

Mechanical Engineering, Radio and Electrical Engineering and the National Aeronautical Establishment; the Physical/Chemical Sciences Laboratories include the Divisions of Physics and Chemistry and the Herzberg Institute of Astrophysics; the Biological Sciences Laboratories include the Division of Biological Sciences, the Prairie Regional Laboratory in Saskatoon and the Atlantic Regional Laboratory in Halifax.

The 1976-77 intramural research budget was expected to be \$71.4 million, with approximately \$22.1 million of this for basic research which is largely concentrated in the Herzberg Institute of Astrophysics. The remainder was divided among the Divisions of Biological Sciences, Chemistry and Physics.

Research on long-term problems of national concern includes work on problems relating to energy, transportation, food, building and construction. The study of energy-related problems is the subject of an interdivisional effort in which seven divisions are involved in a wide range of projects, including energy conservation, vertical-axis wind turbine, laser fusion research, isotope fractionation and cryogenic power handling.

Examples of other research on long-term problems are: legume seed research in the Prairie Regional Laboratory, which is expected to lead to commercial production in Canada of high protein foods derived from legume crops (e.g. field peas and flavobbeans); research in the Division of Mechanical Engineering to establish the design, installation, and operation of ship hulls, oil platforms and terminal structures in an arctic environment; and field and laboratory investigations by the Division of Building Research into problems relating to northern construction and technology.

Research in direct support of industrial innovation and development includes intramural research performed for industrial companies on request, contract or collaboration basis. The Industrial Research Assistance Program is also included in this activity.

Research to provide technological support of social objectives such as public safety, environment, health, and education, is also conducted in many of the divisions. The Division of Biological Sciences is studying the anaerobic bacterial digestion of organic wastes (e.g. from food processing and sewage) for production of methane and reduction of pollutant content. The Divisions of Physics, Biological Sciences, Mechanical Engineering, Building Research and the National Aeronautical Establishment are cooperating in a joint study of environmental and physiological noise problems.

One of the several ways in which the National Research Council supports the research effort in industry, universities and other government departments is through the provision of national facilities. Examples of major facilities provided by NRC's laboratories are the large-scale towing tank operated by the Marine Dynamics and Ship Laboratory of the Division of Mechanical Engineering, the wind-tunnel complex of the National Aeronautical Establishment and Algonquin Radio Observatory maintained by the Herzberg Institute of Astrophysics.

Research and services related to standards include all work in support of standards, codes and specifications that are in the national or international public domain. These activities are also conducted on an interdivisional basis. The Division of Physics is responsible for the maintenance of physical standards. The recently formed Environmental Secretariat in the Division of Biological Sciences assembles criteria for use by the authorities responsible for setting environmental standards. The Division of Building Research provides technical and secretarial support to the NRC associate committees responsible for the National Building and Fire Codes of Canada.

The National Research Council is also active in the field of scientific and technical information. It is responsible for the operation of the Canada Institute for Scientific and Technical Information, the publication of journals of research and the development of a Canadian network of scientific and technical information services.