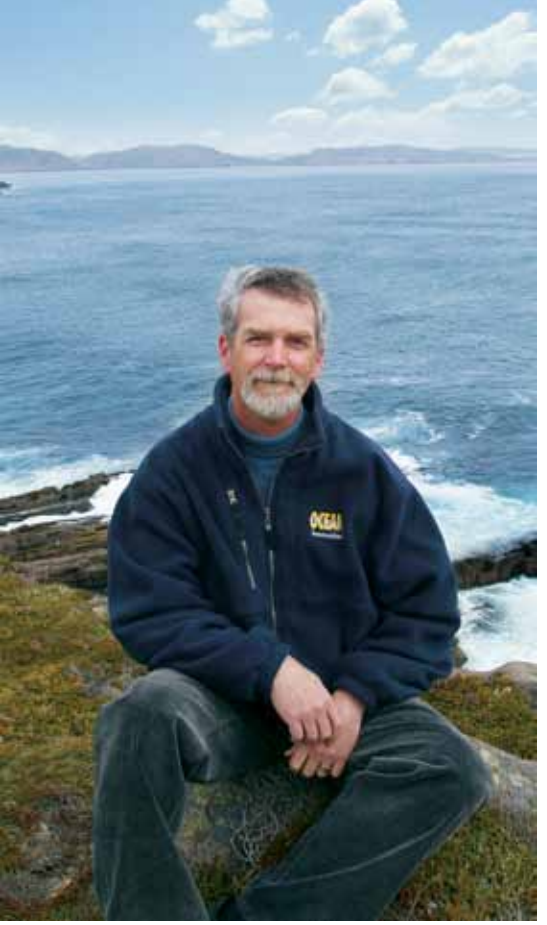

From the Guest Editor

Development and use of ocean spaces and resources is guided by four fundamental principles: safety, efficiency, sustainability and profit. This is no less true in the North. It is also true that Northern peoples are some of the most innovative in the world today, although their knowledge and expertise tend to be under-valued when considered in the Southern context of innovation. There can be no question that modern technology may be of great benefit to Northern peoples as they struggle to deal with the challenges of sustainable use of ocean resources in the face of massive environmental change. Likewise, traditional knowledge and Northern innovation systems can positively influence the design and utilization of classical technologies, as is illustrated by Dr. Shari Gearheard in her piece on p.vi.

In the far North, where the productivity of terrestrial ecosystems is as low as anywhere on Earth, marine resources take on a special significance. Northern people lived a sustainable existence long before the Brundtland report 'defined' it in terms that the rest of the world could at least begin to understand. For them, the impacts of climate change are neither political nor academic, they are real. While scientists struggle to understand facts and formulate theories, Northern people, particularly those who are close to the ocean, have a deep-seated, intuitive understanding of the changes that are occurring and the implications of these changes on their present and future livelihood. For instance, they are acutely aware of the mistakes that have been made in other offshore fisheries, and are looking for ways to combine modern technology with traditional knowledge to ensure sustainable fisheries (see Jamie Snook's piece on p. 94). They are particularly concerned about increasing interest in Arctic offshore oil and gas development. Some are opposed to seismic exploration in the area on the grounds that such activity may have detrimental effects on fish and marine mammals. Others are more generally opposed to oil and gas development in the North on the basis that the risk of a major spill is too high, and the technology that would be needed to respond to a mishap is sorely lacking. Meanwhile, Canada and other nations are expending significant effort to collect geophysical data in the Arctic Ocean to support their claims under the United Nations Commission on the Law of the Sea (UNCLOS) which allows maritime nations to extend their sovereignty beyond 200 nautical miles, with the potential of reaping the rewards from rich offshore resources. This is, in turn, driving the development and application of technologies that are best suited to the task at hand.

This issue of *The Journal of Ocean Technology* brings together contributions from Northern people, scientists, business people and policy makers – each innovative in their own way – to highlight challenges and opportunities pertaining to sustainable development of ocean resources (fish, energy, etc.), sovereignty, climate change and coastal and maritime infrastructure.

Randy Gillespie is the Director of the Centre for Applied Ocean Technology at the Fisheries and Marine Institute of Memorial University of Newfoundland.