

Fundamental studies are carried out in the fields of radio astronomy, upper atmosphere research, electron physics, and solid state physics. At the Division's radio observatory in Algonquin Park, Ont., a radiotelescope having a parabolic reflector 150 feet in diameter went into operation in mid-1966.

Space Research Facilities.—In 1966, the National Research Council took over from the U.S. Air Force's Office of Aerospace Research the Churchill Research Range at Fort Churchill, Man., and placed it under its newly formed Space Research Facilities Branch. The Range, which is being operated for the joint benefit of Canadian and American scientists under joint Canadian-American funding, is capable of launching many kinds of sounding rockets and balloons carrying scientific experiments to investigate the earth's upper atmosphere. Associated ground-based instruments are specially designed to study the aurora borealis by photographic and spectrophotometric methods.

The Space Research Facilities Branch has also taken over the work previously carried out in the Radio and Electrical Engineering Division to convert scientific experiments into hardware suitable for rocket payloads. This engineering work on behalf of scientists in the National Research Council and in Canadian universities will be done primarily by industrial contracts and includes selection and procurement of suitable rockets. The Branch also operates a Minitrack satellite-tracking and data-reception station near St. John's in Newfoundland; this activity is carried out on behalf of the National Research Council of Canada and the National Aeronautics and Space Administration of the United States.

Atlantic Regional Laboratory.—The Atlantic Regional Laboratory is engaged in practical and fundamental studies related to the resources and industries of the Atlantic Provinces. The Laboratory offers advice and assistance to local industries and government departments and, in addition, houses the Atlantic Regional Station of NRC's Division of Building Research. The research program includes investigations of the biochemistry and physiology of fungi, bacteria, marine algae, lichens, mosses and higher plants; of the chemistry of naturally occurring organic compounds; of the physical chemistry of inorganic reactions at high temperatures. Studies are under way on the application of scientific agriculture to the cultivation of seaweed and surveys promise to reveal new sources of supply to meet the future demands of this expanding industry. Extracts obtained from species such as Irish Moss, kelp and rockweed find more than 40 different uses in the food, pharmaceutical and textile industries and in agriculture.

A development of considerable significance was the establishment of a close working relationship with Dalhousie University at Halifax. Under the new arrangement, students acceptable to the University's Faculty of Graduate Studies may carry out research in the Atlantic Regional Laboratory, directed by Laboratory staff members holding unpaid appointments in the Faculty. The immediate aim of the scheme is to expand the facilities for graduate studies in the Atlantic region; the long-term objective is to help create a strong scientific background conducive to large-scale development by industry.

Prairie Regional Laboratory.—One of the aims of the Prairie Regional Laboratory is to develop wider uses for crops grown on the prairies by determining potential uses of crops now in production and by encouraging the production of new crops to meet specific needs. The Laboratory program is carried out by five sections: the physiology and biochemistry of fungi section, physiology and biochemistry of bacteria, plant biochemistry, chemistry of natural products, and the engineering and process development section. Research is therefore carried out on the properties and reactions of plant components, and on the biological, chemical and engineering processes for turning them into other compounds. The development of oil-seed crops as alternatives to seed crops has received considerable attention.