the new ice tank (officially opened in 1985) and is currently responsible for its operations and for research conducted in it.

Author: Paul Duval is Director of Research at the Laboratoire de Glaciologie et Géophysique de l'Environment (LGGE) of the Centre National de la Recherche Scientifique (CNRS). With a BA in physical sciences and a doctorate in materials science from the University of Grenoble, Dr. Duval taught at his alma mater for three years prior to joining the CNRS as a researcher at the LGGE in 1969. His research experience has included rate controlling processes in the creep of polycrystalline ice; texture and mechanical behaviour of glacier ices; recrystallization processes of polar glacier ice; the analysis of ice failure; and the analysis of ice forces on offshore structures.

Abstract: A brief description of several projects now underway at the National Research Council of Canada is given. Some of these are being pursued in collaboration with French scientists; others are joint projects with various Canadian organizations such as Transport Canada and Memorial University of Newfoundland.

Mechanical tests on both laboratory grown ice and natural ice are being conducted at the Institute for Marine Dynamics; related studies are being conducted at the Institute for Research in Construction at NRC in Ottawa. Ice impact experiments are being conducted in the lab and in the field and the modelling of ice/structure interaction is being studied by conducting experiments on ships and structures in the ice tank at IMD. Finally, the dynamics of ice/structure interaction has been studied by experiments on small scale structures in freshwater ice, using an NRC ice tank in Ottawa.

"Modelling of Ice and Frozen Soil in Centrifuge Units"

Donald Shields
Professor of Civil Engineering, University of Manitoba
Jean-François Corte
Chef de la Division Géotechnique Mécanique des Chaussées, Laboratoire Central des Ponts et Chaussées

Author: Donald Shields, a civil engineer with degrees from the University of Manitoba, Imperial College and Manchester University, is a Professor of Civil Engineering at the University of Manitoba. Dr. Shields' current research interests include measuring the properties of frozen soil and ice in situ, the lateral capacity of piles in frozen soil, the bearing capacity of foundations on slopes and in situ stresses in the roofs of mines. Dr. Shields has participated in the Canadian Standards Association committee on offshore production structures and on the materials committee of the Roads and Transportation Association of Canada. He is a past-president of the Canadian Geotechnical Society and a Fellow of the Engineering Institute of Canada.