

capable of measuring to 10 parts per billion was required," he said.

#### New technique

The research program, which has been supported over the past two years by two \$18,000 IBM Research Fellowship Grants, "has now resulted in a new technique capable of measuring to this degree of resolution," said Dr. Alan C. Frosst, director of the University's Office of Research Services. The technique relies on a combined gas chromatography/mass spectrometry detection method. The results have been reviewed by others in the international scientific community and are scheduled for publication.

Now that the analytical technique for the 5-Fluorouracil anti-cancer drug has been verified, the researchers say that clinical experimentation must be carried out involving studies of the variation of the blood plasma levels with doses, methods of dosing, clinical improvements of the patient and other related factors.

"By relating the various parameters, physicians can then hope to develop a rational procedure for administering the drug," say the researchers.

Dr. Hillcoat and Dr. Rosenfeld say they are progressing in their work towards this critical phase of the research program.

#### Canadian wins Sverdrup Gold Medal

A Canadian scientist, Dr. Robert W. Stewart, of Victoria, B.C., has won the 1976 Sverdrup Gold Medal of the American Meteorological Society, which is awarded on the advice of an international committee appointed in consultation with the Scripps Institution of Oceanography, La Jolla, California, and the University of Bergen, Norway. Dr. Stewart, Pacific Regional Director-General of Ocean and Aquatic Sciences in the Fisheries and Marine Service of Environment Canada, was chosen "for outstanding leadership in experimental and theoretical research in problems of the air-sea interface, and the adjacent turbulent boundary layers of the atmosphere and ocean".

Last year Dr. Stewart was awarded the Canadian Meteorological Society's Patterson Medal for outstanding achievement in meteorology in Canada.

#### Electronic aids to medical monitoring and measuring

Two Canadian pocket-sized electronic instruments that monitor and measure drip-feed levels and rates during intravenous feeding or draining of liquids in medical treatment, are now being marketed in Britain. Both are claimed to improve efficiency and provide greater accuracy and safety. In each case it is the first time that electronics has been employed in activity of this kind.

Both instruments are made by Monotonics International, Agincourt, Ontario.

The IVS-1 liquid level sensor device is claimed to introduce a new conception to intravenous level monitoring by providing an accurate means of measuring exactly how much liquid has been drawn from the feeding bottle or plastic container bag. Use of the device frees the nurse from making constant checks, and prevents a "runout" situation in the drip-feed process that is often a critical factor in treatment.

The IVS-1 device is fitted to the feeding bottle by a single-use adhesive tape fitted with light-sensitive electrodes. The tape is fixed in position on the outside of the bottle and forms an elongated "V" shape, onto which the sensor head slots. A wire lead connects directly into the existing patient call system. When the desired liquid level has been reached in the bottle, audio and visual alarms are given both through the device and at the central call station.

The second instrument, the "Drometer", provides a way of instantly measuring the drip-feed rate of liquids. The usual method is for flow rates to be checked manually by the nurse: with the "Drometer" this can be done in two drops, say its makers, by holding its special sensor head against the drip reservoir and pressing a button to give an instant reading on a scale that can be calibrated to measure up to 20-60 drops a minute.

#### Toronto bus services switch to control by computer

Computerized control for city and urban public transportation, by means of a system claimed to be the most advanced of its type, is being tried out by The Toronto Transit Commission (TTC).

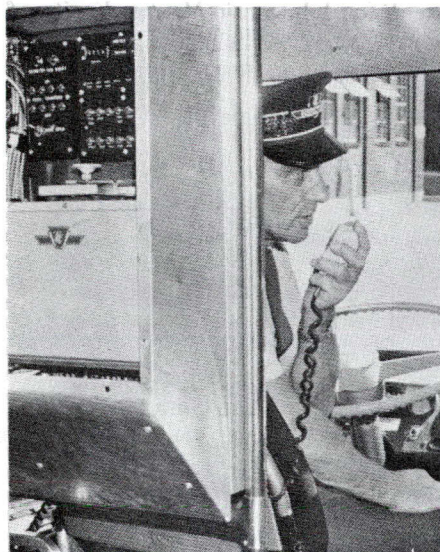
Its advantages will be to eliminate the need for inspectors controlling

buses and street cars from the street; to control spacing, speed and number of vehicles necessary, and to provide a fast response to emergency calls from drivers reporting accidents and breakdowns.

About 60 TTC buses are now being equipped with electronic equipment, designed by TTC staff in collaboration with outside consultants.

Called Communications and Information System (CIS), the project is based on a centrally-installed computer which together with a lighted map of the city indicates the position of each bus and how full it is. In this way an inspector can control provision of extra buses and call on emergency services in the event of breakdowns. Thus the number of inspectors needed is reduced and the ones retained are employed more effectively.

The project is at an advanced stage of evaluation. Current information being sought includes a before-and-after measurement of effectiveness, cost and operational feasibility for application to the total TTC vehicle fleet. Patent application is also being considered.



Driver demonstrates communications fitted to special bus.