members of NSIS, Drs. Michael Falk and David Jamieson, saved us this past month from having to pay for an accountant. With Dr. Don Davies they carefully went over NSIS financial accounts and found everything in good shape. On behalf of the membership, I thank them very much for this work. Indeed I thank everyone who has played a role in NSIS this year. I have so enjoyed my role this year as NSIS President that I could even be persuaded to continue for a second year.

PROCEEDINGS

Proceedings of the Institute (1998-1999)

5 October 1998

Dr. Sara Iverson, *Department of Biology, Dalhousie University,* **Fat: An Ecological Tool.** Although "fat" may at first glance seem like a very simple, uninteresting and even negative thing, in many animal species it may be the single most important component in their life cycle - and it may even provide us with clues as to how some animals make their living in the wild. From providing insights into how fasting grey seal females transfer 23,000 calories in milk per day to their pups, to understanding how dolphins travel so efficiently, to detecting the at-sea foraging behaviour of Antarctic fur seals, fat can be a powerful study tool in understanding animal ecology.

2 November 1999

Public Funding of Research: Are we investing wisely in the future of our country? Panelists: ***Dr. Bob Boyd*** *(Acting Director-General of Institute for Marine Biosciences, NRC);* ***Dr. Colin Dodds*** *(VP Academic and Research, St. Mary's University);* ***Dr. Ross McCurdy*** *(CEO, InNOVAcorp);* ***Dr. Michael Steinitz*** *(Department of Physics, St. Francis Xavier University);* Moderator: ***Dr. Dennis Stairs*** *(Dalhousie Political Science; Chair of the Dalhousie Task Force on Research Policy and Administration)*

7 December 1998

Bob Grantham, *Nova Scotia Museum of Natural History,* **Dinosaurs in Nova Scotia. What happened at the Triassic/Jurassic Boundary?** Nova Scotia is world famous for a major extinction event that occurred at the Triassic/Jurassic boundary 200 million years ago. Where were we? What was living then? What dinosaurs were around? How important are our dinosaur-age creatures? What are the results of a search for the cause of this extinction-level event?

4 January 1999

New Strategies in Fisheries Management. Panelists: ***Dr. Jeff Hutchings*** *(Department of Biology, Dalhousie University);* ***Mr. Neil Bellefontaine*** *(Regional Director General, Maritimes Region, Department of Fisheries and Oceans);* ***Mr. Brian Giroux*** *(Southwest Nova Mobile Gear Association);* Moderator: ***Dr. Martin Willison*** *(Biology, Dalhousie University)*

1 February 1999
Dr. Leo Vining, *Department of Biology, Dalhousie University,* **Antibiotic resistance: Can we win the war against superbugs?** The general rule for any antimicrobial agent is "Use it and lose it." Introducing a new antibiotic modifies the environment and inevitably selects for resistant superbugs. What measures can we take to slow the selection process, protect our inventory of useful antibiotics, and counterattack with new ones? Answers to this question emerge from our growing understanding of the role of antibiotics in nature, how they work and how target organisms acquire resistance.

1 March 1999
Dr. Fred Dobson, *Bedford Institute of Oceanography,* **Storm Waves.** The wind-driven waves at the surface of the sea have fascinated us ever since the first person encountered the ocean. Their genesis, progress and dissipation are of great interest and so they have been extensively studied: a great deal is known by practical people (seamen, surfers) and theoreticians (physicists, chemists, biologists) alike. They continue to sink ships, wash away coastlines and kill people, and there is much still to be learned before we can say we predict them well enough. This talk will outline the state of our knowledge of storm waves, set straight some common misconceptions (e.g. the existence of "rogue waves"), and show them at full fury in the open sea.

5 April 1999
Discussion Leader: ***Dr. David Pink,*** *Department of Physics, St. Francis Xavier University,* **Ethics in Science - Are Scientists Good Citizens?** Ethics in science and technology go well beyond simply "not cheating". For example, do scientists place adequate priority on research questions selected to address matters of social importance? Do scientists consider whether the results of their research (knowledge, products, etc.) will help or harm the environment? Do scientists avoid seeking answers to controversial questions? Do scientists allow their sponsors' interests to affect the direction and the interpretation of their research?

3 May 1999 (Annual General Meeting)
Dr. Tom Brzustowski, *President, NSERC,* **The Knowledge-Based Economy - Realizing the Nova Scotia Advantage**. The arrival of the Knowledge-Based Economy may be a great opportunity for Nova Scotia. The province rightly prides itself on its many universities, on the large proportion of its population that is well educated, and on its high quality of life. These attributes may add up to a unique advantage for the province in the new global KBE. But in what way? I don't think there is a single way, but there might be a single strategy– the strategy of promoting innovation, of creating new goods and services for the global market, of creating new value-added activity in Nova Scotia. Some of the innovations will originate from intellectual property coming out of discoveries in research in the universities. Other innovations may be the result of people spotting market needs and being the first to meet them. Some of them may be developed by existing companies, others by start-ups, others by multinationals attracted to invest in Nova Scotia, and others still by people networking at the community level. But they all require people who are very competent at what they do, people who are very well informed, people who know markets, others who are entrepreneurs, and others still who can manage a new and growing business line or an entirely new enterprise. And they all require the attitude that Nova Scotia is connected to Canada and the world and "All markets can be our market if we create a great product".

Proceedings of the Institute (1999-2000)

4 October: **Nanotechnologies.**
Dr. Manfred Jericho, *Physics Department, Dalhousie University,* "Nanoscale Science with Needle and Cantilever"; ***Dr. Jurgen Kreuzer,*** *Physics Department, Dalhousie University,* "Digital Holography with Photons and Electrons".

1 November
The Sydney Tarponds: Environment and Health.
Panelists: ***Dr. Judith Guernsey,*** *Department of Community Health and Epidemiology, Dalhousie;* ***Professor Helen Mersereau,*** *Department of Engineering, University of College of Cape Breton;* ***Professor Elizabeth May,*** *Centre of Excellence for Women's Health, Dalhousie University;* ***Dr. Don Elder,*** *Environmental Engineering, Jacques Whitford Ltd.* Moderator: ***Professor Raymond Cote,*** *School of Resource and Environmental Studies, Dalhousie University.*

6 December
Dr. Paul Erickson, *Department of Anthropology, St. Mary's University.* **Urban Archaelogy in Halifax: State of the Art**

3 January
Dr. Richard Nowakowski, *Department of Mathematics and Statistics, Dalhousie University,* **Game Theory.**

7 February: **Disease and the Environment**
Dr. Sandy Kapur, *IWK - Grace Health Centre,* "What we breathe is what we wheeze".
Dr. Ken Renton, *Department of Pharmocology, Dalhousie University,* "Sick makes drugs sicker".

6 March: **Genetically Modified Organisms**
Panelists: ***Dr. Sean Hemmingsen,*** *Gene Expression, NRC Plant Biotechnology Institute, Saskatoon;* ***Dr. Vett Lloyd,*** *Biology Department, Dalhousie University;* ***Dr. Jerzy Nowak,*** *N.S. Agricultural College, Truro;* ***Dr. David Patriquin,*** *Biology Department, Dalhousie University.* Moderator: ***Dr. Les Haley,*** *Special Climate Change Advisor, Agriculture and Agrifood Canada, Truro.*

3 April: **Wildlife and Conservation Biology**
Dr.Liette Vasseur, *Environmental Studies Program, St. Mary's University;* ***Dr. Tom Herman,*** *Centre for Wildlife and Conservation Biology, Acadia University.*

1 May
Dr. John Farley, *retired Dalhousie Biology Professor.* **The Life of Another Canadian Hero, Dr. Brock Chisholm.**