University News Beat

Emergency Services Centre — 3333

Established 1965

Focus on science

According to the history books, CRESS and IBR were in existence before York's Faculty of Science, which, although Professor Harold Schiff was named the first Dean of the Faculty in 1966, did not become York's seventh faculty until September, 1968, the same year that CREQ was approved by the Senate. The first students were enrolled in the Faculty of Science in 1969; Today approximately 1,200 students are working towards a Bsc, M.Sc or PhD in a scientific field.

The research organizations mentioned above were established in 1965: IBR is the Institute for Behavorial Research; CRESS stands for the Centre for Research in Experimental Space Science (chemical, physical and atmospheric science) and has it's headquarters in Petrie. CREQ symbolizes the Centre for Research in Environmental Quality (chemical, physical and biological aspects of the environment) and was designed to "promote, support and coordinate research and study programs in the multi-disciplinary problems of environmental pollution".

CREQ was to have actively pursued studies on air, water and soil pollution problems and was to have included other associated studies, such as those of thermal pollution, noise pollution, and problems in the field of occupational hygiene and toxicology. Dr. Harold MacFarland was the original director of the CREQ program.

CRESS, under the directorship of Dr. R.W. Nicholls, provides a means for the members of the Department of Physics and Chemistry whose research interests strongly overlap, to work closely together on programs of mutual interest. "Their resources and experiences are pooled in a comprehensive, fundamental and applied, experimental, observational and theoretical research program on atomic and molecular species which play important roles in the energetics of the earth's atmosphere (in meteorology and aeronomy) and in a wide range of astronomically important phenomena."

Research at CRESS is done in seven major areas: laboratory atrophysics; laboratory chemical aeronomy; chemical physics; astronomy and astrophysics, atmospheric science and aeronomy; rocket and satellite research in aeronomy and astronomy; and remote sensing of earth resources.

Among the research that is being done, is that of Professor A.I. Carswell, a laser radar expert. He is working on two lidar systems at CRESS. Lidar is the optical wavelength analogue of radar in which the scattering of light pulses is used to measure properties of the environment. Carswell has designed and built the only mobile atmospheric lidar in the country and the only marine lidar of its kind in the world.

The atmospheric lidar has been operational in the field since 1970 and is designed specifically for atmospheric measurements utilizing a two wavelength ruby laser transmitter capable of large peak powers. The marine lidar, constructed in 1973, was tested last summer in the Great lakes. The unit uses a special argon laser and takes both underwater and atmospheric measurements. Lidar is useful in controlling and monoriting pollution.

Physicist Gordon Shepherd's work at CRESS is developing two spectroscopic devices for remote sensing, the Scanning Interference-Filter Photometer and the Michelson Interferometer. Dr. Shepherd has recently returned from the National Research Council's rocket range at Churchill, Manitoba where he was investigating the red aurora phenomena. Aurora occurs around the north magnetic pole and is formed when particles streaming out of the sun manage to penetrate the earth's magnetic field, often disrupting communications in the North. Dr. Shepherd's Black Brant rocket, filled with intricate, scientific tools, was launched to collect data on the aurora.

Photochemists Harold Schiff and Brain Ridley are involved in research on nitrogen oxides in the atmosphere. They are taking measurements (the first tests with the instrument they designed themselves was March '73) to study the nitrogen oxides in the stratosphere, to determine if the oxides emitted by SSTs (supersonic transports) could break down the layer of ozone and damage or destroy the protective layer which filters out most of the sun's harmful ultraviolet rays.

Major specialized research equipment in the Petrie Science Building includes the two dome observatory equipped with 24 and 12 inch reflecting telescopes, more than 20 optical spectrographs and spectrometers and accessories; four instrumented mass-spectrometer facilities, a "Chemical" heavy ion accelerator for ion-molecule reactions, six instrumental shock tubes, Ruby and O2 laser facilities, microdensitometers, and a comparator. In addition to access to the facilities of the Computer Centre, CRESS maintains small digital computers in its laboratories and comprehensive machine-shop, glass blowing, and electronics support facilities are available.

Over at the Farquharson Life Sciences Building research also goes on. Areas of research concentration are molecular biology, cell biology and population biology. Dr. Arthur Forer, a cell biologist, is just one of the professors doing research work. Forer's work is on Chromosome Movement. Research equipment available to professors and grad students includes ultracentifuges, radioactive counting equipment, two electron microscopes, X-ray diffraction apparatus, controlled environment chambers, green houses and animal rooms, and workshops for the fabrication of new instruments and apparatus.

The Steacie Science Library subscribes to virtually all the significant scientific journals published in the world today and holds extensive back issues, thus supporting the research facilities.

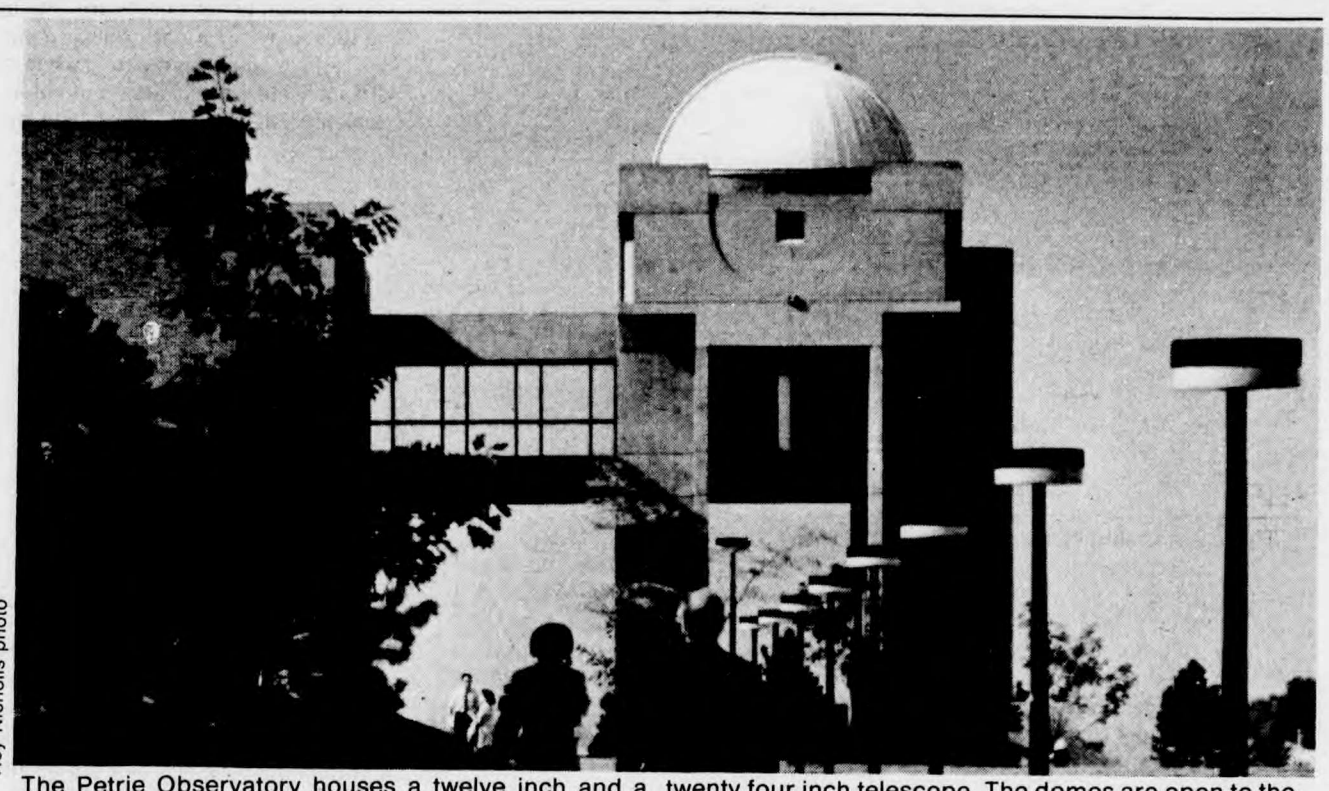
Opposite the Steacie Library are displays that you can "play" with as well as learn something from... also, in Farquharson, you'll find molecular displays, and photographs on various research projects.

Both CRESS and the other programs in the Faculty keep in touch with a number of Canadian and American laboratories so that grad students and professors have access to various equipment; they also keep close ties with research centres at other universities and institutions.

For social scientists, I.B.R. is located at York. The Institute for Behavioral Research is an interdisciplinary research agency created to study behavior and behavioral change in individuals and society, using the techniques of objective scientific research, with a view to advancing knowledge, and providing constructive solutions to individual and social problems. Its three main divisions, the Survey Research Centre, the Methods and Analysis Section and the Data Bank offer a variety of services to social scientists both inside and outside the university.

"...our greatest inheritance at York: the conception of a university as a community of learning in which research, in its broadest and most developed sense, and teaching in its highest form, are carried on within the context of freedom."

Dr. Murray Ross,
at his Installation Address as York's first President.
January 24, 1961



Roy Nicholls photo

The Petrie Observatory houses a twelve inch and a twenty four inch telescope. The domes are open to the public May through October.

A moving opportunity

The York University Transport Centre was established as an organized research unit in 1969 to provide a focus within the university for the growing community of faculty members and students involved in transport studies. Transportation absorbs about 20 per cent of the GNP in Canada, and continues to be a critical element in the development of the national economy, Canadian political unity, balanced regional growth and viable metropolitan areas. The creation of the Centre was a reflection of general concern that Canadian universities were not providing the foundation of transportation education and research upon which a more effective approach to the overall Canadian transportation system could be based.

The activities of the York Transport Centre are closely related to those of the University of Toronto — York University Joint Program in Transportation. The Joint Program was begun in 1970 for the purpose of coordinating and promoting interdisciplinary research and teaching in transportation at the two universities.

RESEARCH GRANTS

At this time, the Toronto-York Joint Program invites proposals for research grants from graduate or undergraduate students enrolled at the University of Toronto or York University in the 1973-74 and/or 1974-75 academic years. The grants will provide funds to assist students in work on research which is directly related to a degree program or which is an independent project of the students choice.

The Joint Program has allocated $15,000 for student grants. The funds may be used for out of pocket expenses and living support. The maximum grant to any one student will be $2,000.

AREAS OF ACTIVITY

The executive committee of the Joint Program has outlined nine areas of concentration for primary research activity, in which priority will be given. This does not preclude favorable consideration of projects in other areas of interest. The areas of concentration are:

—A Comprehensive Urban Planning System

—A Regional Impact Model

—Environmental Effects of Urban Transportation Technology

—A Case Study of the Intercity Road Transport Firm

—Information Systems Development in Intermodel Flows

—Energy Utilization in Intercity Travel

—Future Technological Planning in Intercity Movements

—Transportation Information Systems for Research and Development

—Study of Critical Issues on National Planning and Policy Making

Students who do not qualify for a Student Research Grant may obtain supplementary funds to pay extraordinary expenses from the Joint Program Small Grant Program. Students may not receive support from a TDA Fellowship and a Joint Program Grant for the same period.

Successful applicants will be expected to present results of their research at a research seminar during the summer and prepare a final report on the project. The reports will be published as a research report by the Joint Program.

All projects will be supervised by the Research Coordinator of the Joint Program and by a faculty member in the student's area of interest. The Joint Program will arrange supervisors.

DEADLINE

Proposals must be submitted on a Joint Programs Student Grant Form. Deadline for receipt of submissions is ***April 15, 1974.*** Two copies of the proposal should be directed to: Mr. Roger Wolff, Research Coordinator, Joint Program in Transportation, Centre for Urban and Community Studies, 150 St. George Street, Toronto; telephone: 928-7282.

Family life and human relations

At the Centre for Continuing Education, the Human Relations division is in the final stages of organizing the ENOSIS Second Annual Conference on Family Life and the Third Annual Symposium on Human Relations.

The Family Life Conference will be held on the campus April 26 and 27th and is open to any person who is concerned about the quality of family life. ENOSIS is a Greek word that encompasses two concepts that are basic to York's Family Life Program: a) the concept of "Coming Together" and b) the roads or channels which connect two or more places or persons. The aim of ENOSIS at this conference and throughout the year is to work together, thus coming together, and forming and keeping open effective channels that will provide for better contact and communication between the lay person and the professional, the community and the social services, the academic institution and the public at large.

Workshops at the Family Life conference will focus on a variety of topics including: The One-Parent Family, Family Life of New Canadians, The Effect on the Family of Liberal Sexual Behavior, Female-Male Sexuality, Open Marriage, Family Therapy, and Sex Education. Fee for the two days is $35.00.

On Friday, April 26 at 8:30 p.m, Virginia Satir will speak at a public lecture at Burton. Ms. Satir, a noted California Consultant and lecturer on Family Therapy, will talk about "People Making." Tickets are available from the Centre for Continuing Education.

The EGO Program of the Centre, together with the Centre for Counselling and Human Relations, Toronto YMCA, are co-sponsoring the 3rd Annual Symposium on Human Relations, scheduled for May 23, 24 and 25 at the King Edward Hotel.

Want further information, or know someone who would be interested? Call the Centre at 667-2525.

300 topics:

Speakers Bureau service

"Feminism — the Women's Movement", "Modern Culture and Japanese History", "Ecology", "Contemporary Music in Culture", "Outdoor Education and Wilderness Camping", "Le cinéma en general", "Astrology" ...these are just a few of more than 300 topics, both professional and avocational, that some 105 faculty members are willing to talk about to community groups.

The Department of Information and Publications has organized the "Speakers Bureau" as a public service to the community at large. It is hoped that it may be helpful as a source of speakers for groups, organizations, associations and schools. Speakers will participate in panel discussions, speak at seminars, give demonstrations, or lecture to any group of any size in the Metropolitan Tronto area free of charge (except where transportation costs will be required).

Brochures on the "Speakers Bureau" are available from Information York or from the Department of Information, Room N817 Ross.