

**CANADIAN OCEAN SCIENCE NEWSLETTER
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JOBS

Professeur régulier en océanographie physique - ISMER

L'Institut des sciences de la mer de Rimouski (ISMER), cherche à combler un poste de professeur en océanographie physique spécialisé en océanographie expérimentale. Les candidats qui démontrent une expertise dans l'étude de la dynamique des systèmes estuariens et/ou des mers côtières en régions tempérées ou polaires ainsi que dans les techniques de mesures et de campagne à la mer seront privilégiés lors du processus de sélection ([cliquer](#)).

Tenure Track Faculty Position in Physical oceanography - ISMER

The Institut des sciences de la mer de Rimouski (ISMER), is looking for a candidate to fill a regular faculty position in physical oceanography specialized in experimental physical oceanography. This position is aimed at a physical oceanographer with expertise in the study of dynamical processes in temperate or polar estuarine and coastal marine systems as well as in laboratory and field studies ([click](#)).

International: Science Officer, ICSU

ICSU is seeking a Science Officer to assist with the planning and implementation of its initiatives, with a focus on sustainability research including global environmental change. This is a permanent position located at the ICSU secretariat in Paris. Applications close 16 August 2010 ([click](#)).

OCEAN SCIENCE PROGRAMS

Update on the SCOR-GEOTRACES Project

GEOTRACES officially opened its International Project Office (IPO) at the Laboratoire d'études en géophysique et océanographie spatiales (LEGOS) in Toulouse, France in January 2010. The IPO is managed by Elena Masferrer-Dodas as Executive Officer, with local scientific oversight by Catherine Jeandel, chair of the French SCOR Committee. The IPO will be funded by a consortium of sponsors, including the U.S. National Science Foundation, Centre national de la recherche scientifique, Université Paul Sabatier-Toulouse, LEGOS, Universitat Autònoma de Barcelona, and sources from Germany, Japan, India, and other countries active in GEOTRACES research.

GEOTRACES officially launched the cruise phase of the project at the Ocean Sciences meeting in Portland, Oregon, USA on 24 February 2010. The launch, attended by about 150 scientists, described the foundational accomplishments of GEOTRACES so far and cruise plans for the next few years. Several nations are planning cruises during this period, including Canada, France, Germany, India, Japan, Netherlands, Spain, the United Kingdom, and the United States. It is anticipated that the transect phase of GEOTRACES will last 10-15 years. A few proposals for process studies have already been approved by the GEOTRACES SSC and the number of process studies is likely to increase over time, as interesting phenomena are discovered through the transect cruises.

Update on IMBER

IMBER is preparing for its second open science meeting (IMBIZO II), to be held on the island of Crete, Greece on 10-14 October 2010 ([click](#)). The three themes of the meeting will be

- Workshop 1: The effect of varying element ratios on community structure at low trophic levels and food quality at mid and high trophic levels,
- Workshop 2: Large-scale regional comparisons of marine biogeochemistry and ecosystem processes - research approaches and results,
- Workshop 3: Sensitivity of marine food webs and biogeochemical cycles to enhanced stratification.

Alida Bundy (BIO) has joined IMBER's SSC.

GLOBEC Comes to an End

GLOBEC has formally come to its completion, as of the end of 2009. A major symposium, the GLOBEC 3rd Open Science meeting, was held in June in Victoria, BC, which was very successful; a special issue of Progress in Oceanography is in the works with papers from this meeting, with publication planned for late 2010. Follow on activities nearing completion include a Summary for Decision-makers, and a compendium of highlight GLOBEC primary publications. Many GLOBEC activities, such as ESSAS (Ecosystem Studies of Sub-Arctic Seas), CLIOTOP (Climate Impacts on Top Predators), and the human dimensions of marine ecosystem changes, have been adopted by, and will continue under, IMBER.

PERSONNEL

Marcel Babin



Marcel Babin est le titulaire nouveau de la Chaire d'excellence en recherche sur la télédétection de la nouvelle frontière arctique du Canada et professeur à l'Université Laval. Couplée aux changements climatiques, l'exploitation grandissante des ressources naturelles transforme les écosystèmes de l'Arctique canadien. Pour assurer l'exploitation durable des ressources de cette région, la gestion de ses écosystèmes et l'adaptation des communautés du Nord aux transformations rapides que subit leur environnement, il est nécessaire de comprendre les changements qui se produisent ainsi que leur impact.

En s'appuyant sur les plus récentes avancées en télédétection spatiale afin d'étudier comment les écosystèmes marins arctiques réagissent aux

Marcel Babin has been awarded the Canada Excellence Research Chair in Remote Sensing of Canada's New Arctic Frontier at Université Laval. Coupled with climate change, the growing exploitation of natural resources is transforming the ecosystems of the Canadian Arctic. To ensure the sustainable development of Arctic resources, ecosystem management and the adaptation of northern communities to their rapidly changing environment, we need to understand what underlies these transformations, and what impacts they will have. This is the goal of Dr. Marcel Babin, Canada Excellence Research Chair in Remote Sensing of Canada's New Arctic Frontier.

Dr. Babin and his research team will apply the most recent advances in satellite remote sensing to track how Arctic ecosystems respond to climate change.

To do so, they will develop new observing technologies, advanced computer models of Arctic ecosystems, and powerful new tools to archive and analyze the vast stream of data made available by the rapid expansion in northern research currently underway in Canada. The results of their research will help stakeholders in government, industry and northern communities make effective decisions.

To observe the Arctic environment, Dr. Babin will, in particular, adapt state-of-the-art technologies used in various oceans, such as free-drifting profiling floats, underwater gliders, and unmanned submarines equipped with hi-tech sensors that measure key processes in marine ecosystems. Combined with laboratory experiments and biodiversity analysis using advanced molecular and biochemical techniques, this will allow a better understanding of Arctic aquatic ecosystems and, ultimately, their diagnostic and predictive modeling. Finally, Dr. Babin will develop an intelligent archiving and analyzing system for Arctic data that organizes scientific observations from the multiple platforms and models, offering stakeholders from

changements climatiques, M. Babin et son équipe de recherche mettront au point de nouvelles technologies d'observation, de meilleurs modèles numériques des écosystèmes arctiques et de puissants outils d'archivage et d'analyse des nombreuses données issues de la recherche menée dans le Nord – une recherche actuellement en essor au Canada. Leurs résultats de recherche aideront les représentants du gouvernement, de l'industrie et des communautés du Nord à prendre des décisions plus judicieuses.

Marcel Babin compte notamment adapter des technologies de pointe utilisées dans différents océans pour observer le milieu arctique. Ainsi, à l'aide de flotteurs-profileurs dérivants, de planeurs sous-marins et de sous-marins autonomes équipés de capteurs de pointe, il mesurera les variables les plus pertinentes des écosystèmes arctiques. De plus, grâce à des expériences en laboratoire et à des études sur la biodiversité effectuées au moyen de techniques moléculaires très modernes, ses observations permettront de mieux comprendre les écosystèmes arctiques et, en bout de ligne, de mettre au point des modèles diagnostiques et prévisionnels fiables. Enfin, M. Babin élaborera un système intelligent pour l'archivage et l'analyse de données – système qui aura la capacité de regrouper et d'organiser les données provenant de multiples plateformes et modèles. Ainsi, les intervenants des secteurs public, universitaire et industriel pourront se fonder sur des renseignements pertinents pour cerner les enjeux socio-économiques liés aux changements climatiques et à leur impact sur les écosystèmes arctiques.

the public, academic and industrial sectors a better understanding of the socio-economic consequences of climate change on Arctic ecosystems.

Søren Rysgaard

Søren Rysgaard has been awarded the new Canada Excellence Chair in Arctic Geomicrobiology and Climate Change at the University of Manitoba. Leading a research team studying the effects of melting sea ice on coastal Arctic ecosystems, Dr. Rysgaard is at the very forefront of research into the causes and consequences of global warming. Leaving the Greenland Institute of Natural Resources, he will be joining the Centre for Earth Observation Science at the University of Manitoba's Clayton H. Riddell Faculty of Environment, Earth, and Resources.



An expert in sea ice and benthos, he, along with fellow University of Manitoba scientists, will explore microbial activity and chemical transformations within sea ice and ocean sediments as they occur. His team will be the first to intensely investigate the Arctic at the micro-scale.

Although it was once thought that nothing happened in the cold sea ice, research is now showing that many processes are active there, and that these appear to be increasing in activity as the ice warms. Dr. Rysgaard is particularly interested in the chemistry between newly discovered minerals found in the sea ice, salts, and carbon dioxide. His recent research suggests sea ice is important to removing carbon dioxide from the atmosphere.

Douglas Wallace



Douglas Wallace has been awarded the new Canada Excellence Research Chair in Ocean Science and Technology at Dalhousie University. The chair, one of 19 CERCs awarded across Canada, will receive \$10 million over seven years from the Government of Canada to support its research into how CO₂ and other greenhouse gases are exchanged between the ocean and the atmosphere. Dalhousie will add a further \$24 million to put together a CERC Research Unit, consisting of seven new hires and several researchers at Dalhousie presently engaged in work related to the CERC focus. Between researchers, post-docs, students and support, the chair will add over 40 positions to the

university's research capacity.

Dr. Wallace comes to Dalhousie from the Leibniz Institute of Marine Sciences and the University of Kiel in Germany. He plans to study the rapid changes in the North Atlantic as a result of human intervention. It's a sort

of homecoming for Dr. Wallace, who earned his Ph.D. at Dalhousie in 1985. He will be accompanied by his wife Dr. Julie LaRoche, a marine biologist who will be part of the new research team.

Agathe Lisé-Pronovost



The winner of the 2010 CNC-SCOR scholarship supplement for studies in ocean science is Agathe Lisé-Pronovost, who is pursuing her Ph.D. studies through UQAR at ISMER. Between 40-60°S, there is mostly ocean with the tip of South America being one of the few terrestrial locations. Laguna Potrok Aike (a crater lake at 52° S) provides a unique long term sediment record of potentially 770,000 years. Agathe will study paleomagnetism at high-resolution from a sediment core successfully collected from the lake. She wishes to reconstruct the variability of the magnetic field and look for climate indicators in the variable magnetic mineral assemblages. The record contained in this core will

be compared with records in marine sediment cores from the Southern Ocean and ice cores from Antarctica.

Dan Wright



Colleagues and friends across Canada and around the world have been shocked and deeply saddened to learn of the sudden passing of Dr. Daniel (Dan) G. Wright on Thursday, July 8, 2010. Dan was a highly-regarded scientist with the Ocean Sciences Division (OSD) of Fisheries and Oceans Canada at the Bedford Institute of Oceanography (BIO).

Dan obtained his B.Sc. in Mathematics from Laurentian University in 1975, and his Ph.D. in Applied Mathematics and Oceanography from the University of British Columbia in 1978 under the mentorship of Professor Lawrence Mysak. He was then a Postdoctoral Fellow at the Woods Hole Oceanographic Institution (1978-1979) with Dr. Harry Bryden, and a Research Associate at Dalhousie University (1979-1981) with Professor Chris Garrett.

In late 1981 Dan accepted a Research Scientist position in the Ocean Circulation Section of BIO where, until his passing, he was a highly productive, generous and respected scientist, and an advisor, colleague and friend to many in the oceanographic and atmospheric research communities. In 2008 Dan was promoted to the Government of Canada's highest Research Scientist level, recognizing his outstanding scientific and other contributions both nationally and internationally. Dan was also a long-time Adjunct Professor in the Department of Oceanography at Dalhousie University where he cherished the opportunity to interact with students and young scientists.

Dan used his elite mathematical skills and clear thinking to advance our understanding of a very broad range of physical oceanographic phenomena and their role in the broader Earth system, building on both theory and observations. He made major contributions on topics ranging from the thermodynamics of sea water to the role of the ocean in climate dynamics, including baroclinic instability, tidal rectification and other continental shelf dynamics, regional- to global-scale ocean circulation, physical-biogeochemical interactions, the development of innovative circulation models, and the oceanography of the Northwest Atlantic. He co-authored over 70 papers in international scientific journals, and many other reports and communications. His scientific excellence and impact were recognized by the Canadian Meteorological and Oceanographic Society through his receipt of its President's Prize in 1992, and by his selection as a CNC-SCOR Tour Speaker. Further elaboration on his many scientific contributions will be provided elsewhere. Suffice it to say that he was one of Canada's leading physical oceanographers whose impacts on the national and international scientific and related communities, and on future scientists, will be widespread and long-lasting.

Above all, Dan Wright was a very decent human being - being gifted yet generous and humble, rigorous yet compassionate, motivated yet fair and honest, and devoted to his profession yet also very devoted to his family. He will be greatly missed. His friends and colleagues will be looking at ways to honour him.

On-line condolences can be made through the Atlantic Funeral Home ([click](#)). Private condolences to the family can be sent to Mrs. Donna Wright, c/o Atlantic Funeral Home, 125 Sackville Drive, Lower Sackville, NS, B4C 2R3.

The family has indicated that donations in Dan's memory can be made to the Scholarship Fund of the Canadian Meteorological and Oceanographic Society (CMOS). A donation form can be found on the CMOS website ([click](#)).

MEETINGS

None submitted.

GENERAL

CNC-SCOR to Prepare a State of Oceanography Paper for Canada.

CNC-SCOR held its annual general meeting on May 30, in conjunction with the CMOS/CGU Congress in Ottawa. The Committee agreed to begin preparing a paper on the State of Oceanography in Canada for publication, perhaps in CJFAS. It is to be an overview of what Canadian oceanographers have been doing in Canada in the recent past, what has been accomplished, where programs are headed and where the gaps might be. The proposed review could be targeted for presentation at the SCOR International meeting in 2012, which will be held in Halifax. An outline is being drafted.

State of the Gulf of Maine

The Gulf of Maine Council on the Marine Environment has released elements of a new report on the state of the Gulf of Maine ([click](#)). The State of the Gulf of Maine Report is a modular, living document made up of a context document and a series of theme or issue papers. The context document provides an overview of the Gulf of Maine, particularly for those readers who are not familiar with the region. The theme papers provide a more in-depth look at important issues within the Gulf, based on priority areas identified by the Council. They will be

developed incrementally during 2010 and 2011 and after that will be regularly updated at time intervals appropriate to each issue. The structure of the papers follows the driving forces-pressure-state-impacts-response (DPSIR) framework. Theme reports are available online on climate change and its effects on humans; climate change and its effects on ecosystems, habitats and biota; marine invasive species; and emerging issues.

State of the North-eastern Pacific

DFO's 11th annual report on the state of the north-eastern Pacific is now available for download ([click](#)). Monitoring the physical and biological oceanographic conditions and fishery resources of the Pacific Region is done semi-regularly by a number of government departments, to understand the natural variability of these ecosystems and how they respond to both natural and anthropogenic stresses. This eleventh report updates the state of physical, biological, and selected fishery resources of Canadian Pacific marine ecosystems. Among the highlights:

- Ocean temperatures off the west coast of Canada were cooler than normal at the beginning of 2009 but warmed through the summer and autumn. By early 2010 most regions along the American and Canadian west coast were above normal in temperature.
- Surface temperatures were generally above normal at most lighthouse stations in 2009 in the Strait of Georgia and Juan de Fuca Strait, but below the surface the waters remained relatively cool.
- One of the biggest stories for 2009 was the return of far fewer Sockeye salmon than expected.
- Cool-water zooplankton have dominated for the past three years, although the dominant groups shifted to warm-water species in late summer 2009 along the outer continental shelf of southern Vancouver Island.
- Humboldt squid appeared off the west coast in record high numbers in 2009. They were most abundant at several hundred metres depth, just seaward of the continental shelf among schools of Pacific hake, and were likely feeding on hake.

Adios El Niño

JPL says that the image of Pacific Ocean sea surface heights from the Jason-2 satellite collected on June 11, 2010, shows that the tropical Pacific has switched from warm to cold during the last few months. The image ([click](#)) depicts the recent appearance of cold water hugging the equator, which the satellite measures as a region of lower-than-normal sea level. Remnants of the el Niño warm water pool still lingered north and south of the equator.

50th Anniversary of the IOC

The Intergovernmental Oceanographic Commission of UNESCO celebrated its 50th anniversary in Paris with a special celebration on Oceans Day, June 8. The day was part of the 43rd session of the IOC Executive Council and was the first governing body meeting held under the direction of its new Executive Secretary, Wendy Watson-Wright, the former ADM of DFO. The Canadian delegation was led by Savi Narayanan, Dominion Hydrographer and D/G Ocean Sciences. The IOC has, for half a century, been the UN organization responsible for fostering intergovernmental cooperation on global ocean issues.

A book entitled "Troubled Waters – Ocean Science and Governance" was launched at the event. The anniversary volume, by Cambridge University Press, will be available early fall, but a proof copy was displayed at the event. It draws on the experience of 30 international experts to look at how governments use science to establish

ocean policies, with chapters ranging from the history of ocean management to current advances in marine science, observation and management applications, and the international agencies that co-ordinate this work. The co-editors are Geoff Holland (Canada) and David Pugh (UK). Other Canadians - Allyn Clarke, Elizabeth Gross, and Ron Macnab - contributed chapters. Canada was also instrumental in supporting the publication costs that got the book off the ground.

With a focus on key topical issues such as marine pollution, exploitation, and hazards, Troubled Waters reflects on past successes and failures in ocean management and emphasises the need for knowledge and effective government action to direct decisions that will ensure a sustainable future for the ocean. It is fully illustrated and it is hoped to provide an attractive and accessible overview for anyone concerned about the future stewardship of our oceans.

Search Capability Added to the CNC-SCOR Website

A search capability has been added to CNC-SCOR's website to permit searching for individual words or phrases. All material stored on the site can be retrieved, including past copies of the newsletter. Search terms are not case-sensitive. Thanks to CMOS for implementing the change.

Public Database to be a Legacy of IPY

More than 2300 participants at the largest-ever polar research conference, held in Oslo 8-12 June, marked the end of the International Polar Year (IPY) 2007-2008. The Polar Information Commons ([click](#)), a CODATA-led initiative seeded by the ICSU Grants Programme, was launched at the conference. Its creators envision a PIC system where investigators quickly expose their data to the world and share them, without restriction, through open protocols on the internet. Data descriptions (metadata) are not necessarily registered in formal repositories or catalogues. They may simply be exposed to search engines or broadcast through syndication services such as RSS or Atom.

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Previous newsletters may be found on the CNC/SCOR web site.
Les bulletins antérieurs se retrouvent sur le site web du CNC/SCOR.

Newsletter #52 will be distributed on Sep 15, 2010. Please send contributions to Bob Wilson, wilson@telus.net
Bulletin #52 sera distribué le 15 septembre 2010. Veuillez faire parvenir vos contributions à Bob Wilson, wilson@telus.net

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