

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

**Newsletter Number 111, March 2020  
Bulletin numéro 111, mars 2020**

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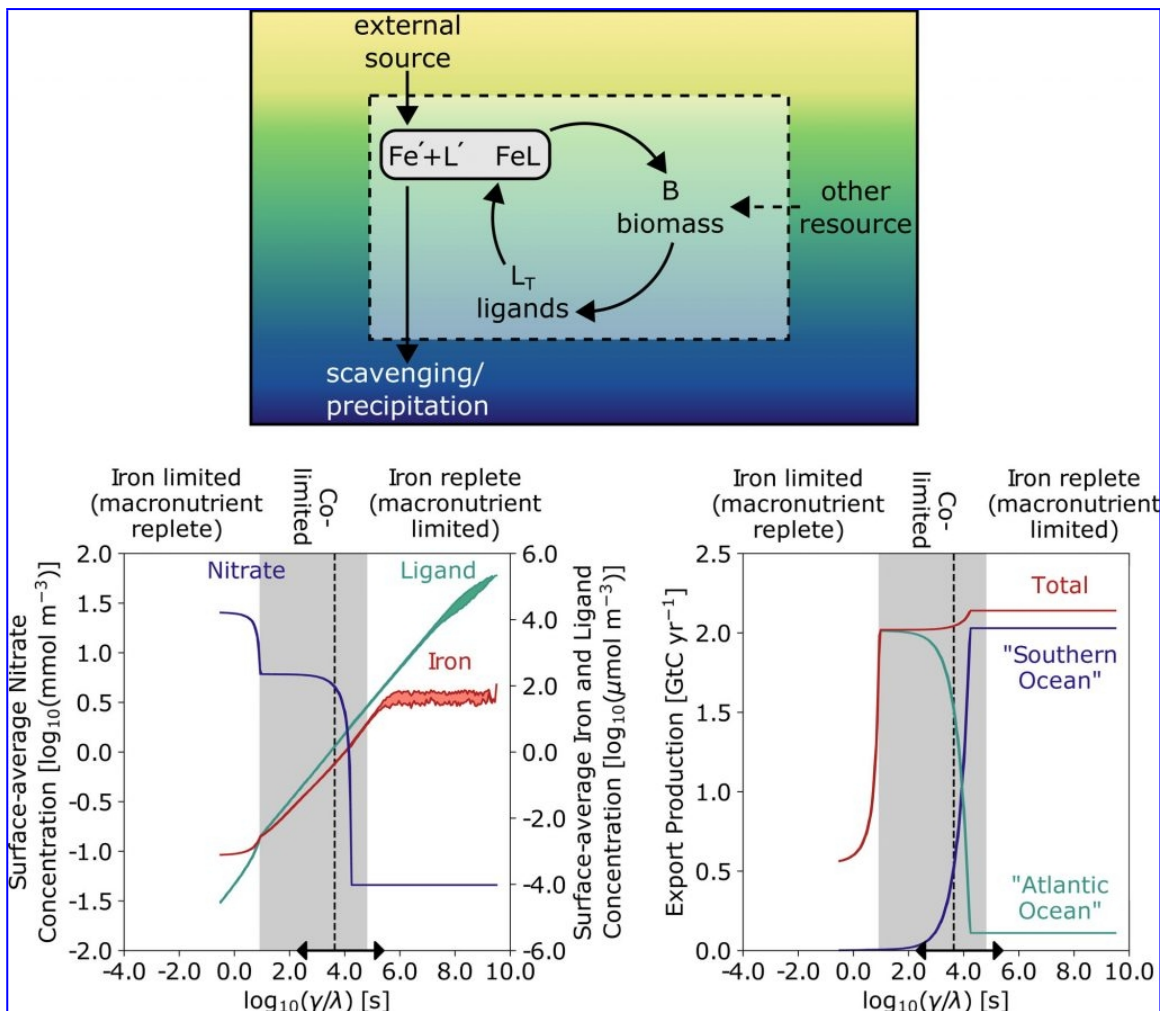
Is the global primary production at it's maximum rate?

From [GEOTRACES Science highlights](#) 25 February 2020

Lauderdale and co-authors (2020, see reference below) are seriously questioning the paradigm establishing that marine phytoplankton growth is limited by iron on a global scale.

Iron availability to marine microbes is facilitated by binding with organic molecules which, in turn, are produced by microbes. The authors hypothesize this forms a reinforcing cycle between biological activity and iron cycling that locally matches the availability of iron and other nutrients, leading to global-scale resource co-limitation between macronutrients and micronutrients, and maximizing biological productivity - adding additional iron to the ocean, even in iron-limited regions does not increase overall productivity. Idealized models support this hypothesis, depending on the specific relationships between microbial sources and sinks of organic chelating molecules. The main outcomes of this work are that:

- the marine ecosystem appears to have optimized ligand properties through evolutionary selection, beginning at the Neoproterozoic great oxidation event, when the ocean transitioned from an anoxic conditions with abundant free iron to an oxygenated ocean with only trace concentrations of organic-bound iron.
- It also confirms that geoengineering by iron fertilization appears to be ineffective in taking up additional carbon, because global primary production is already at it's maximum rate.



**Figure:** The «Ligand-iron-microbe» feedback maintains «just enough» iron in the ocean through chelating ligand production by biological activity that depends on iron abundance (top). This feedback is arrested when other resources required for growth, such as macronutrients or light, become limiting. Varying the ratio of ligand production to ligand loss rates over a wide range can generate three nutrient regimes (bottom): the “modern” regime with intermediate ligand lifetime and global-scale colimitation between iron in HNLC regions and macronutrients in oligotrophic gyres, a long-lived ligand regime with an iron-replete global ocean and near complete macronutrient drawdown, and an iron-limited short-lived ligand regime where scarce chelators cannot maintain a standing stock of iron and macronutrients remain unused. Global colimitation (bottom left), with regional limiting resource variation, is subject to a reinforcing feedback if ligand characteristics are in the appropriate regime, but it is not inevitable. Integrated export production (bottom right) reaches its maximum rate within the globally colimited regime, with unused macronutrients from the iron-limited region fuelling phytoplankton growth in the iron-replete region, and chelated iron being returned to the iron-limited regime via the Deep Ocean, fuelling partial macronutrient drawdown there. Adding additional iron to the “Southern Ocean” does not increase net production because the overall availability of resources has been tuned by marine microbes. The vertical dashed line indicates the nutrient regime of the real ocean, found by quantitative comparison of simulated nitrate, iron, and ligand concentrations to available observations in the [GEOTRACES IDP v2017](#). Click on the figure to view it larger.

Reference:

Lauderdale, J. M., Braakman, R., Forget, G., Dutkiewicz, S., & Follows, M. J. (2020). Microbial feedbacks optimize ocean iron availability. *Proceedings of the National Academy of Sciences of the United States of America*. DOI: <https://doi.org/10.1073/pnas.1917277117>

## **Paul Snelgrove DFO's first Departmental Science Adviser | Paul Snelgrove premier conseiller scientifique ministériel du MPO**

### ***From the Deputy Minister, Fisheries and Oceans Canada***

Scientific excellence is fundamental to our Department and the mandate entrusted to us by Canadians. It supports our regulatory functions, decision making, enforcement of the Oceans Act and Fisheries Act, our national leadership on oceans and aquatic ecosystems, and so much more.

I am therefore pleased to announce the appointment of Dr. Paul Snelgrove as DFO's first Departmental Science Advisor, starting on March 16, 2020.

Dr. Snelgrove is currently a Research Professor in the Department of Ocean Sciences and the Department of Biology at Memorial University of Newfoundland (MUN), Associate Scientific Director of the Ocean Frontier Institute, and Director of the NSERC Canadian Healthy Oceans Network.

Dr. Snelgrove earned a PhD from the Massachusetts Institute of Technology and the Biology Department at Woods Hole Oceanographic Institution, a Master's degree in Oceanography from McGill University, and a Bachelor of Science in Biology from MUN.

Dr. Snelgrove will maintain his academic position and will join us on a part-time basis to advance efforts to promote a strong culture of scientific excellence and innovation in our Department and throughout the Government of Canada. He will also participate in a government-wide network of Departmental Science Advisors, led by Dr. Mona Nemer, Canada's Chief Science Advisor.

*Timothy Sargent*  
Deputy Minister  
Fisheries and Oceans Canada



## **Du sous-ministre de Pêches et Océans Canada**

L'excellence scientifique est fondamentale pour notre ministère et le mandat qui nous a été confié par les Canadiens. En effet, elle nous aide dans nos fonctions réglementaires, notre processus décisionnel, l'application de la *Loi sur les océans* et de la *Loi sur les pêches*, notre leadership national en matière d'océans et d'écosystèmes aquatiques, et bien plus encore.

Je suis donc heureux d'annoncer la nomination de M. Paul Snelgrove au poste de premier conseiller scientifique ministériel du MPO, à compter du 16 mars 2020.

M. Snelgrove est actuellement professeur de recherche au département des sciences océaniques et au département de biologie de l'Université Memorial de Terre-Neuve, directeur scientifique associé de l'Ocean Frontier Institute et directeur du Réseau canadien pour la santé des océans du CRSNG.

M. Snelgrove détient un doctorat du Massachusetts Institute of Technology et du département de biologie de la Woods Hole Oceanographic Institution, une maîtrise en océanographie de l'Université McGill ainsi qu'un baccalauréat en biologie de l'Université Memorial.

M. Snelgrove conservera son poste universitaire et se joindra à nous à temps partiel pour faire progresser les efforts visant à promouvoir une solide culture d'excellence et d'innovation scientifiques au sein de notre ministère, et dans l'ensemble du gouvernement du Canada. Il fera également partie d'un réseau pangouvernemental de conseillers scientifiques ministériels, dirigé par Mme Mona Nemer, conseillère scientifique en chef du Canada.

*Timothy Sargent*  
Sous-ministre  
Pêches et Océans Canada



## **Paul LeBlond 1938 - 2020**

### **Obituary Paul Henri LeBlond, December 30, 1938 - February 8, 2020**

Surrounded by his family, Paul passed away peacefully at home at the age of 81, after a lengthy illness.

Paul was born in Quebec City and grew up in Chicoutimi. His innate curiosity and love of learning led him naturally into science, earning his undergraduate degrees at Laval and McGill Universities.

In 1963 he married Josée Michaud and together they moved to British Columbia, where they raised three children. Paul gained his doctoral degree at the University of British Columbia, which led to joint appointments in both the Physics and Oceanography Departments, from 1965-1996, and since 1996 as a Professor Emeritus.

He became a well-known and much-consulted expert in ocean dynamics specializing in waves, tides, tsunamis and beach formations. In 1978 he co-authored an important textbook *Waves in the Ocean* with Lawrence Mysak.

During his career he was honoured with many awards including: President 's Prize, Canadian Meteorological & Oceanographic Society (CMOS); CMOS Tully Medal; Fellow of CMOS; Honorary Doctorate in Science, Memorial University; Fellow of the Royal Society of Canada;





Foreign Member of the Russian Academy of Natural Science; and Wooster Award, North Pacific Marine Science Organization (PICES).

Paul made major contributions to many other scientific organizations as well, including:

World Ocean Circulation Experiment (WOCE); Pacific Fisheries Resource Conservation Council (PFRCC); Canadian Ocean Frontiers Research Initiative (COFRI); the Ocean Production Enhancement Network (OPEN); and the Natural Sciences and Engineering Research Council (NSERC).

Paul traveled extensively for his work, and learned languages as he went. He was fully fluent in French and English, and spoke German, Russian and Spanish.

As a dynamic teacher and researcher, he was an inspiration to his students for over 30 years. His friendly, easy going but authoritative style of teaching was admired by all. He loved his students and treated them with much respect, often saying that he learned as much from them as they did from him.



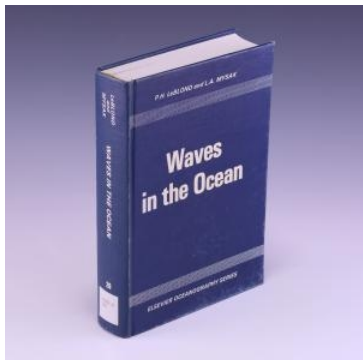
Paul’s love of science and discovery led him to investigate sightings of unidentified marine mammals such as Cadborosaurus seen many times in the local waters of the Salish Sea. This passion led him to co-found the International Society of Cryptozoology and the British Columbia Scientific Cryptozoology Club (BCSCC). He co-authored and published two books, Cadborosaurus: Survivor of the Deep (with Ed Bousfield) and Discovering Cadborosaurus (with John Kirk and Jason Walton). He also translated several books on the subject.

A few years after his first marriage ended he met and fell in love with artist Annette Shaw. They spent a sabbatical year in France, enjoyed traveling and exploring the world. In 1990 they moved to Galiano Island where Paul became an active member of the community and local organizations including the Museum Society, Trails Society, Parks and Recreation, Galiano Island Recycling Resources, Tour des Îles, the CRD, the Economic Development Committee and Transportation Committee, to name a few.

Galiano Island was the perfect place for Paul to retire and continue enjoying his love of the ocean and the outdoors, camping, swimming, hiking, trail building, chopping wood, reading and always learning something new.

Throughout his life, he exemplified generosity, kindness and a love of learning. He expressed his zest for life in all he did, and inspired those who met and worked with him.

Paul was predeceased by his parents: Sylvio and Jeanne, and will be lovingly remembered by his wife Annette; his children: Michel, Philippe and Anne (Fred Delgiglio); step-daughter: Jenny Breukelman; grandchildren: Mikayla, Nina, Cody and Tia; his brother: Pierre (Michèle); his nephew and nieces; and his former wife Josée (Boyd).



The family is profoundly grateful to Dr. Erin Carlson and her medical team for their great care and compassion. Memorial donations can be made in Paul name to the Galiano Health Care Society, 908 Burrill Rd, Galiano Island, V0N 1P0, by cheque, or online at [www.galianohealth.org](http://www.galianohealth.org).

To leave a condolence please go to [www.earthsoption.com](http://www.earthsoption.com).

<https://www.tributearchive.com/obituaries/10996835/Paul-Henri-LeBLOND> (downloaded Mar. 6, 2020) with minor edits from Bob Jones, CMOS, Ottawa

<p><i>This section of your newsletter provides an opportunity to highlight your research programs to the Ocean Science Community.</i></p> <p><i>Your are invited to send contributions to David Greenberg, <a href="mailto:david.greenberg@dfo-mpo.gc.ca">david.greenberg@dfo-mpo.gc.ca</a></i></p>	<p><i>Mettez en valeur vos programmes de recherche en publiant un article dans cette première section de votre bulletin.</i></p> <p><i>Faites parvenir vos contributions à David Greenberg, <a href="mailto:david.greenberg@dfo-mpo.gc.ca">david.greenberg@dfo-mpo.gc.ca</a></i></p>
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## MEETINGS

### 54th CMOS Congress

Ottawa, May 24-28, 2020



#### **\*Mise à jour\***

22 mars 2020

Chers membres de la SCMO et participant(e)s au Congrès de la SCMO,

Nous aimerions vous donner une brève mise à jour concernant le Congrès de la SCMO à Ottawa, qui est prévu du 24 au 28 mai 2020. Les présidents du Comité des arrangements locaux (CAL) et du Comité du programme scientifique (CPS), ainsi que l'Exécutif national de la SCMO, continuent de suivre quotidiennement l'évolution rapide de la situation du COVID-19.

Nous évaluons actuellement toutes les options pour le Congrès. Dans l'intervalle, nous suspendons l'enregistrement pendant plusieurs semaines en attendant de voir quelles autres mesures gouvernementales sont prises.

Nous informerons les membres de la SCMO et les participant(e)s au Congrès de tout changement, et des mises à jour seront publiées sur le [site Web du Congrès de la SCMO](#). La santé et la sécurité de nos amis, collègues et des communautés restent notre priorité absolue.

Nous communiquerons plus tard avec vous au sujet de la programmation de l'Assemblée générale annuelle 2020 de la SCMO et d'autres réunions d'affaires qui ont normalement lieu pendant le Congrès. L'assistance à distance sera activée, comme c'était le cas l'année dernière.

Pour plus d'informations, voir:

[Ministère de la Santé de l'Ontario](#)

[Santé publique Ontario](#)

[Agence de la santé publique du Canada](#)

[Organisation mondiale de la santé](#)

[Site COVID-19 du gouvernement du Canada](#)

[Immigration, Réfugiés et Citoyenneté Canada](#)

*Kimberly Strong*, présidente de la SCMO

*Bruce Angle*, président du comité local d'organisation du Congrès 2020 de la SCMO

*Leonard Barrie* et *Gordon McBean*, coprésidents du comité du programme scientifique du Congrès 2020 de la SCMO

*Gordon Griffith*, directeur général de la SCMO



#### **\*Update\***

March 22, 2020

Dear CMOS members and CMOS Congress participants,

We would like to give you a brief update regarding the CMOS Congress in Ottawa, which is scheduled for May 24-28, 2020. The Chairs of the Local Arrangements Committee (LAC) and the Scientific Program Committee (SPC), along with the CMOS Executive, continue to monitor the rapidly evolving COVID-19 situation on a daily basis.

We are currently evaluating all options for the Congress. In the meantime we are pausing registration for several weeks while we wait to see what further government actions are taken.

We will inform CMOS membership and Congress participants of any changes, and updates will be posted on the CMOS Congress website. The health and safety of our friends, colleagues, and communities remain our top priority.

We will communicate with you later about the scheduling of the 2020 CMOS Annual General Meeting and other business meetings that normally take place during the Congress. Remote attendance will be enabled, as it was last year.

For further information see:

[Ontario Ministry of Health](#)

[Public Health Ontario](#)

[Public Health Agency of Canada](#)

[World Health Organization](#)

[Government of Canada Travel Advice \(COVID-19\)](#)

[Immigration, Refugees and Citizenship Canada](#)

*Kimberly Strong, CMOS President*

*Bruce Angle, 2020 CMOS Congress LAC Chair*

*Leonard Barrie and Gordon McBean, 2020 CMOS Congress SPC Co-Chairs*

*Gordon Griffith, CMOS Executive Director*

## **CBE7 Postponed**

### **Planned for 23-28 August 2020, São Paulo, Brazil**

[The 7th International Symposium on Chemosynthesis-Based Ecosystems](#) (CBE7) Local Organizing Committee would like to inform you that **CBE7 is postponed in light of the global Coronavirus situation**. The Committee has considered the local São Paulo and Brazilian health advice as well as the global response to the pandemic.

We apologize for the inconvenience to all participants, speakers, sponsors and exhibitors, but the current global situation has made this decision inevitable. Despite the delay, we remain committed to holding CBE7 at a future date, most probably in the first quarter of 2021, preserving scientific topics as much as possible, as well as our wonderful team of Scientific Committee and plenary speakers.



Our team is working hard on rescheduling plans, and is available to answer any questions or concerns you may have. We will inform our CBE community and post updates on the website as soon as we confirm the dates and details for CBE7 - 2021.

**For participants who already submitted abstracts:** We will restart the abstracts submission process again for CBE7. So please, hold your abstracts, refine them, and resubmit them after the rescheduled CBE7 date is announced and submission pages reopen.

**For participants who already registered:** We hope that most of you will be able to attend CBE7 in 2021. Your registration fees can be carried forward for CBE7 2021, or fully reimbursed. Please contact [cbe7brazil@gmail.com](mailto:cbe7brazil@gmail.com) for more information.

Let's stay safe, healthy and virtually united in these challenging times!

ATÉ BREVE!

Organizing Committee,

*Camila Signori, Cristina Nakayama, Maurício Shimabukuro, Paulo Sumida & Vivian Pellizari*

## BACO-21 Joint Assembly

### Busan, Korea, July 18 to 23, 2021

Busan IAMAS-IACS-IAPSO Joint Assembly 2021 will be held from July 18 to 23, 2021. The 6-day event will attract distinguished colleagues from government, academia and industries from around the globe, who will participate in scientific presentation and discussion, exchanges of information, and international earth science cooperation. Participants at this prestigious global gathering will enjoy an exceptional scientific program with supporting events such as 'Earth Environment Film Festival' and 'Young Scientists Night'.

Busan is the second largest city in Korea known as an ocean tourism city with 7 beautiful beaches. It is also a city of festival, holding festivals and events all year round, including the Busan International Film Festival, one of Asia's most prestigious film festivals, and Busan International Fireworks Festival. The close proximity to UNESCO World Heritage designated treasures in Gyeongju, along with the beautiful resort of Jeju, which lays just a short flight from Busan, are just some of the unique experiences for international delegates to enjoy.



#### [Details](#)

**Deadline** for session proposals - **15 April 2020.**

Abstract and early bird registration **open Sept 1, 2020.**

## XMAS-V

### Xiamen, China, from January 11 - 14th, 2021

The fifth Xiamen Symposium on Marine Environmental Sciences, XMAS-V, will be held in Xiamen from January 11th to 14th, 2021. XMAS-V will focus on how Multidisciplinary Sciences Can Serve a Sustainable and Healthy Ocean. The symposium will consist of different, interconnected sessions covering physical oceanography, marine biogeochemistry, biological oceanography, and marine ecotoxicology along with workshops for emerging topics in marine environmental sciences such as how to achieve the goals outlined in the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). It will also be one of the important hallmarks of Xiamen University's centenary celebrations.

We are now calling for session and mini workshop proposals. The deadline for proposal submission is May 15, 2020. Limited financial support will be available for each session. Please check the details in (SESSION CALL). For questions, please contact us via email ([xmas@xmu.edu.cn](mailto:xmas@xmu.edu.cn)).

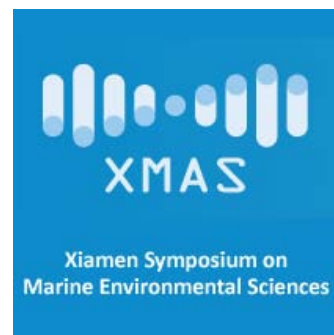
#### [Details](#)

Important dates

**Deadline** Session/Workshop Proposals - May 15, 2020.

Abstract Submission June 1 - August 31, 2020.

Registration October 1-31, 2020.





## Sustainable Oceans Conference

**Halifax, September 25, 26, 2020**

The Sustainable Oceans Conference is a free public event that brings together a wide audience. The goal is to promote opportunities for collaboration to address the range of issues affecting our ocean. The annual conference is supported by the Sobey Fund for Oceans and is organized annually by the students of the Marine Affairs Program at Dalhousie University. It is the only student-led conference of its kind in Atlantic Canada, and is being held for the 9th consecutive year. This year, the conference will take place on September 25th and 26th, at Dalhousie University, located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. The conference will explore the theme Local Ripples, Global Waves, bringing together a diverse audience of students, faculty, members of the marine community, and the public.

The logo for the Sustainable Oceans Conference. It features the words "SUSTAINABLE" and "OCEANS" in a bold, black, sans-serif font. The letter "A" in "OCEANS" is replaced by a blue water droplet icon. The entire logo is enclosed in a black rectangular border.

[Details](#)

Abstract deadline **April 15th, 2020.**

*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

### Research Associate - Coupled Biological-Chemical-Physical Ocean Modelling Earth, Ocean and Atmospheric Sciences, UBC, Vancouver

The Department of Earth, Ocean and Atmospheric Sciences at the University of British Columbia invites applications for a Research Associate in the field of coupled biological-chemical-physical ocean modelling. The candidate will be expected to take a lead role in performing modeling analyses for a variety of problems related to biological productivity of the Salish Sea, the processes that control it and its spatial and temporal variability. In addition, the candidate will be required to contribute to the maintenance of the SMELT and SalishSeaCast code bases, detailed biological model evaluations and is also expected to contribute to model developments. Other responsibilities include the mentoring of research students on modeling-related tasks, addressing inquiries from external SalishSeaCast stakeholders, report preparation, and the publication of research results in peer-reviewed, leading international journals. Minimum Requirements: A Ph.D. in oceanography or a related field with a strong quantitative background plus three years of post-doctoral experience with coastal biological ocean modelling.



THE UNIVERSITY  
OF BRITISH COLUMBIA

[Details](#)

**Deadline April 25, 2020**

### Professeure ou professeur en océanographie géologique

#### ISMER, Rimouski, QC

L'Institut des sciences de la mer de Rimouski (ISMER), un centre de recherche multidisciplinaire en océanographie, est à la recherche d'une nouvelle professeure ou d'un nouveau professeur en océanographie géologique avec spécialité en géochimie isotopique



Université du Québec à Rimouski  
Institut des sciences de la mer de Rimouski

La personne sélectionnée sera encouragée à développer son propre secteur de recherche, à développer et gérer son laboratoire et sera amenée à collaborer avec les chercheurs de l'ISMER et des autres départements de l'UQAR. La personne retenue devra être en mesure de participer aux programmes de maîtrise, de doctorat et au DESS en océanographie par l'encadrement d'étudiants aux cycles supérieurs. La langue de travail est le français.

[Détails](#)

L'analyse des candidatures a déjà débuté et se poursuivra jusqu'à ce que le poste soit comblé.

## Professeure ou professeur en écologie des poissons

### UQAR, Rimouski, QC

L'Université du Québec à Rimouski, qui accueille annuellement environ 7000 étudiants principalement aux campus de Rimouski et de Lévis, désire engager une professeure ou un professeur régulier en écologie des poissons, rattaché (e) au Département de biologie, chimie et géographie au campus de Rimouski.

La personne recherchée doit détenir un doctorat en biologie ou dans une discipline pertinente au profil recherché.

La ou le professeur(e) devra posséder une expertise en biologie, écologie ou évolution des poissons. Ce ou cette professeur(e) s'intégrera une équipe de professeurs en biologie s'intéressant notamment à l'écologie animale, la physiologie évolutive, l'écologie moléculaire, les changements globaux en milieu marin et la paléontologie.

La personne retenue pourra également s'investir au sein du groupe de recherche Boréas sur les environnements nordiques.

La personne retenue devra participer à l'enseignement au 1er et/ou 2e cycles universitaires.

#### [Détails](#)

Date d'entrée en fonction : 1<sup>er</sup> décembre 2020

**Date limite 1<sup>er</sup> août 2020 à 16 h 30**



Université du Québec  
à Rimouski

## Coastal Engineer / Hydrodynamic Modeller

### Wood, Dartmouth NS and Ottawa ON

Wood is seeking a Coastal Engineer or Hydrodynamic Modeller to join the Oceanography Group based in Dartmouth, Nova Scotia and Ottawa, Ontario.

The Oceanography Group, an integral part of Wood's Met-Ocean Services unit, delivers comprehensive consulting, analytical and numerical modelling applications to support clients in a wide range of offshore and coastal operations, as well as the design and engineering of critical infrastructure. Our research interests include deterministic and probabilistic flood hazard assessment due to tsunami, storm surge and waves; ocean and estuarine circulation; sediment and contaminant transport; oil spill and ice trajectory forecasting; and statistical analysis of climatological normals and extremes to support the development of design criteria including the projected effects of climate change. The work is stimulating, fast-paced and challenging, with scope and opportunities for professional growth and collaboration with interdisciplinary teams within Canada and across the world.

#### [Details](#)

#### [Applying](#)

No deadline given



## Positions with Fisheries and Oceans Canada

People looking for jobs within the Canadian Government should frequently monitor the [Government Jobs Website](#) and use the [Job Search](#) page. Many competitions are posted for short periods of a week or two, so they are unlikely to make it into this bimonthly newsletter. Other competitions are open for an extended time to create a pool of acceptable



candidates who could be quickly hired as openings occur. To [apply online, you need to register](#). Here is an example of a general call for applications:

**Physical Scientist II** - Fisheries and Oceans Canada - Canadian Hydrographic Service Sidney (British Columbia), St. John's (Newfoundland and Labrador), Dartmouth (Nova Scotia), Burlington (Ontario), Dorval (Québec), Mont-Joli (Québec) - PC-02 \$68,891 to \$82,590. **Closing date:** 23 December 2020 - 23:59, Pacific Time. The intention of this process is to staff multiple PC-02 positions for term and indeterminate appointments at various Canadian Hydrographic Service (CHS) locations across Canada. A pool of qualified candidates may be established and used to staff similar positions with various tenures, language requirements and security requirements within Fisheries and Oceans Canada anywhere in Canada where CHS offices are located.

While key activities may vary from position to position, in general, a Physical Scientist II employee is expected to:

- Plan, organize and undertake assigned scientific projects to create enhanced knowledge, concepts and methodologies in physical & environmental science.
- Provide scientific information, advice and recommendations to managers, researchers, colleagues and external clients on issues such as the conduct, methodologies, and the findings of scientific projects and investigations.
- Participate in the development of new instrumentation, methods, technology, quality control and assurance procedures, and protocols for the collection and analysis of scientific data.
- Develop open source coding to produce, deliver and show case e-navigation products.

...

**Positions to be filled:** Number to be determined

[Details](#) for this competition.

## Chief Chemical Oceanographer/Marine Chemist

**Pacific Northwest National Laboratory (PNNL), Sequim, WA, USA**

PNNL's [Marine Sciences Laboratory \(MSL\)](#) is developing robust marine research programs in Sustainable Environmental Systems focused on renewable ocean energy, climate change impacts in the coastal ocean, ecological restoration, ecotoxicology, marine biotechnology, and contaminant fate and effects in the coastal ocean.

This position will identify and steward growth areas in coastal/marine chemistry, lead proposals, and manage and carry out research projects/programs strategic to the energy, environment, and security focus of the MSL. The incumbent will be responsible for growth in MSL programs focused on research and technology development in marine chemistry.

This could include ultra-trace analytical chemistry, investigations into minor and trace element biogeochemical cycling, extraction of minerals from seawater, sediment biogeochemistry, marine radiochemistry or another relevant area of growth.

The Chief Scientist will work with an interdisciplinary team of scientists and engineers to manage and grow a biogeochemistry program, building on the facilities and expertise that already exists at the MSL.

[Details](#)

**No deadline given**



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

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



## GENERAL

### Geoscience Online Learning Initiative modules free

With many geoscience programs now needing to quickly shift to online teaching, the American Geosciences Institute (AGI) wants to make sure all faculty are aware of the 29 modules in the free-to-take Geoscience Online Learning Initiative (GOLI) platform, which is a joint effort of AGI, AIPG, SEPM, and ASBOG. GOLI courses range in duration from 1 to 10 hours in length, addressing a range of geoscience topics and skills from writing in the geosciences to geoethics to advanced environmental geochemistry, among others. These modules are ready to go and available for your students right now.

GOLI courses are always free-to-take. If a student wishes to earn continuing education credits for successfully completing the course and apply them towards licensing or other professional needs, they have the option to pay a nominal fee. Please visit

<https://goli.americangeosciences.org> or for more information about the program in general:

<https://www.americangeosciences.org/workforce/goli>.



If you have any questions regarding GOLI, feel free to email [goli@americangeosciences.org](mailto:goli@americangeosciences.org).

### Glossary of Geology Online Service Free Through June 30

The American Geosciences Institute (AGI) is providing free individual access to its Glossary of Geology Online Service through June 30, 2020 in order to assist students, educators and other geoscience professionals who may be forced to sequester at home due to the spread of COVID-19.

The online Glossary provides access to the more than 39,000 glossary entries contained in the Fifth Edition of the print Glossary. Users can learn the difference between look-alike pairs, such as sylvanite (a mineral) and sylvinitite (a rock); the origin of terms; the meaning of abbreviations and acronyms common in the geoscience vocabulary; the dates many terms were first used; the meaning of certain prefixes; and the preferred term of two or more synonyms. Many Glossary entries contain a syllabification guide and background information.

To get the Online Glossary free of charge go to

<https://www.americangeosciences.org/glossary/register.html> and set up your own password/login.

There is no obligation and AGI does not sell nor rent personal information. If you cannot use the online service, or know someone that can't, we have a drastically reduced [bundle of the print versions of the Geoscience Handbook and Glossary of Geology available for only \\$80.00](#).

For more information on this and anything else at AGI please contact John Rasanen at [jr@americangeosciences.org](mailto:jr@americangeosciences.org).

**About AGI** AGI was founded in 1948, under a directive of the National Academy of Sciences, as a network of associations representing geoscientists with a diverse array of skills and knowledge of our planet. The Institute provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

## CMOS Graduate Scholarship

There is still time to apply for the CMOS Graduate Scholarship. The **CMOS - Weather Research House NSERC Scholarship Supplement** is awarded to a student in atmospheric or ocean sciences who has succeeded in winning an NSERC Postgraduate Scholarship or an NSERC Alexander Graham Bell Canada Graduate Scholarship.



**CMOS-SCMO**

Canadian Meteorological and Oceanographic Society  
Société canadienne de météorologie et d'océanographie

This supplement provides support to high-calibre students who are working towards a master's or doctoral degree in atmospheric or oceanic sciences. CMOS grants **one** new award each year. The initial award is \$5,000. This is renewable for a second year provided the student continues to hold the NSERC postgraduate scholarship.

At the time of application for the scholarship supplement, the student must be studying or planning to study atmospheric or oceanic sciences in a recognized postgraduate program. All branches of atmospheric sciences, including hydrology, are acceptable. In the oceanic and limnological sciences, biological research is **not** accepted, unless it is as an indicator of physical/dynamical/chemical processes.

[Details](#)

## POGO-SCOR Visiting Fellowship 2020

### NOTICE FOR POGO TRAINEES AND APPLICANTS:

Given the current worldwide public health situation, POGO has been in regular communication with its training partners and urges current scholars to follow their host institute's rules and recommendations regarding travel, home working and self-isolation.

For upcoming trainings, we will continue with selection processes and remote interviews, however, it is highly likely that training cruises and courses scheduled for the first semester of 2020 may be postponed. If you have any questions, please contact [pogoadmin@pml.ac.uk](mailto:pogoadmin@pml.ac.uk) ([link sends e-mail](#)).

The Partnership for Observation of the Global Ocean (POGO) and Scientific Committee on Oceanic Research (SCOR) are pleased to announce that the POGO-SCOR Visiting Fellowship programme for 2020 is now open for applications.

The deadline for applications has been extended to **30 April 2020**

The scheme is designed to promote training and capacity development, leading towards a global observation scheme for the oceans, and is aimed at scientists, technicians, graduate students (preferably PhD) and post-doctoral fellows involved in oceanographic work at centres in developing countries and countries with economies in transition.

Priority is given to applicants in the early stages of their career development. The fellowship offers the opportunity to visit other oceanographic centres for a short period (1 to 3 months) for training on aspects of oceanographic observations, analyses, and interpretation. It provides financial support to cover the return airfare from the fellow's home country to the host institution, and a contribution towards accommodation and subsistence for the period of the visit.

For more information and details on how to apply please see: <http://ocean-partners.org/pogo-scor-fellowship> All applications should be made via the [marinetraing.eu](http://www.marinetraing.eu) website, at

<http://www.marinetraing.eu/POGOSCOR2020>

Please e-mail [pogoadmin@pml.ac.uk](mailto:pogoadmin@pml.ac.uk) should you have any queries and feel free to circulate this announcement to anyone you think might be interested.



## Huntsman Medal Nominations Open

The A.G. Huntsman Medal is an international award presented annually by the Royal Society of Canada at a ceremony usually held at the Bedford Institute of Oceanography. The award recognizes excellence of research and outstanding contributions to marine sciences. It is awarded to those individuals, of any nationality, who have had and still have a significant influence on the course of marine scientific thought according to the following three criteria: for unequalled excellence in their respective fields; for the influence of their work on the course of scientific thought in their respective fields; and for their continuing and current activities at the forefront of their respective fields.

Nominations are welcome for candidates in physical, chemical, geological, biological, fisheries, and interdisciplinary marine sciences. Nominators are encouraged to consider candidates of different genders, global geographical regions and cultural backgrounds. The **deadline** for receipt of letters-of-intent is March 31, 2020. For details, please visit [www.HuntsmanAward.org](http://www.HuntsmanAward.org), or download the [instructions](#) in printer-friendly format.

William Li, PhD  
President, A.G. Huntsman Foundation  
Bedford Institute of Oceanography  
Dartmouth, Nova Scotia  
Canada  
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## 2020 Call for SCOR Working Group Proposals - Deadline extension

Due to the many restrictions imposed to mitigate the impact of COVID-19, SCOR has extended the reception of Working Group proposals to the 8th of May 2020.

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.

The guidelines, a template, and word limits are available [here](#), including a PowerPoint presentation explaining the proposal process.

Annual SCOR meetings are open, but anyone submitting a proposal or included in a proposed working group membership will be asked to leave the room when their proposal is discussed, to avoid any appearance of favoritism toward proposals that are represented at the meeting by a proponent. Please contact [me](#) if you have any questions about the process for working group proposals.

Patricia Miloslavich  
SCOR



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

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

Newsletter #112 will be distributed in **May 2020**.

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

## Subscribing and Unsubscribing

If you wish to subscribe to this newsletter or cancel your subscription, please visit the website:

<http://www.mailman.srv.ualberta.ca/mailman/listinfo/cnc-scor>

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

Le Bulletin #112 sera distribué en **mai 2020**.

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

## Abonnement et désabonnement

Si vous souhaitez vous abonner à cette newsletter ou annuler votre inscription, veuillez visiter le site web:

<http://www.mailman.srv.ualberta.ca/mailman/listinfo/cnc-scor>

## CNC-SCOR

### Members/ Membres

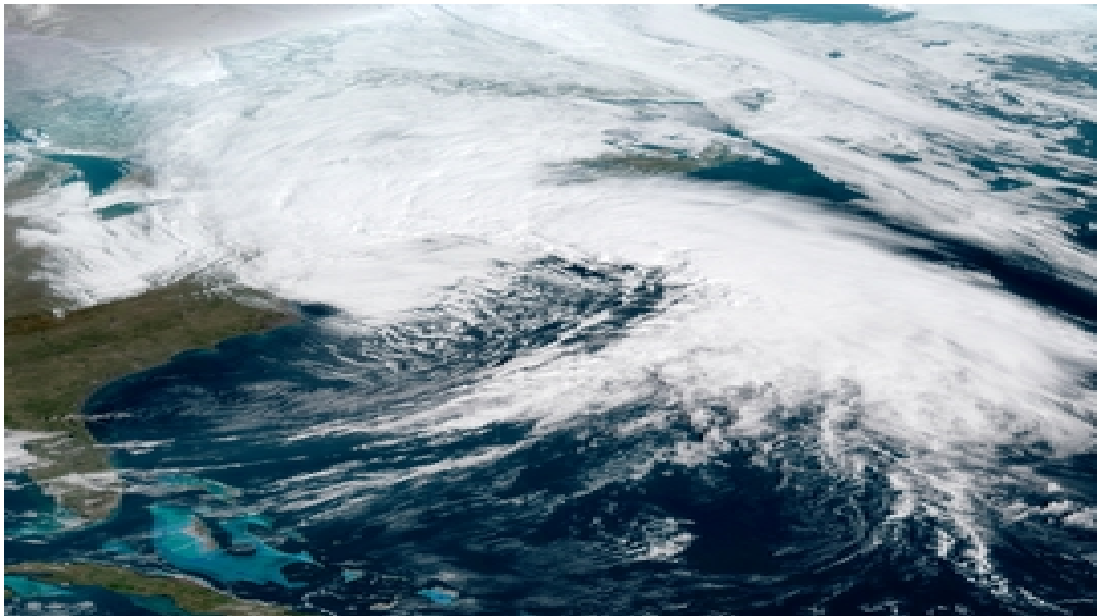
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Markus Kienast (Dalhousie)  
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Stephanie Waterman (UBC)  
David Fissel (ASL)

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

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Jay Cullen (Geotraces)

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 multidisciplinary nature of ocean science and marine technology.



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