

Dalhousie inter-reacts with the world

by Colin MacDonald

Did you ever have a burning desire to know what the trace constituents are in road paint? Maybe discovering what is contained in sediments from the bottom of Minas Basin is more your thing? Perhaps the amount of iodine in seaweed has always piqued your curiosity? If you ever needed these questions answered, you could have your solution by using Dalhousie's very own Slowpoke-2 nuclear reactor.

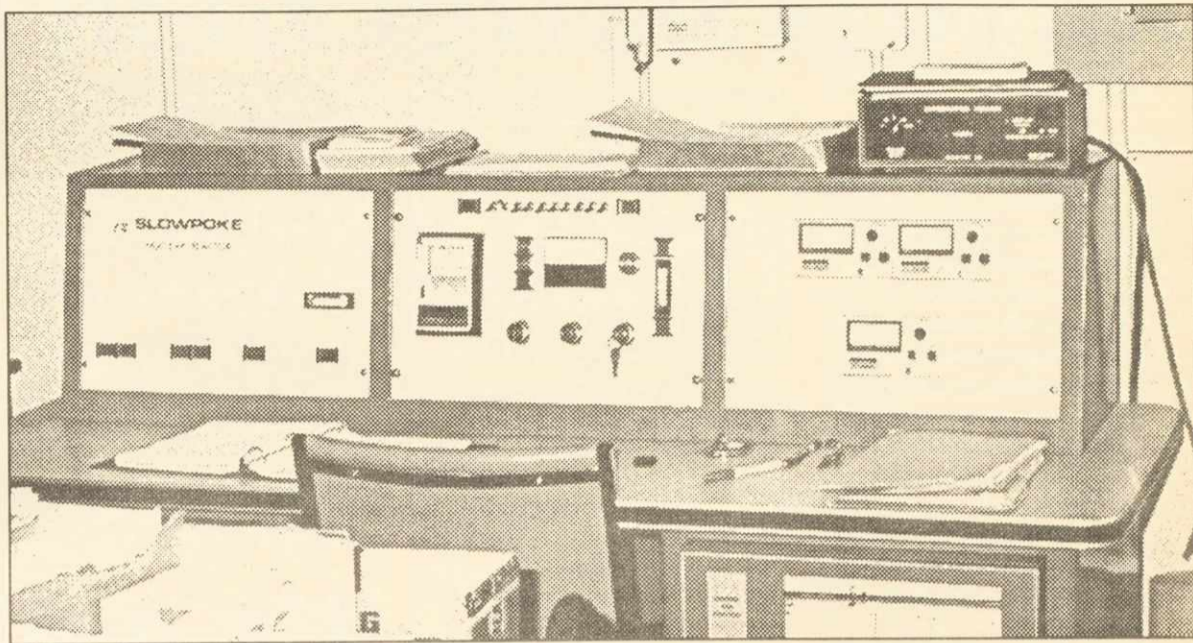
Now do not panic! As Doctor Amares Chatt, the director of the Slowpoke-2 reactor, pointed out many times during our discussions, the reactor is a research reactor, not a power reactor. The largest difference between the two: Dal's research reactor produces about 16 kilowatts per hour (kW/hr) of energy whereas a typical power reactor produces 500 to 1200 megawatts per hour — at least 30,000 times as much as the Slowpoke! The 16 kW/hr that the Slowpoke reactor produces is the equivalent of turning on 4 burners of your stove.

The reactor, which became operational in July 1976, is part of Dalhousie's world renowned Trace Analysis Research Centre (TARC). Scientists, students and businesses from Halifax to Poland to China have journeyed to Dalhousie to irradiate samples and check for numerous elements in a wide range of fields. Recently Dr. Chatt was elected a Fellow of the American Nuclear Society, becoming only the third Canadian to obtain this honour. He credits his election to the people and

projects that have made Dalhousie's reactor highly sought after throughout the nuclear research community rather than for his own personal accomplishments.

Dr. Chatt admits that there were some small protests when the reactor was first proposed and installed. "People didn't realize that it was a research, not a power reactor." The Canadian-built Slowpoke-2 was bought for \$165,000 with a grant from the National Research Council (NRC). The yearly cost of running the reactor ranges from \$120,000 to \$150,000. Since 1976, funding has risen and fallen (last year it increased). The money comes from a variety of sources, including the NRC, the university, and commercial businesses who pay for research.

The TARC labs are located in both the Life Science Centre (LSC) and the Chemistry building with the reactor and its two full-time employees located in the basement of the LSC. Anyone can apply to use the reactor, but final approval rests with the Slowpoke Operations Group who oversee the work



The Slowpoke-2 control console.

PHOTO: COLIN MACDONALD

the reactor does. The original mandate of Slowpoke-2 was to train analytical chemists and to contribute to the field of analytical chemistry, but since 1976 the uses of our reactor have greatly increased. In 1976-77, 1,054 samples were tested. This past year, 6,597 samples were run through the reactor.

The manner in which items are analysed is as follows: the reactor is fed a sample in a small vial. It then becomes a mildly radioactive isotope due to neutrons produced in the reactor. This radioactivity makes an element usually difficult to detect quite easy to find and count. Since some elements lose their radioactivity very quickly,

the sample is then transferred from the reactor core to a detector in 100 milliseconds (one of the fastest times in North America). The sample is then analysed and certain elements counted according to the needs of the researcher.

Clients of the Slowpoke-2 reactor have ranged from the Food Research Division of Health and Welfare Canada to Imperial Oil to Acadian Seaplants Limited who needed to know how much iodine was contained in seaweed. There are various species of seaweed and much is grown for specific purposes. In the Acadian Seaplants case, they sold seaweed to the United States to be used in cattle feed. The

amount of iodine contained in the seaweed was of great importance, and helped determine whether the company received large US contracts. There were other methods available, but using the reactor to determine the iodine content was by far the fastest.

Not only does our world recognition and extensive research please those who work with the reactor, its perfect safety record is also a great source of pride. According to Dr. Chatt, besides the Dal reactor's never experiencing a problem, every Slowpoke-2 reactor throughout the world has enjoyed prob-

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DALHOUSIE STUDENT UNION ANNUAL GENERAL MEETING

Wednesday, Nov. 24, 1993
12:30 pm - 2:00 pm.
Green Room

All Dal Students Can Participate &
EVERY DAL STUDENT can VOTE!

Tentative Items for discussion:

- The definition of discrimination to be changed to include age and physical ability.
- The definition of enrolment for the purposes of determining membership to be set on the first of October of every year.
- When the Executive Committee of the University meets, the DSU President will represent students on said committee.
- An item can be referred to the Judicial Board (The "Supreme Court" of the Students) through a bona fide petition signed by 1% of the students presented to Council.
- Direct elections (every student votes) of the following offices: Vice President Academic, Vice President External, Vice President Community Affairs, and Communications Coordinator.

A complete agenda & DSU Constitution available for viewing in council offices Room 222 in the Student Union Building. For more information call 494 - 1106.

