

**CANADIAN OCEAN SCIENCE NEWSLETTER  
LE BULLETIN CANADIEN DES SCIENCES DE L'OcéAN**

**Newsletter Number 105, March 2019  
Bulletin numéro 105, mars 2019**

**Table of Contents**

OCEAN SCIENCE NEWS.....	2
OTN: Five-year white shark population project wraps up in Cape Cod.....	2
OTN: Great white shark genome may hold hints of how to fight cancer.....	3
Eelgrass Monitoring Reports.....	4
MEETINGS.....	6
XXVII IUGG General Assembly, CMOS 2019 update.....	6
ICES Annual Science Conference 2019.....	6
PICES - 2019.....	7
PIMS Workshop on Mathematical Sciences and Clean Energy Applications.....	7
Gulf of Maine 2050 - International Symposium.....	8
POSITIONS AVAILABLE.....	9
Postdoctoral Fellowships in Marine Microbial Ecology.....	9
Executive Secretary, PICES.....	9
Lecturer in Ocean Science, University of Liverpool, UK.....	10
Coastal Oceanographer / Scientist.....	10
GENERAL.....	11
Search for Next SCOR Executive Director.....	11
NSERC Synergy Prizes.....	11
A.G. Huntsman Award for Excellence in the Marine Sciences.....	12
2019 Call for SCOR Working Group Proposals.....	12
BioGeoSCAPES - a New Program.....	13
Canadian Ocean Science Newsletter Le Bulletin Canadien des Sciences de l'Océan.....	13
CNC-SCOR.....	13



## OTN: Five-year white shark population project wraps up in Cape Cod

By [NIKKIB](#) on January 2, 2019

[Ocean Tracking Network\(OTN\)](#)

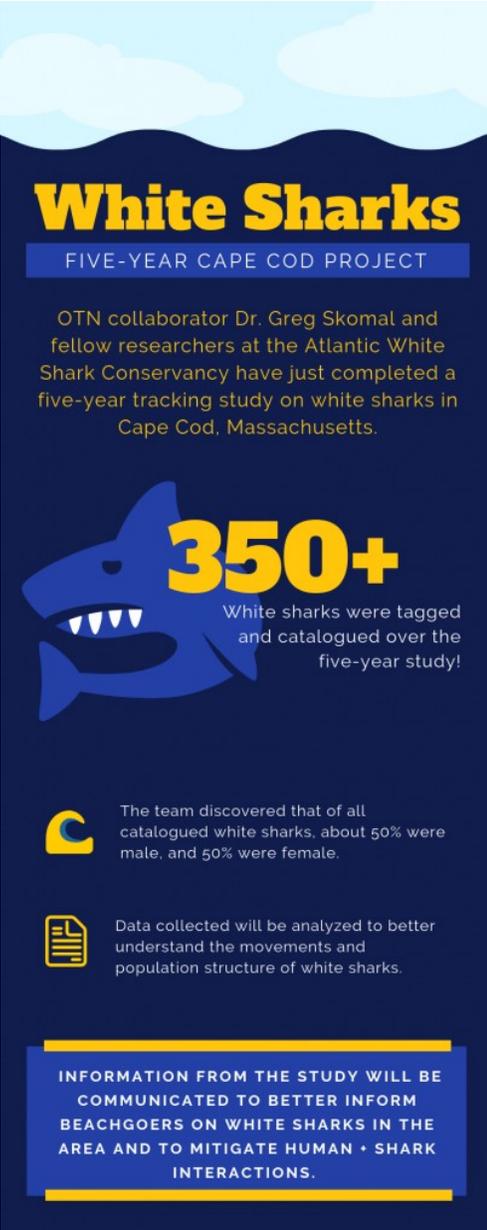
After five years of being on the water every week in the summer and fall months tagging and cataloguing white sharks, Dr. Greg Skomal of the [Massachusetts Division of Marine Fisheries](#), working with the Atlantic White Shark Conservancy and the University of Massachusetts Dartmouth School for Marine Science



and Technology, has now wrapped up the field component of a five-year study. The study aims to estimate the size and relative abundance of the white shark population off Cape Cod, which in part uses OTN's global receiver infrastructure.

During the study, the research team catalogued more than 320 individuals during the first four years. The 2018 data is expected to push that number much higher. Thousands of videos were collected during the five-year study and are still being processed.

*"We try to keep up with compiling and analyzing the data each year and we did fairly well for the first few years," explains Skomal. "But over the course of the next 12 months we are going to be really crunching the data."*



### White Sharks

FIVE-YEAR CAPE COD PROJECT

OTN collaborator Dr. Greg Skomal and fellow researchers at the Atlantic White Shark Conservancy have just completed a five-year tracking study on white sharks in Cape Cod, Massachusetts.

**350+**  
White sharks were tagged and catalogued over the five-year study!

The team discovered that of all catalogued white sharks, about 50% were male, and 50% were female.

Data collected will be analyzed to better understand the movements and population structure of white sharks.

INFORMATION FROM THE STUDY WILL BE COMMUNICATED TO BETTER INFORM BEACHGOERS ON WHITE SHARKS IN THE AREA AND TO MITIGATE HUMAN + SHARK INTERACTIONS.

### Seals as snacks of choice

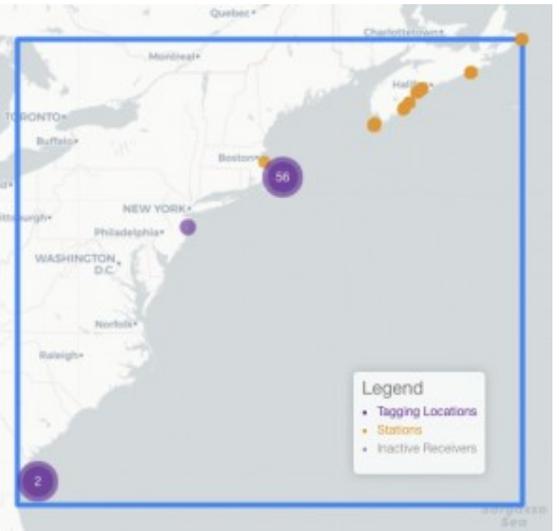
As the seal population has been booming, it's without question the team has seen the white sharks taking notice and increasing in the area as well. What was surprising to Skomal was that they were seeing a broad size range including adults, sub-adults (more than one year old, but not yet breeding), and juvenile sharks in the local waters. Often, researchers don't think of juveniles feeding on seals, but they could be targeting small seals or taking advantage of robust fish stocks in the area. Indeed, charter captains have reported seeing white sharks eat striped bass right off their lines.

As more and more white sharks moved into the area, Skomal and team expanded their acoustic receiver array to monitor the 140 tagged individuals throughout the region. White sharks were now being seen routinely from the southern tip of Monomoy Island all the way up to Provincetown and into Cape Cod Bay.

## Public safety top priority for researchers

While the results of this study will be published in multiple scientific papers, Skomal believes it is even more critical to get the information out to beach managers, public safety officials, and the general public.

After recent tragedies involving white shark interactions with swimmers, which included the first fatal attack in Massachusetts since 1936, Skomal is certain beach managers will be interested in the team's results. He also emphasizes that although the population study is coming to a close, research into the fine- and broad-scale movements of this species, which started in 2009, and population monitoring will continue. As part of that work, research into the predatory behaviour of the white shark in this region will be intensified. He hopes that a better understanding of how, when, and where white sharks prey upon seals will ultimately enhance public safety.



## OTN: Great white shark genome may hold hints of how to fight cancer

By [Gabrielle Deveau](#), [OTN](#), March 1, 2019. Extracted from the [ChronicleHerald](#) Feb 23, 2019.

Researchers mapping the genome of great white sharks have discovered results that could have implications in fighting cancer and age-related diseases in the future.

Fred Whoriskey, a shark researcher with Dalhousie University's Ocean Tracking Network, was not surprised to hear about the results of the study, primarily because the animals have been around for hundreds of millions of years.



"They have been solving all sorts of problems over those hundreds of millions of years and you would expect their genome to have gotten to address a lot of these kinds of issues," Whoriskey said.

The [full article](#) by [Stuart Peddle](#) of the [ChronicleHerald](#).

## Eelgrass Monitoring Reports

From [Casco Bay Currents](#)

Eelgrass (*Zostera marina*) is a seagrass that forms extensive intertidal and subtidal beds in Casco Bay. It provides food for migratory winter waterfowl and critical nursery habitat for fish and shellfish. It also helps sustain water quality by stabilizing sediments and filtering nutrients and suspended particles.

Eelgrass thrives in clean water where adequate light can reach its slender leaves. Beds become stressed when water quality declines due to increased suspended sediments and excess nitrogen, which fuels algal growth and reduces the availability of light. It can also be damaged or lost due to dredging, boat propellers, moorings, anchors, docks, and shellfish dragging. In addition, the invasive European green crab (*Carcinus maenas*) can decimate eelgrass beds by foraging and



Photo credit: Maine DEP



From MDI Biological Laboratory

burrowing in vegetation. According to Angela Brewer of Maine DEP's Marine Unit, who carried out 2018 monitoring of eelgrass in Casco Bay, "Eelgrass is such an interesting and dynamic species because its mere presence or absence, and condition, can indicate so much about the surrounding environment."

In 2013, CBEP and Maine DEP facilitated mapping of eelgrass beds using high-resolution aerial photographs and underwater videography. That survey quantified eelgrass bed coverage as 3,650 acres, representing a loss of more than 55 percent from the 2001-2 acreage. Much of the eelgrass decline appears to have occurred between 2012 and 2013, coinciding with a population explosion of European green crabs. Recognizing the need for a coordinated response, in 2013, CBEP convened the Casco Bay Eelgrass Consortium, made up of academic institutions, state agencies, nonprofits, and some municipalities. The Consortium launched a pilot study to identify suitable sites for large-scale restoration and to gauge effective eelgrass transplant methods, and Consortium members planted eelgrass in two upper Casco Bay locations.

With funding from many partners, Maine DEP's Marine Unit established three long term eelgrass monitoring sites around the Portland area in 2018, and plan to assess standard vitality metrics twice each summer moving forward, to determine how proximity to nitrogen loads from various sources, biological pressures, and our changing ocean will affect this critical resource. The latest mapping information from Casco Bay illustrates just how resilient eelgrass can be. In 2018, eelgrass made positive strides in the portion of the Bay most affected in 2011 and 2012, but much work remains to understand the local implications of the rise and fall of eelgrass populations.



From The Wildlife Trusts

Reports on Casco Bay eelgrass distribution and percent cover changes are now available for [2013](#) and [2018](#). Casco Bay eelgrass distribution and percent coverage information that was acquired during June 2018, is now available through Maine's [Geolibary](#).

Funding partners for the monitoring program include Maine DEP, CBEP, Maine Dept. of Conservation and Agriculture, Maine Dept. of Inland Fisheries and Wildlife, and The Nature Conservancy in Maine.

For more information, please contact [Angela Brewer](#).



*This section of your newsletter provides an opportunity to highlight your research programs to the Ocean Science Community.*

*Your are invited to send contributions to  
David Greenberg,  
[david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)*

*Mettez en valeur vos programmes de recherche en publiant un article dans cette première section de votre bulletin.*

*Faites parvenir vos contributions à  
David Greenberg,  
[david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)*

## MEETINGS

### XXVII IUGG General Assembly, CMOS 2019 update



Your starting point is: <http://www.iugg2019montreal.com>.

Friday, **5 April** 2019, last day for **early bird registration**.

The CMOS Council encourages all Society members to participate in the IUGG General Assembly in Montreal in July 2019. With no typical CMOS Congress this year, CMOS instead is co-hosting this international event with CGU. CMOS related content of interest is available from July 9-14, 2019.

There are two CMOS specific events taking place during this time. The **CMOS annual general meeting is scheduled for July 9th** and the annual **CMOS Banquet is scheduled for July 11th**. Come and support your Society and your colleagues.

The Canadian Meteorological and Oceanographic Society (CMOS) offers **scholarships** to students in atmospheric sciences, meteorology, climate, oceanography and related fields (e.g., mathematics, hydrology, limnology). The graduate scholarship is \$5,000 (with an option for a 2nd year). Information about the graduate scholarship and how to apply can be found at <https://www.cmos.ca/site/scholarships?a=5>. You do not have to be a member of the Society to receive a scholarship. **Deadline for the graduate scholarship is April 20th**.

**Air Canada**, [official transporter](#), offers IUGG attendees a **10% discount** on roundtrip airfare to Montreal-Pierre Elliott Trudeau International Airport (YUL), from any city or country serviced by Air Canada. Enter the **promo code 77PGTP21** in the search tool.

### ICES Annual Science Conference 2019

**9-12 September 2019, Gothenburg, Sweden**

The Annual Science Conference (ASC) 2019 takes place at the Swedish Exhibition & Congress Centre and Gothia Towers in Gothenburg, Sweden.

During the conference hundreds of participants gather to present and discuss the latest marine science, develop new ideas, and establish partnerships. The scientific program provides opportunities for everyone, from students and early career scientists to senior scientists and leaders of research institutes, to engage and contribute.



Online registration opened 26 March.

[Website](#)

**Early bird registration deadline 1 August 2019**

## PICES - 2019

### Connecting Science and Communities in a Changing North Pacific

October 16-27, 2019, Victoria, BC

The North Pacific Ocean is rapidly changing due to an increasing number of stressors. This presents challenges for understanding, collaboration, and communication. More specifically: 1) What are the effects of human activities and climate change on ecosystems and the services they provide?, 2) Are there ways to improve collaboration among organizations and integrate a variety of knowledge sources to answer this question?, and 3) How can we communicate this knowledge effectively to the public? Climate change is an over-arching stressor that delivers a non-stationary background upon which other stressors act. Further, there are a wide variety of human stressors, such as fishing, aquaculture, microplastics/marine litter, invasive species, and shipping that can alter ecosystem structure, function, productivity, and biodiversity.

Anticipating and detecting ecosystem responses to these stressors is a challenge, especially when responses may be non-linear and synergistic or antagonistic. Additional challenges include integrating the complexity of multiple spatial and temporal scales and incorporating climate change into sustainable ecosystem management. PICES provides a unique forum for collaboration among North Pacific member nations and other science organizations to address these challenges. There are, however, opportunities for further collaborations to better improve our understanding of the North Pacific, such as engagement with Indigenous people, citizen science programs, collaborative surveys, and coupled coastal - deep water oceanographic monitoring programs. Communicating the results of ecosystem science to the public and coastal societies is another area for advancement, as many scientists receive little or no training in communicating their results to a layperson audience or in two-way communication, where feedback can inform science.

[Details](#)

**Deadline** for Early [Registration](#), [Abstracts](#) and [Financial Support](#) - **June 30, 2019**



## PIMS Workshop on Mathematical Sciences and Clean Energy Applications

UBC, Vancouver, BC - May 21- 24, 2019

To avoid the worst consequences of climate change, the energy chain of the global economy must be drastically decarbonized. This exploratory workshop will build a greater dialogue between those in the

a place of mind



Pacific Institute *for the*  
Mathematical Sciences

mathematical sciences and the clean energy sector. The workshop will include: first-hand accounts of mathematical scientists working in clean energy projects, kind and gentle introductions to clean energy systems and mathematical tools, graduate student presentations, and panel discussions on topics such as challenges in clean energy. The goal of the workshop is to inspire interest in further exploration and to

nucleate collaborations between mathematical scientists and practitioners in clean energy. Mathematical scientists with no previous experience in clean energy research are welcome.

We anticipate that there will be tremendous educational value for all participants. Those not currently working in the clean energy sector will be introduced to a variety of technologies and technical questions. Participants from the clean energy sector will have the opportunity to highlight technical issues that are not well covered by approaches known to



**Atlantic Association  
for Research in the  
Mathematical Sciences**

them, and to be introduced to potentially useful advanced techniques by those from the mathematical sciences community. A major goal of the workshop is to inspire further exploration by all participants. Moreover, we expect that the workshop will initiate a number of collaborations. We anticipate several follow-on workshops over the next several years to support these collaborations and to broaden both the depth and breadth of interaction between the mathematical sciences community and clean energy sector.



**Pacific Institute  
for Climate Solutions**  
Knowledge. Insight. Action.

[Details](#)

## **Gulf of Maine 2050 - International Symposium**

**Portland, Maine, USA - November 4 - 8, 2019**



Organization for the Gulf of Maine 2050 international symposium has started. It will integrate environmental, economic, social, and institutional perspectives on emerging climate challenges and opportunities and bring together multiple science disciplines, natural resource managers, municipal planners, representatives from key industries, a diverse mix of community leaders, non-governmental organizations, and the donor community.

The symposium interdisciplinary teams will develop scenario papers on key issues related to the Gulf of Maine in 2050 which will provide strategic insight about how potential changes related to climate and other factors could impact the Gulf of Maine environmental, community and economic conditions over the next 30 years.

For more information, contact:

Andrew Pershing, Gulf of Maine Research Institute - [apershing@gmri.org](mailto:apershing@gmri.org),

Theresa Torrent, Maine Coastal Program - [theresa.torrent@maine.gov](mailto:theresa.torrent@maine.gov),

David Stirling, Huntsman Marine Science Centre - [david.stirling@huntsmanmarine.ca](mailto:david.stirling@huntsmanmarine.ca) or

Joan LeBlanc, Gulf of Maine Council - [jleblanc@gulfofmaine.org](mailto:jleblanc@gulfofmaine.org) [www.gulfofmaine2050.org](http://www.gulfofmaine2050.org).

*Please send meeting announcements to  
David Greenberg,  
[david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)*

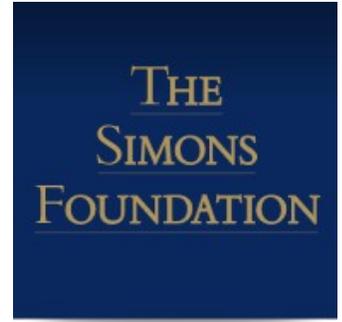
*SVP faites parvenir vos annonces de réunion à  
David Greenberg,  
[david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)*

## POSITIONS AVAILABLE

### Postdoctoral Fellowships in Marine Microbial Ecology

**Location: Any American nonprofit research university or research institution**

The [Simons Foundation](#) invites applications for postdoctoral fellowships to support research on fundamental problems in marine microbial ecology. The foundation is particularly interested in applicants with training in different fields who want to apply their experience to understanding the role of microorganisms in shaping ocean processes, and vice versa, as well as applicants with experience in modeling or theory development. While these cross-disciplinary applicants will receive particular attention, applicants already involved in ocean research are also encouraged to apply. The foundation anticipates awarding five fellowships in 2019.



Applicants should have received their Ph.D. or equivalent degree within three years of the fellowship's start date. Preference will be for applicants with no more than one year of postdoctoral experience. Applicants may be citizens of any country. Awards can only be issued to nonprofit research universities or research institutions in the U.S.

The award is for three years, contingent upon satisfactory annual progress reports.

[Details](#)

**Application deadline - June 14, 2019.**

### Executive Secretary, PICES

**North Pacific Marine Science Organization, Sidney, British Columbia**

Applications are invited for a five-year appointment to the position of Executive Secretary of the North Pacific Marine Science Organization (PICES), based in Sidney, British Columbia, Canada. PICES is an international scientific organization, established by an inter-governmental Convention in 1992. The vision, mission, strategy and goals are outlined in the PICES Strategic Plan. The governments of Canada, China, Japan, Korea, Russia, and United States are the Parties to the convention. The organization consists of the Governing Council and Science Board as well as the Finance and Administration Committee, which meet at least once a year at the Annual Meeting. Hosting the Annual Meeting rotates among the Member States and English is the official language.



The Executive Secretary is aided by a Deputy Executive Secretary, a Deputy of Administration, a Database and Web Administrator, and other staff on temporary basis.

The term of office is for five years, subject to demonstrated performance during the first two years of the term (probationary period). The term of office may be renewed at the discretion of Council. The probationary period is applicable only to the first term of office.

For more information about PICES, please contact the Executive Secretary, Mr. Robin Brown ([Robin.Brown@pices.int](mailto:Robin.Brown@pices.int)) or consult the PICES website (<http://www.pices.int>).

The starting date can be no later than May 1, 2020.

[Details](#)

**Application deadline - June 15, 2019.**

## Lecturer in Ocean Science, University of Liverpool, UK

We wish to recruit a Lecturer in Ocean Science whose research strongly matches or complements current activity in the Ocean Science research group (<https://www.liverpool.ac.uk/earth-ocean-and-ecological-sciences/research/oceans-sciences/>) and which links to other research groups across the School of Environmental Sciences (<https://www.liverpool.ac.uk/earth-ocean-and-ecological-sciences/research/>).

Current research projects within the Ocean Science group include climate variability and the global carbon cycle; North Atlantic overturning (OSNAP); the changing Arctic Ocean (e.g. ARISE); sea level (including ocean dynamics, coastal flooding and climate change); ocean turbulence and its effects on biogeochemical cycles and ecosystem structure (in shelf seas, in the mesopelagic (COMICS), over mid-ocean ridges and at the deep-sea floor (ATLAS)); the regulation of upper ocean productivity and biological feedbacks (e.g. BYONIC, ZIPLOC), global distributions, transports and bioavailability of trace metals (including GEOTRACES); analytical chemistry for aquatic pollutants. The group's research is carried out using combinations of seagoing expeditions, synthesis of large datasets, numerical modelling and analytical instrumentation (e.g. the LIFER Lab).



We are seeking a Lecturer whose research and teaching interests in Ocean Science will build on and extend our international reputation, as well as complementing wider research across the School of Environmental Sciences and the University more broadly. Applicants should demonstrate an ability to conduct relevant and internationally leading, collaborative research. You should have an ambition to develop teaching at undergraduate and postgraduate levels, including field-based teaching and taking your research into the classroom to foster an inquiry-based approach to learning.

[Details](#)

**Application deadline - April 20 2019.**

### Coastal Oceanographer / Scientist

#### New Plymouth, New Zealand

We are currently seeking a talented Coastal Oceanography /Scientist to join our consultancy team. [MetOcean Solutions](#), a division of New Zealand's MetService, is a science-based consultancy and forecast supplier providing specialist numerical modelling and analytical solutions in meteorology and oceanography. With offices across New Zealand (Auckland, New Plymouth, Raglan, and Wellington) and in Sydney, Australia (MetraWeather) our international team works on projects and data analysis world-wide. We passionately believe in rigorous scientific method and in applying the latest information technology to data services. MetOcean occupies several niche marine consultancy and service roles and has a rapidly growing forecast and hindcast sector.



The role of the coastal oceanographer/scientist is to provide data analysis, code development, numerical modelling, scientific research and technical report writing as required to support various consultancy and development projects at MetOcean Solutions.

[Details](#) [Position Description](#)

**Application deadline - April 5 2019.**

Looking for work? Try the CMOS site ([click](#)).

Vous recherchez un emploi? Visitez le site SCMO ([click](#)).

## GENERAL

### Search for Next SCOR Executive Director

The Scientific Committee on Oceanic Research (SCOR) is seeking its next full-time Executive Director to carry on from the current Executive Director, Dr. Ed Urban, who will retire this fall. SCOR is an interdisciplinary committee of the International Science Council and is the leading non-governmental organization for the promotion and coordination of international ocean science activities (see [www.scor-int.org](http://www.scor-int.org)). Thirty nations currently have national SCOR committees and form SCOR's foundation. SCOR activities include (1) working groups that address focused ocean science topics, (2) large-scale ocean research projects, (3) a variety of infrastructural activities for ocean science, and (4) ocean science capacity building.



Applicants should preferably have (1) a Ph.D. or the equivalent in a field of marine, Earth, or environmental sciences; (2) significant management experience in such a field; (3) excellent oral and written communication skills in English; (4) a record of successful grants; and (5) basic knowledge of accounting and financial management practices.

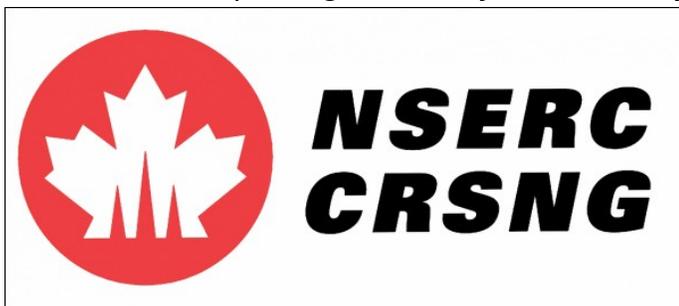
The new SCOR Executive Director will be based in United States; the SCOR Secretariat is currently located at the University of Delaware.

[Details](#)

**Deadline 1 April 2019.**

### NSERC Synergy Prizes

NSERC is looking for nominations for its Synergy Awards. These awards for Innovation honour outstanding research and development (R&D) partnerships between a university or a college, and industry, in the natural sciences and engineering. Since 1995, the Awards have showcased the benefits of pooling university and industry resources to make the most of Canadian research



excellence and Canadian industrial expertise. The nominated partnership must be in the natural sciences and/or engineering and be between a Canadian university professor, or group of professors, or a Canadian college, and a Canadian-based company or companies with commercial activities in Canada, such as R&D and/or manufacturing. The University winners (principal nominee) in each of three category will receive a

\$200,000 NSERC research grant. Industrial partners will each receive a \$30,000 voucher valid towards the cash portion of their required contribution in a new Collaborative Research and Development Grant (CRD). Details of the grant and the nomination process can be found at:

[http://www.nserc-crsng.gc.ca/Prizes-Prix/Synergy-Synergie/About-Apropos\\_eng.asp](http://www.nserc-crsng.gc.ca/Prizes-Prix/Synergy-Synergie/About-Apropos_eng.asp).

The **deadline** for nominations is **April 15, 2019**.

## A.G. Huntsman Award for Excellence in the Marine Sciences

The A.G. Huntsman Award is presented annually by the Royal Society of Canada to recognize excellence of research and outstanding contributions to marine sciences. Until 2013, the A.G. Huntsman Award had been presented in one of three categories on a rotating basis: Marine Geoscience, Physical/Chemical Oceanography, or Biological Oceanography and Fisheries Science. Recognizing there is often a considerable degree of overlap among these fields of study, more recent awards have no such categorical distinction and are simply awarded for excellence in marine sciences. The intent is not to exclude candidates that focus on single disciplines, but to acknowledge that some research defies such categorization, since it spans multiple disciplines. The overarching aim is to find and recognize truly exceptional marine scientists.



The deadline for receipt of letters-of-intent is **March 31, 2019**, sent to the Chair of the Selection Committee - Dr. Mathieu J. Duchesne, Laboratoire d'Imagerie et d'Acquisition des Méthodes, Geological Survey of Canada, Québec City - [mathieuj.duchesne@canada.ca](mailto:mathieuj.duchesne@canada.ca).

## 2019 Call for SCOR Working Group Proposals

The SCOR Secretariat will accept proposals for new working groups from now until 12:00 p.m. UCT on 15 April 2019. The text of the call for proposals, instructions for preparation, a PowerPoint presentation on the process and examples of successful proposals can be found at: <http://scor-int.org/work/groups/proposals>.



Each proposal will be evaluated by national SCOR committees in terms of scientific merit and quality, timeliness, and achievability of the proposed terms of reference. National SCOR committees are an important aspect of SCOR's operation and play a key role in reviewing working group proposals and in seeking new funds to support working group activities. In addition, the review of working group proposals is open worldwide to partner organizations and individuals who would like to provide comments.

SCOR probably will be able to support two new working groups for a start in 2020, pending availability of good proposals that pass SCOR review. Each new group will be provided US\$45,000 over a 3-4 year period to conduct its work.

**Deadline April 15 2019.**

## BioGeoSCAPES - a New Program

In an effort to explore and develop international community interest for a potential future “Biogeotraces-like” program to study the microbial biological and chemical oceanography of the oceans, a working group of 28 scientists from 9 nations met in Woods Hole in November 2018. There was strong interest in continuing this effort among the international participants, who agreed to act as ambassadors to communicate these discussions to their respective national communities. Please join us in building community support for this effort. Take a look at the [workshop report](#), and to join the email list, email [Mary Zawoysky](mailto:Mary.Zawoysky).



For information contact: [info@biogeoscapes.org](mailto:info@biogeoscapes.org) and see <https://www.biogeoscapes.org/>

## Canadian Ocean Science Newsletter Le Bulletin Canadien des Sciences de l’Océan

Previous newsletters may be found on the [CNC/SCOR](#) web site.

Newsletter #106 will be distributed in May 2019.

Please send contributions to David Greenberg  
[david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)

If you wish to subscribe to this newsletter, please send an email to [listserv@lists.mcgill.ca](mailto:listserv@lists.mcgill.ca) with the following message:

### **SUBSCRIBE OCEAN-NEWSLETTER**

If you wish to cancel your subscription, please send an email to [listserv@lists.mcgill.ca](mailto:listserv@lists.mcgill.ca) with the following message:

### **SIGNOFF OCEAN-NEWSLETTER**

Les [bulletins](#) antérieurs se retrouvent sur le site web du [CNC/SCOR](#).

Le Bulletin # 106 sera distribué en mai 2019.

Veillez faire parvenir vos contributions à David Greenberg, [david.greenberg@dfo-mpo.gc.ca](mailto:david.greenberg@dfo-mpo.gc.ca)

Si vous désirez vous abonner à bulletin, veuillez envoyer un courriel à [listserv@lists.mcgill.ca](mailto:listserv@lists.mcgill.ca) avec le message suivant:

### **SUBSCRIBE OCEAN-NEWSLETTER**

Si vous désirez annuler votre abonnement, veuillez envoyer un courriel à [listserv@lists.mcgill.ca](mailto:listserv@lists.mcgill.ca) avec le message suivant:

### **SIGNOFF OCEAN-NEWSLETTER**

## CNC-SCOR

### **Members/ Membres**

Paul Myers – Chair (U Alberta)  
Rob Macdonald – Past Chair (DFO-IOS)  
David Greenberg – Secretary (DFO-BIO)  
Markus Kienast (Dalhousie)  
Michael Scarratt (DFO-IML)  
Paul Snelgrove (Memorial)  
Stephanie Waterman (UBC)

Le Comité national canadien du Comité scientifique de la recherche océanographique (SCOR) favorise et facilite la coopération internationale. Il reflète la nature multidisciplinaire de la science océanique et de la technologie marine.

### **Members Ex-Officio/ Membres d’office**

Jody Klymak (IAPSO)  
Keith Lennon (DFO-HQ)  
Paul Kushner (President CMOS)  
Gordon Griffith (Executive Director CMOS)  
Jean-Éric Tremblay (Québec-Océan)  
David Beauchesne (Québec-Océan étudiants)  
Laura Gillard (CMOS students)  
Lisa Miller (SOLAS)

The Canadian National Committee of the Scientific Committee for Oceanic Research (CNC-SCOR) fosters and facilitates international cooperation. It is a non-governmental body that reflects the multi-disciplinary nature of ocean science and marine technology.

[WWW.CNCSCOR.CA](http://WWW.CNCSCOR.CA)