in a university/industry relationship in the field of biotechnology were outlined by the guest speaker at the Guelph chapter of the Sigma Xi Society.

Professor Derek Burke, founding chairman of the department of biological science, Warwick University, former editor-in-chief of the *Journal of Virology* and now scientific director of Allelix Inc., Canada's largest company in the field of biotechnology, was speaking from experience in both worlds.

The speaker outlined the main streams of research in contemporary recombinant DNA technology and their implied industrial potential. Problems start with the strains imposed on universities by tight budgets and the realization that the products that biotechnological research is now making possible may be worth fortunes to industry, he said.

"On the face of it, the answer ought to be easy," Dr. Burke noted. "Let's sell our scientists — but it is not a simple as that. We

cannot afford to lose sight of the high view that universities are the guardian of tradition, scholarship, excellence, the pursuit of knowledge for its own sake, and the passing of that knowledge on to students."

Industry also has its own right to exist and thrive. continued Dr. Burke. To do this, it must have a continuous infusion of new ideas.

As far as biotechnology is concerned, Dr. Burke said, this can only come from university research labs. "Ways must be found to develop working partnerships in which the rights and integrity of both institutions are respected."

Dr. Burke described university/industry interactions taking place. One of these is consultancy: "The problem here is that the consultant's ideas are unlikely to be entirely his own," said Dr. Burke. "To an important extent these 'belong' to his department and his colleagues. This is not an issue when every-

one has a consultancy, but the situation frequently arises where a scientist engaged in research which is far too esoteric to lead to a consultancy contract, provides critical stimulation to his peers who are working in more applicable areas."

Another kind of interaction is research contracts. Here, industry pays to have research work carried out at a university. This can create problems of patent protection and prior usage. It can also restrict academic information transfer and the publication of research papers.

Another route is co-op programs where faculty members work on a part-time basis for their university and industry. This should lead to healthy cross-fertilization but, in practice, the problems involved in switching between academic and commercial methods, attitudes and mores, prove to be traumatic, and scientists find themselves torn between two divergent commitments," noted Dr. Burke.

The speaker concluded on an optimistic note: "We need one another and we will arrive at mutually satisfying solutions. First we have to overcome suspicion of one another and then accept the long period of discussion, trial and error that is inevitable before a fully compatible arrangement is worked out."

He said that there is no avoiding the fact that governments must continue to be involved. Universities are mistaken if they see industry as a potential source of substantial funding, he said. "In biotechnology there is no such thing as a two to four year payback on investment and, despite the need for the entrepreneurial spirit, public funding will be required to underwrite much of the research costs for a long time to come." □

ARTS

THE FACULTY CLUB is presenting two outstanding art exhibits from April 6 to 30.

Marlene Jofriet's "Historic Ontario Inns," commissioned by the art committee of the College of Family and Consumer Studies, captures the aesthetic qualities and the social importance of inns in Ontario. Each inn depicted in the water color series represents a period of economic and social development for the province and celebrates the inns' contribution to that development.

The "Premier Collection," by Canadian figure skater Toiler Cranston, reflects the magic and fantasy of life through the fusion of color, detail and emotion.

THE GUELPH-WATERLOO Centre for Graduate Work in Chemistry has released its Eighth Annual Director's Report (1981-1982). Highlights of the report include: the appointment of Dr. Robert J. Le Roy as Director for three years beginning July 1, 1982; the admission of 33 new graduate students to the Centre in 1981; an increase of 26% in research support for the Centre; visits from biochemist P.D. Boyer, UCLA, and polymer chemist C.G. Overberger, U. of Michigan, and the addition of biochemist J.E. Thompson and physical chemist R.K. Williams to the Centre.



Peter Myers, area manager, Nestle Division, Nestle Enterprises Ltd., presents a \$2,000 cheque to President Donald Forster for the University's Bursary Fund. The award money will aid All-Canadians Mike Hudson, second from left, Peter Langford, to the right of the President, and Sam Benincasa and Junior Robinson, who were unable to attend the presentation. Looking on are, far left, Carl Miller, Nestles sales representative for the Guelph area and, far right, head coach Tom Dimitroff and Athletics Director David Copp.

Engineering Expansion

Simon Fraser University has received \$500,000 from British Columbia's ministry of universities, science and technology to expand its two-year transfer program in engineering to a full degree program. The new faculty of engineering science will initially concentrate on computing, communication systems and microelectronics with anticipated expansion to incorporate industrial automation, robotics, biotechnology, chemical and biochemical processing.

The faculty plans to develop graduate programs simultaneously with its undergraduate offerings.

It is expected that the program will enhance further development of the university's research park.

The University of Victoria has received written assurances from the B.C. government of sufficient operating funds over the next three years to begin phasing in its new faculty of engineering. The university will commence construction of a new science and engineering complex this summer, with completion set for May, 1985.

About 80 students will be admitted into electrical engineering in the fall, 1984, with program emphasis on large-scale integrated circuits, electronic communications, CAD/CAM, robotics, digital signal processing and software engineering. Programs in mechanical, civil and chemical engineering are to be phased in after 1986.

The University of British Columbia has 1,850 students currently studying engineering on its campus.

More Skills Growth Funds Allocated

The University College of Cane Breton will receive \$956,007 from the federal government to purchase computer related equipment for its mechanical engineering technology, electrical engineering technology and trades training programs.

The grant is part of the \$42 million federal program to upgrade training facilities across the country. Under the Skills Growth Fund, \$18.7 million is to go to Ontario, \$14.3 million to British Columbia, \$2.6 million to New Brunswick, \$2.4 million to Newfoundland, \$2 million to Prince Edward Island, \$1.7 million to Nova Scotia and \$450,000 to Manitoba. Applications for funding must be approved at both the federal and provincial levels.

Université Sainte-Anne has received \$235,000 from the federal employment and immigration fund to purchase a mini-computer for its computer science department. It will be used in a two-year university course in computer technology and a one-year adult vocational course.

Health Research and Development Council

Ontario's Health Minister Larry Grossman has announced the creation of a new Health Research and Development Council to establish provincial research priorities and co-ordinate the allocation of provincial health research funds.

The new council has been set up in response to recommendations contained in the report of the task force on health research which calls for reorganization of existing methods of health research funding; establishment of a new co-ordinating body to delineate research approaches and to fund identified provincial health priorities. Copies of the "Report from the Task Force on Health Research in Ontario" may be obtained from the Ontario Council of Health, 700 Bay St., 14th floor, Toronto M5G 1Z6, telephone 416-965-5031.

International Update

1. Dalhousie University's centre for development projects has produced a book, *Six Interna-*

Professor R.K. Boyd, Chemistry, presented an invited lecture "Impossible Mass Spectrometry/Analysis of Fragile Molecules of High Molecular Weight" at Brock University and the University of New Brunswick.

Prof. Boyd also presented an invited lecture, "New Tricks with Old Mass Spectrometers; Linked Scans Applied to Environmental Problems" at Mount Allison University, Dalhousie University and the University of Toronto.

Professor Alan Brookes, History, led a day-long workshop on oral history, entitled "Voices of the Past," for the Museums Association of Newfoundland and Labrador held at Carbonear, Conception Bay.

Professor Fred Eidlin, Political Studies, delivered a paper "Contextually-limited Generalizations Versus General Laws in Comparative Politics" at the annual meeting of the Southwestern Social Science Association held recently in Houston, Texas. He also gave the paper to the Southwestern Ontario Comparative Politics Conference held at the University of Western Ontario.

President Donald Forster was guest speaker at the March 29th meeting of the Fergus Rotary Club. He told members about the important role

the University plays in the County of Wellington as well as the contributions it makes provincially, nationally and internationally.

Professor S.N. Gilbert, Sociology and Anthropology, attended a journals workshop sponsored by the University of Toronto Press. He also was an invited guest of the Social Sciences and Humanities Research Council of Canada at a demonstration held at Dalhousie University, on the application of new technology to scholarly publishing.

Professor C.A. Guldner, Family Studies, recently conducted a workshop on "Blended Families" for the University of Winnipeg. He also delivered a keynote address on "The Five R's of Remarriage."

Anya Laurence, pianist, Music, appeared in concert in Philadelphia and New York with American violinist Paul Windt. The duo performed a program of works by Efreim Zimbalist and Efreim Zimbalist, Jr., at Muhlenberg College, Allentown, Pennsylvania and the New School in Philadelphia. They also appeared as guest artists at a musicale at the New York Home of Dr. David Di Grazia, Director of the Paige-Tournier Foundation. The Honourable Levon Zarasian, cultural attache to the foundation, presented the artists with a commemorative score.

PUBLICATIONS

Alyea, E.C., S.A. Dias, G. Ferguson and P.Y. Siew, 1983. "Structural Studies of Steric Effects in Phosphine Complexes. Part XI. Synthesis, Characterization, Crystal and Molecular Structure of the Dinitrato(trimesityl arsine) Mercury(II) Dimer." *Can. J. Chem.* 61: 257-262 (Chemistry).

Alyea, E.C., 1983. "The Observation of Long Range Substituent Effects in Cadmium Schiff Base Complexes by Cadmium-113 NMR Spectroscopy." *Inorg. Chim. Acta* 76(2): L239-L240 (Chemistry).

Dow, Helen, J., -1981. "The Theology of Proportion in Gothic Architecture," *Centerpoint*, Vol. 4, No. 3: 71-81 (Fine Art).

tional Development Projects, that documents the problems of technology transfer, application of research techniques in development projects and the training requirements of officials in particular developing countries. It may be ordered through the centre for \$8, prepaid.

2. Université Laval and the International Centre for Professional Technical development of Turin have reached an agreement which enables students who have completed an initial study program in Turin to complete the certificate of educational technology at Laval.

Additional agreements may be reached in the faculties of agriculture and food sciences, administration, science and engineering, education and the social sciences.

3. Memorial University of Newfoundland and the University of Bergen, Norway have reached a three-year agreement to foster existing scholarly links and to promote others through scholarly exchanges open to faculty members and graduate students. Maximum duration of each exchange is three months.

4. The Université du Québec à Montréal, through its department of administrative studies, is collaborating in the development of a master's degree in administration to be offered through the University of Acapulco.

Kohlmeier, G.P. and J.L. Eggens, 1983. "The Influence of ¹⁵Near and Nitrogen on Creeping Bentgrass Growth." *Can. J. Plant Sci.* 63: 189-193 (Horticultural Science).

Millman, B.M., K. Wakabayashi and T.J. Racey, 1983. "Lateral Forces in the Filament Lattice of Vertebrate Striated Muscle in the Rigor State," *Biophysical Journal* 41: 259-267 (Biophysical Interdepartmental Group, Physics).

warley, T.K. and Jayne Digby, 1982. *Introduction to Agricultural Economics* (revised edition), *AEFF/82/14* Guelph: University of Guelph, 1982, pp. 144 (Agricultural Economics and Extension Education).

For the first four years of the program, professors from UDAM will provide half of the courses in Mexico.

1. The University of Toronto has been awarded a \$2 million contract by CIDA to establish a post-graduate program in forestry science at the National Agrarian University in Lima, Peru.
2. York University's film/video department, in conjunction with CIDA, will participate in a \$1.3 million project to develop a two-year post-graduate program in mass communications at Jamie Millia Islamia University, New Delhi.
3. York's environmental studies faculty and the Co-operative College of Tanzania have received \$350,000 from IDRC for a two-year research and training exchange program focusing on industrial development and the two countries' co-operative systems.
3. The Canadian Bureau for International Education has revised its information sheets on summer programs abroad offered by Canadian and foreign universities and institutions; study/work programs overseas and international exchanges. Copies may be obtained from CBIE, Suite 809, 141 Laurier Ave. W., Ottawa K1P 5J3, telephone 613-237-4820.

Next Week at Guelph

THURSDAY, 83 04 14

Continuing Education - YOUTH SUICIDE SEMINAR, 0900, Ext. 3956.

Worship - CATHOLIC MASS, 1700, chapel, level 5, UC.

Spotlight on the University of Guelph - OVC EQUINE RESEARCH CENTRE, 1900, cable 8.

FRIDAY, 83 04 15

Bus Trip - THE SEARCH FOR ALEXANDER, Royal Ontario Museum, Toronto, leave Macdonald Stewart Art Centre parking lot at 1300, depart Toronto at 1700, 837-0010 for tickets.

Audubon Wildlife Films - WILD CANADA: COAST AND COAST, John Wilson, 2000, WMH, tickets at UC box office.

SATURDAY, 83 04 16

Continuing Education - STRESS MANAGEMENT, C. Sundberg and R. Walsh, 0900; 19th CENTURY ONTARIO GARDENS & LANDSCAPES, M. Haigh, 0900, Ext. 3956 to register.

Concert - GUELPH COMMUNITY CHOIR, 2000, St. George's Church.

SUNDAY, 83 04 17

Art Lecture - THE GARDEN: HARMONY, BALANCE AND PERSONAL MEANING, Robert Scarfo, 1400, Macdonald Stewart Art Centre.

MONDAY, 83 04 18

Spotlight on the University of Guelph - OVC, 1830, cable 8.

TUESDAY, 83 04 19

Continuing Education - ADULT EDUCATION: COMMUNICATIONS TECHNOLOGY, M. Waldron, A. Moore, 0900, Ext. 3956 to register; TELIDON/VIDEOTEX WORKSHOP, Ext. 3113 to register.

Guelph Multicultural Centre - CITIZENSHIP CLASSES, 1930, 128 Woolwich St., Ste. 203.

Meeting - SENATE, 1700, UC113.

OAC - CHEDDAR CHEESE COURSE, Ext. 2269 to register.

WEDNESDAY, 83 04 20

NO SCHEDULED EVENTS

THURSDAY, 83 04 21

Graduate Research Seminar - FAMILIAL RENAL DISEASE IN SAMOYED DOGS: A MODEL FOR ALPORT'S SYNDROME, B.S. Jansen, 1110, Path. 220.

Arboretum - WOODCOCK WALK, 1800, Arboretum Centre.

Spotlight on the University of Guelph - OVC, 1900, cable 8.

PERSONALS

Goods and Services

Available

Neat fast typing, IBM Selectric, 822-2713; childcare, 822-5395.

Wanted

Cottage to rent in Georgian Bay area for 4 weeks, Apr. 20-May 18, 824-5479; cassette tape recorder, 824-9579;

For Sale

Yellow fronted Amazon parrot with cage, 4 1/2 yrs., no profane language, good talker, 824-0647; 1981 Honda Accord, 4-door, 5-speed, silver and black, 823-1918; large bird cage (floor model), Vilas tennis racquet with new strings, 822-3865; washer and dryer, sofa bed, hook shelf, punching bag, shell swag lamp, mirror, chair, plants, tires size F 7814, rebuilt starter for 289 engine, fireplace screen, 824-0551; 24" electric stove, royal blue drapes, BO X 100", TV stand, pole, brass lamp, 822-9092; 1982 white wedding dress, size 12, 821-7422; 1974 Chrysler outboard 15 h.p. motor, 623-3587 after 1730.

For Rent

Furnished one bedroom apartment available May 1, 836-9768; clean, bright rooms, good location, 822-2713; 3 bedroom cottage at Red Bay near Wiarton on Lake Huron, available last week in July, last week in August and all of Sept., 623-3587 after 1730.

Lost and Found

Woman's initialled ring, OAC class of '78, Ext. 3382.



The graduating year banquet for the Associate Diploma in Agriculture program brought together people associated with the program. Included below are, left to right: OAC Dean Clayton Switzer; Professor Stan Young, OAC Co-ordinator of Extension Education and past Diploma Director; retired professor Harvey Caldwell, past Diploma Director; Professor Neal Stoskopf, current Diploma Director; J. Clare Rennie, OMAF Assistant Deputy Minister, Technology and Field Services, and OAC Associate Dean Freeman McEwen. Above, the president's gavel was presented at the banquet by Prof. Stoskopf to the two people who served as year president of the Class of '83A: Callum Johnston, 1987-1982 president, left, and Mark Lauzon, 1982-1983 president.



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