

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

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## **Table of Contents**

OCEAN SCIENCE NEWS.....	2
ArcticNet Renewed: Update from the ArcticNet Annual Scientific Meeting, Dec. 2-5, 2019, Halifax NS.....	2
New Members of the Order of Canada from the Ocean Science Community.....	3
MEETINGS.....	5
54 <sup>e</sup> Congrès CMOS 54th annual Congress.....	5
ASLO - SFS 2020 Joint Summer Meeting.....	7
Ocean Optics XXV.....	8
Future Directions in Basin and Global High-resolution Ocean Modelling.....	8
POSITIONS AVAILABLE.....	9
Postdoc position in physical oceanography of polar regions.....	9
MSc Carbon Uptake.....	9
Doctorat - Sources de contaminants organiques émergents dans l'habitat du béluga en voie de disparition dans l'estuaire du Saint-Laurent.....	10
Assistant Professors (3) in Active Geologic Processes.....	10
Scientist - Applied Ocean Physics & Engineering (Ocean Acoustics).....	10
15 Positions - Global Mercury Observation and Training Network.....	11
GENERAL.....	12
Summer School on "Physics of the Ocean".....	12
CMOS Bulletin.....	12
OERA Webinar Series - January to June 2020 Line-up.....	13
2020 CMOS Scholarships/Bourse d'études de la SCMO.....	14
Crowdfunding for SCOR Visiting Scholars Program.....	14
2020 Call for SCOR Working Group Proposals.....	15
Canadian Ocean Science Newsletter Le Bulletin Canadien des Sciences de l'Océan.....	16
CNC-SCOR.....	16



## OCEAN SCIENCE NEWS

### ArcticNet Renewed: Update from the ArcticNet Annual Scientific Meeting, Dec. 2-5, 2019, Halifax NS

**David Fissel**

Chair of the Arctic Special Interest Group of the Canadian Meteorological and Oceanographic Society (CMOS); ASL Environmental Sciences Inc., Victoria BC

The ArcticNet Annual Scientific Meeting (ASM) has been the largest Arctic & Northern research gathering held in Canada for many years now. The 2019 meeting, held in Halifax NS in December, attracted more than one thousand Arctic scientists and others. This is the first ArcticNet ASM held since the April 2019 announcement that the ArcticNet Network of Centre of Excellence (NCE) was renewed for another five years of funding in the amount of \$32,475,000. The ArcticNet renewal was unprecedented for an NCE after the full original funding cycle, spanning 14 years from 2004 - 2018, had run its course.



Photo Credit: Martin Fortier, U. Laval

A central theme of the meeting was presenting research to provide better understandings and developing responses to the growing scientific consensus around climate change, most notably the increasing rate of melting Arctic sea ice. A very informative plenary session was presented on the climate change crisis and opportunity in the Arctic based on reflections on the findings of the recent Intergovernmental Panel on Climate Change's Special Report on Ocean and Cryosphere (<https://www.ipcc.ch/srocc/>). This session included an overview on the IPCC report by co-author Dr. Chris Derksen, Environment and Climate Change Canada as

well as related presentations by Sharilee Harper, University of Alberta and Stephanie Meakin, Senior Science Advisor, Inuit Circumpolar Council Canada.

The meeting featured over 275 oral papers and over 225 poster papers spanning a wide range of natural and social science disciplines. The full programme for the ArcticNet ASM is available at <http://arcticnetmeetings.ca/docs/programasm2019-web.pdf>.

The meeting showcased the new leadership within the ArcticNet ASM with the presentations of two additional scientific co-directors of ArcticNet in addition to the founding ArcticNet scientific director, Professor Louis Fortier at Université Laval. The two new scientific co-directors are: Professor Jackie Dawson, of the University of Ottawa, and Professor Philippe Archambault, at Université Laval.

Professor Philippe Archambault highlighted the diversity of past ArcticNet initiatives saying that "From engineering solutions to stabilize the runway of Iqaluit airport to health programs in Nunavik, from assessing the risk of drilling for oil in the Beaufort Sea to helping define the border between Canada and Greenland in Nares Strait, we have inventoried no less than 130 instances in which the knowledge created by ArcticNet and its partners has informed decision, action, and policy in the North." Looking forward, Professor Dawson said that "over the next 5 years, ArcticNet will focus on two major research axes: informing the sustainable development of the Canadian Arctic Blue Economy (shipping, fisheries, tourism, and mining), and building postsecondary research and training capacity through our new North-by-North initiative". The main themes for the Core Research Program over the next five years are: Marine and Terrestrial Systems, Health and Education and Policy and Development which will make use of Partnerships and Knowledge Exchange.

The new ArcticNet North by North Program, funded at about \$9 million over five years, was highlighted at a plenary session during the meeting as a new mechanism to enable northerners to become more involved in northern research. This program is made up of a Northern College-led program and an Inuit-led program. The Northern College-led program provides funding to the three territorial colleges for research. This coincides with Yukon College transitioning into becoming Yukon University in May 2020; with Northwest Territories based, Aurora College, also undergoing a change to become a polytechnic university; and with ongoing evolution and development of Nunavut-based Nunavut Arctic College. Proposals for funding under the Inuit-led program will be reviewed by ArcticNet's Inuit advisory council and will then be recommended for approval by the board of directors.



Photo Credit: Martin Fortier, U. Laval

The recently appointed new Executive Director of ArcticNet, Christine Barnard, figured prominently in the meeting. An ArcticNet press release states that “Dr. Barnard is responsible for the successful leadership and management of the Network according to the strategic direction set by the Board of Directors. Working closely with the Scientific Directors, she provides the leadership and direction for all network operations”. Dr. Barnard succeeds the previous ArcticNet Executive Directors: Dr. Marin Fortier (2004-2016) and Leah Braithwaite (2016-2019).

## New Members of the Order of Canada from the Ocean Science Community

Three members of Canada's oceanography community were recognized by being named to the Order of Canada. All have some Arctic connections.

**Robie W. Macdonald**, Victoria. For having identified the effects contaminants have on northern marine ecosystems and on nearby Indigenous communities. Dr. Macdonald directs interdisciplinary programs to study the environmental pathways of contaminants including their delivery, transport, and elimination from aquatic systems. A variety of settings are studied including Arctic shelves and basins, British Columbia fjords, the Strait of Georgia, and lakes in the Fraser River basin. He determines the behaviour of contaminants in the context of natural systems bringing to bear such tools as water-mass analysis, transient and steady state tracers, stable isotope analyses (oxygen, carbon and lead), the determination of particle fluxes and sedimentation rates, multivariate statistics and modeling. Most of the major contaminant groups have been studied including PAH, metals, radionuclides, organochlorines, and other synthetic organic compounds like the nonylphenol ethoxylates.



Dr. Robie W. Macdonald, DFO  
Emeritus Scientist, IOS

**Peter Harrison**, Ottawa. For his dedication to Canada's stewardship of the Arctic Ocean and to the enhancement of its role in Arctic and northern issues. Dr. Harrison is Professor Emeritus in the School of Policy Studies (SPS) at Queen's University, and the former Stauffer-Dunning Chair





and Director of the School (2009-2013). He joined SPS as the federal “Skelton-Clark Fellow” in 2008. His key contributions include: shepherding the ratification of the United Nations Convention on the Law of the Sea (UNCLOS) by Canada in 2003; the creation of the “Oceans Action Plan” (2003); the investment of \$150 million in the International Polar Year; the development of the previous government’s Northern Strategy; and the early commitment to the new “Canadian High Arctic Research Station” (CHARS) . He was the Chair of the “International Polar Year (IPY) Conference: From Knowledge to Action” which was held in Montreal in April 2012. For a number of years he has been the Chair of the Governing Council of the “Ocean Tracking Network”, which is based at Dalhousie University and funded as a “Major Science Initiative (MSI)” by the Canada Foundation for Innovation (CFI) (and, previously, by the Natural Sciences and Engineering Council of Canada (NSERC)).

**Eddy Carmack**, Saanichton, B.C. For his contributions to climate oceanography and for expanding our understanding of the Arctic Ocean and its role as an exemplar for climate change. Eddy’s work focuses on physical-biological coupling in oceans and lakes and the impacts of climate variability on marine food webs. Eddy has been previously awarded the CMOS Tully Medal in Oceanography. For his leading role in ocean science, Carmack has been awarded the 2007 [Massey Medal](#) for outstanding achievement in Canadian geography. Established by Governor General Vincent Massey in 1959, the award is administered by The Royal Canadian Geographical Society. From his Massey Medal citation: Carmack, a climate oceanographer with Fisheries and Oceans Canada in Sidney, B.C., also subscribes to fishboat science, “which is synonymous,” he says, “with ‘on the cheap.’” In his spare time, he explores the Koeys River and estuary on British Columbia’s central coast from the deck of his converted 1947 troller. His goal, he says, is simply to document this unspoiled ecosystem “before it is too late.” It’s a measure of his passion for lakes, rivers and oceans that Carmack devotes holidays to monitoring the Koeys. In his day job at the Institute of Ocean Sciences, he is an internationally respected expert on the Arctic Ocean. Over the past four decades, he has participated in more than 60 field studies in Western Canada, Siberia, Antarctica and the Arctic, including the first scientific crossing of the Arctic Ocean via the North Pole.



Dr. Eddy Carmack, DFO Emeritus Scientist, IOS.

*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

### 54<sup>e</sup> Congrès CMOS 54<sup>th</sup> annual Congress

**Ottawa, May 24-28, 2020**

The 54<sup>th</sup> Canadian Meteorological and Oceanographic Society (CMOS) Congress is being held jointly with the Canadian Society for Agriculture and Forest Meteorology (CSAFM) at the Ottawa City Centre Delta Hotels by Marriott, from Sunday (business and working group meetings) 24 May to Thursday May 28. Being in Ottawa, the Congress has the unique opportunity to highlight to policy makers the national observations, research and services that contribute substantively to reduction of society's risk to extreme weather, climate and environmental events and to outline the challenges facing us in managing our Future Earth environment and societal resilience. In addition, the Congress can foster cross-disciplinary dialogue amongst research and managerial professionals in meteorology, oceanography, hydrology, earth sciences, environment and social science on challenges facing us nationally and globally. What measures can be taken to ensure that we have the necessary national and global infrastructure and expertise in place to maintain societal resilience? Special sessions will be held not only on the use of weather, climate and environmental prediction for risk reduction but also on: (i) protecting Canada's vast Arctic and sub-Arctic as weather, climate and environment changes and (ii) strengthening cooperation to reduce risks to agriculture and other sectors posed by changing weather and climate.

**Ottawa, 24-28 mai 2020**

Le 54<sup>e</sup> Congrès de la Société canadienne de météorologie et d'océanographie (SCMO) se tiendra conjointement avec la Société canadienne de météorologie agricole et forestière (SCMAF) au Delta Hotels par Marriott, Ottawa Centre-Ville du dimanche (réunions d'affaires et de travail) du 24 mai au jeudi, le 28 mai. À Ottawa, le Congrès offre une occasion unique de renseigner les décideurs sur les observations, les recherches et les services nationaux qui contribuent de façon importante à la réduction des risques qui menacent la société, en ce qui a trait aux phénomènes météorologiques, climatiques et environnementaux extrêmes. Il permet en outre de souligner les enjeux auxquels nous sommes confrontés relativement à la gestion de l'environnement de la Terre de l'avenir et à notre résilience sociétale. Le congrès favorise les échanges interdisciplinaires entre les professionnels de la recherche et ceux de la gestion qui travaillent dans les domaines de la météorologie, de l'océanographie, de l'hydrologie, des sciences de la Terre, de l'environnement et des sciences sociales, en ce qui concerne les enjeux qui nous préoccupent aux échelles nationale et mondiale. Quelles mesures pouvons-nous mettre en œuvre afin de disposer de l'infrastructure et de l'expertise nationales et mondiales nécessaires au maintien de la résilience de la société? Des séances spéciales traiteront non seulement de l'utilisation des prévisions météorologiques, climatologiques et environnementales pour réduire les risques, mais porteront aussi sur i) la protection des vastes régions arctique et subarctique du Canada et sur ii) le renforcement de la coopération afin de réduire les risques menaçant l'agriculture, et ce, dans le contexte de l'évolution du temps, du climat et de l'environnement.



### Call for Abstracts:

Please submit abstracts on-line via the CMOS web site **before 14 February 2020**. [[Instructions](#)]



You will be asked to select a specific Session if possible (see Description of Sessions). If you cannot find a relevant session please choose a "General" session and your paper

will be assigned to a session later. Please indicate your preference for oral or poster presentation. A non-refundable fee of \$70.00 is required to complete your submission. Your abstract will be evaluated by the Science Program Committee and you will be notified by the end of March 2020 of the presentation details, including if your presentation is to be oral or by poster.

### Student Travel Awards

Student CMOS members are encouraged to participate and to apply for a Student Travel Awards. When submitting an abstract a student can apply for a Student Travel Award (maximum to \$500) at the time of abstract submission by completing the online form. Please note that only abstracts submitted by the **submission deadline of February 14, 2020**, will be considered for the award.

### Accommodation

Accommodation can be difficult to find in Ottawa during this period so we recommend that you book your room early. Note that the Ottawa Race Weekend is occurring May 23-24 and will have high demand for hotel rooms.

A block of rooms has been arranged at the Congress venue - Delta Hotels by Marriott, Ottawa City Centre. Please be sure to indicate that you are booking your room for the CMOS Congress so the block can be properly credited.

Delta Hotels by Marriott, Ottawa City Centre - \$229 - \$249 /night plus tax

Address: 101 Lyon St., Ottawa, ON, K1R 5T9

Tel: (613) 237-3600

Reserve your room on-line: [CMOS Congress Group Rate](#)

**Room block cut-off date: 23 April, 2020**

### University Residences

The University of Ottawa and Carleton University offer accommodation at reasonable rates and are accessible by public transit.

University of Ottawa

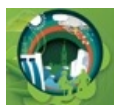
Various locations - 1.7km-2.0km

[www.uottawa.ca/housing/summer-accommodation](http://www.uottawa.ca/housing/summer-accommodation)

Carleton University

1223 Col. By Drive - 4.5km

[conferenceservices.carleton.ca/accommodations](http://conferenceservices.carleton.ca/accommodations)



**Congrès Ottawa 2020 Congress**

### Award Nominations

At the CMOS congress there are several awards presented that are available for work in oceanography. Think about who you can nominate.

The appointment of a member as a **Fellow of the Society** offers us the opportunity of recognizing our own members for their contribution to the Society and for their achievements in

their own chosen fields of endeavour. The title **Honorary Fellow of the Society** is one that the Society may use to recognize an individual outside the Society, who, by virtue of his/her endeavours, is recognized as an outstanding individual and contributor to society as a whole.

[Details](#) **Deadline March 15**

The **President's Prize** is awarded to a Society member or members for a recent paper or book of special merit in the fields of meteorology or oceanography. If for a paper, that paper must have been accepted for publication in ATMOSPHERE-OCEAN, the CMOS Bulletin SCMO or another refereed journal. [Details](#) **Deadline February 15**

The **François J. Saucier Prize in Applied Oceanography** is awarded to a Society member (or members) for an outstanding contribution to the application of oceanography in Canada.

[Details](#) **Deadline February 15**

The **Neil J. Campbell Award for Exceptional Volunteer Service** is awarded to a Society member for exceptional service to the Society as a volunteer. [Details](#) **Deadline February 15**

The **J.P. Tully Medal in Oceanography** is awarded to any person whose scientific contributions have had a significant impact on Canadian oceanography. [Details](#) **Deadline February 15**

The **Tertia M.C. Hughes Graduate Student Prizes** are awarded to graduate students who are, or were within 16 months preceding the nomination deadline, registered at a Canadian university or Canadian students registered at a foreign university for contributions of special merit. The awards are prizes of \$500. for each recipient. There are up to two prizes per year.

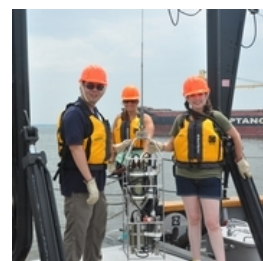
[Details](#) **Deadline February 15**

The **Roger Daley Post-Doctoral Publication Award** is granted for excellence of a publication in the fields of meteorology or oceanography that has appeared, or is in press, at the time of nomination. The award is a prize of \$2,000. [Details](#) **Deadline February 15**

The **Timothy R. Parsons Medal** was established by Fisheries and Oceans Canada (DFO) to recognize distinguished accomplishments in multidisciplinary facets of ocean sciences while working for Canadian Institutions or for the benefit of Canadian science.

[Details](#) **Deadline March 31**

**Project Ocean:** Since 1994, CMOS has been invited to select Kindergarten to Grade 12 teachers from across Canada to participate in **physical oceanography summer workshops** ([Project Ocean](#), formerly the Maury Project) organized by the American Meteorological Society and held in the United States. The workshops are specifically designed for teachers, who will leave with a wealth of classroom-ready ideas and plans. All expenses during the workshop are covered and a generous travel subsidy is provided. Note there were no oceanography nominations received for the 2019 award.



[Details](#) **Deadline March 15**

## ASLO - SFS 2020 Joint Summer Meeting

Madison WI, June 7-12, 2020

[The American Society of Limnology and Oceanography](#) (ASLO) and the [Society for Freshwater Science](#) (SFS) are hosting this meeting with the theme Sustaining Aquatic Ecosystems Under Global Change. Rapid change is a defining feature of the modern era. Increasingly severe threats attributed to global environmental



change involve water, including among them scarcity, security, over-appropriation of water resources, extreme hydrological events, accelerating loss of aquatic biodiversity, and overstressed fisheries. Sustaining the aquatic ecosystems that provide fresh water, regulate water flow and quality, and provide habitat for



Society for Freshwater Science



aquatic organisms and biodiversity is thus key to sustaining human welfare and the natural systems that support us. Sustainable solutions—those that work across sectors, nations, and generations—will require major transitions in our thinking about water resources and the way they are governed and managed. By proposing a special session, we hope you'll help highlight work relevant to sustaining aquatic ecosystems under global change.

[Details](#)

Deadline abstracts **March 9 2020**

Deadline early registration **March 9 2020**

## Ocean Optics XXV

**Norfolk VA, October 25-30, 2020**

We are delighted to invite you to the beautiful city of Norfolk, Virginia on the coast of the Atlantic Ocean. The committee is hard at work building an agenda featuring informative oral and poster sessions, town halls, and short courses. The program is diverse; over five days you will hear the best of what our field has produced over the last two years with a mix of what has been accomplished since the conference started over 50 years ago. Conference presentations include the science of optics across all aquatic environments, research, and applications. We attract a diverse audience of active practitioners in this field including oceanographers, ecologists, limnologists, optical engineers, resource managers, and policy professionals from around the world. There are plenary and oral presentations during the day, as well as an ability to interact with colleagues during scientific poster sessions



[Details](#)

Deadline abstracts **May 1 2020**

Deadline early registration **May 1 2020**

## Future Directions in Basin and Global High-resolution Ocean Modelling

**Kiel, Germany, October 7-9, 2020**

Advances in high-resolution ocean modelling provide opportunities but also challenges for simulating the ocean climate system, particularly with the growing availability of observational measures. The focus will be on the realistic representation of the eddying ocean and its interannual to decadal variability in forced basin and/or global ocean-sea ice models as well as in



Helmholtz Centre for Ocean Research Kiel

furthering the understanding of ocean physics as a driver of biogeochemical processes are also welcome.

[Details](#)

Deadline abstracts **May 25 2020**

Deadline early registration **July 15 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

### Postdoc position in physical oceanography of polar regions

#### McGill University, Montreal, QC, Canada

The postholder is expected to conduct original research on the interaction between ocean and sea ice at fine scale by performing numerical model simulations and analyzing model output, and to write academic manuscripts. Dedicated high performance computing resources are available at Compute Canada HPC center to run high-resolution simulations. The postholder will be part of a dynamic group working on the role of polar regions in the climate at McGill University and will be encouraged to develop national and international collaborations with colleagues working on similar topics. The position is initially for one year, with the potential for extension to 3 years.

The preferred start date is September 2020 but is flexible.

Funds are available to attend national and international conferences.

The postholder will be offered opportunities for professional development including teaching and mentoring of undergraduate or graduate students.

[Details](#)

Deadline for applications **February 9 2020**



### MSc Carbon Uptake

#### University of Victoria, BC, Canada

We are seeking a motivated MSc student to study ocean carbon uptake at the School of Earth and Ocean Sciences, University of Victoria (Victoria, BC, Canada). The global ocean absorbs roughly one third of human carbon emissions, which reduces the rate of global warming, but also leads to ocean acidification. The student will be part of a team working to quantify, understand and predict the ocean carbon sink in Canadian waters – a topic with particular relevance to national and international policy making.

[Details](#)

Deadline for applications **February 15 2020**



## Doctorat - Sources de contaminants organiques émergents dans l'habitat du béluga en voie de disparition dans l'estuaire du Saint-Laurent

### ISMER-UQAR, Rimouski, QC, Canada

Projet: Estuaire du Saint-Laurent (ESL) Le Béluga est inscrit à la liste des espèces en voie de disparition depuis 2014 par le Comité sur la situation des espèces en péril au Canada (COSEPAC). Leurs habitats sont fortement impactés par les activités anthropiques environnantes. Par conséquent, l'exposition chronique aux contaminants anthropiques a été suggérée comme un facteur affectant la santé du béluga de l'ESL. Comprendre les sources de ces contaminants est la première étape pour développer des approches rationnelles visant à réduire la contamination et à protéger la faune sauvage dans l'habitat du ESL. Cependant, les sources de nombreux contaminants organiques émergents dans le ESL ne sont pas connues. Les objectifs de ce projet sont d'étudier les sources ponctuelles et non ponctuelles de contaminants émergents dans la région de l'ESL. Il s'agit d'un projet de collaboration avec Environnement et Changement climatique Canada, l'Université de Toronto, l'Université York, l'Université Simon Fraser et l'Université de la Colombie-Britannique.



Plus d'information

## Assistant Professors (3) in Active Geologic Processes

### University of Hawai'i at Mānoa, Hawai'i, USA

The Department of Earth Sciences seeks to fill three faculty positions at the level of Assistant Professor in the broad area of geologic hazards with focus on coastal environments, structural geology and tectonics, and geodesy and marine geophysics. We seek a group of talented scientists eager to leverage our unique location in the Pacific region on an ocean island chain, as well as contribute to studies of global Earth problems, while broadening our expertise in active processes that influence natural hazards. It is also desired that these scientists contribute to, or use, modern geoinformatics infrastructure and data analysis methods. The successful candidates will specialize in: Coastal Processes and/or Geologic Framework Studies, Structural Geology and Tectonics, or Geodesy and Marine Geophysics.



UNIVERSITY of HAWAII® at MĀNOA

Details

Deadline **February 7 2020**

## Scientist - Applied Ocean Physics & Engineering (Ocean Acoustics)

### Woods Hole Oceanographic Institution, MA, USA

The Department of Applied Ocean Physics & Engineering at the [Woods Hole Oceanographic Institution](#) invites qualified candidates to apply for one or more tenure-track or tenured scientific staff positions to initiate new and expand existing programs in underwater acoustics, acoustical oceanography and signal processing.

An ideal candidate will have demonstrated research experience in marine environments and would be interested in developing a sea-going research program. WHOI operates two sea-going vessels and a coastal research vessel, in addition to a variety of moored, towed, remotely operated, and autonomous platforms and vehicles. Its facilities support rapid prototyping, testing and deployment of new instrumentation and robotic systems.

Details

Applications will be reviewed as they are received.



## 15 Positions - Global Mercury Observation and Training Network

**Grenoble, Ljubljana, Toulouse, Marseille, Pau, Nantes, Stockholm, London, Maribor, Rome and Geesthacht**

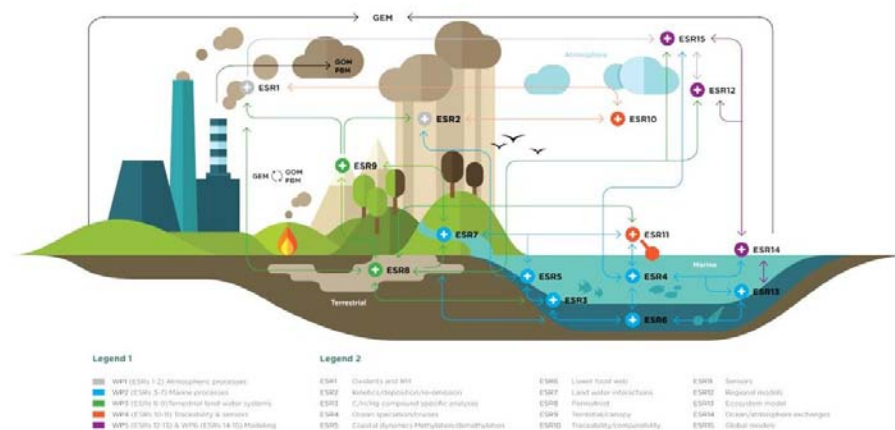
Open to Early Stage Researchers (ESRs)

The Marie Skłodowska-Curie Action “Global Mercury Observation and Training Network in Support to the Minamata Convention” is an international research project, coordinated by Prof. Milena Horvat from the Jožef Stefan Institute (JSI) and is financed under the funding line “excellent science” of the Horizon 2020 research and innovation programme of the European Commission. In this very competitive scheme the project received total score 100%. It includes 11 European project partners and participates with eminent research institutions, such as Harvard University and MIT, and other organisations, such as UN Environment, JRC Ispra and eminent NGOs.



The overall objectives of the GMOS-Train network are:

- (1) to provide urgently needed training in Hg science within the context of the UNEP Minamata Convention, and
- (2) to fill key knowledge gaps in biogeochemical Hg cycling linking anthropogenic emissions and Hg in marine food webs.



ESRs will be trained through a structured and comprehensive programme and will not only learn the theory but will gain first-hand lab experience. The partners engaged in the project will work closely together, with each of the partners supervising at least one research project. All ESRs will spend time not only at the hosting institution but also in one of the other partner universities/research centers/regulatory

agencies/companies involved in GMOS Train project throughout Europe. Being trained in highly relevant research topics will enhance researchers career prospective and employability. The GMOS-Train aims to recruit outstanding and highly motivated ESRs to meet the ambitious goals of the project.

All applications must be submitted by means of on-line application on the official GMOS-Train project website: [www.gmos-train.eu](http://www.gmos-train.eu).

[Details](#)

**Deadline February 29 2020**

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

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



## GENERAL

### Summer School on "Physics of the Ocean"

12-17 July 2020 in Bad Honnef, Germany

The Ocean Physics Summer School aims at providing a broader view of the ocean system from a physical perspective, encompassing a large range of scales and their interactions. Other than receiving lectures, the students will participate through various activities such as poster sessions, exercises, discussions and a field excursion. There will be a set of Super Problems introduced at the beginning of the summer school; the students will work on these problems throughout the summer school and present their results/ solutions at the end. Participants are urged to contribute to the summer school by presenting work of their own, generally in the form of posters and active participation in discussion and working sessions.



Who can apply?

Young scientists - advanced master students, graduate students and first year postdocs - from all over Europe and beyond from all fields with an interest in physics who want to increase their knowledge about the ocean can apply for participation in the summer school "Physics of the Ocean".

[Details](#)

**Deadline February 7 2020**

### CMOS Bulletin

[CMOS Bulletin Vol 47 No 6](#) is now available for download. It includes climatologist David Phillip's top 10 Canadian weather stories of 2019, the seasonal outlook for this winter and a changing of the guard in the editor of the bulletin.



## OERA Webinar Series - January to June 2020 Line-up

OERA has announced their coming webinar series. Register for the seminar(s) you are interested in (free) by clicking on the "LEARN MORE" link on their [Outreach webpage](#).

### oera webinar series

January to June 2020

Register at [www.oera.ca/outreach](http://www.oera.ca/outreach)

OERA



#### *"Turbulence in High-Flow Tidal Channels"*

Dr. Alex Hay, Dalhousie University

23  
January  
1:00PM AST

20

February  
1:00PM AST

#### *"Quantifying Fish-Turbine Interactions Using New VEMCO Tagging Technology"*

Dr. Mike Stokesbury, Acadia University;  
Dr. Brian Sanderson, Acadia University;  
Montana McLean, PhD candidate; Jessie Lilly, MSc candidate



#### *"Updates in The Pathway: A program for regulatory certainty for instream tidal energy projects"*

Luiz Faria, OERA  
Dr. Dan Hassleman, FORCE

19  
March  
1:00PM AST

23

April  
1:00PM AST

#### *"Lower Jurassic Source Rocks of the Central Atlantic"*

Dr. Andrew Bishop, Oasis Geochem LLC



#### *"Development of Acoustic Doppler Aquatic Animal Monitoring (ADAAM) for application to marine life movement in high-energy tidal channels"*

Greg Trowse, Luna Ocean Consulting  
Dr. Len Zedel, Memorial University

21  
May  
1:00PM AST

25

June  
1:00PM AST

#### *"Are there Active Petroleum Systems in the Central North Atlantic, deep water offshore Nova Scotia and Morocco?"*

Dr. Martin Fowler, Applied Petroleum Technology (APT)



## 2020 CMOS Scholarships/Bourse d'études de la SCMO

The Canadian Meteorological and Oceanographic Society (CMOS), the premier Society for atmospheric and oceanographic sciences in Canada, offers undergraduate and graduate scholarships to students in atmospheric sciences, meteorology, climate, oceanography and related fields (e.g., mathematics, hydrology, limnology).

The undergraduate scholarships offer \$1,000 and \$1,500.

The graduate scholarship is \$5,000 (with an option for a 2nd year).

Information about these scholarships and how to apply can be found at <http://www.cmos.ca/site/scholarships>. You do not have to be a member of the Society to receive a scholarship.



The application **deadline for the undergraduate scholarships is March 15<sup>th</sup>**.

The application **deadline for the graduate scholarship is April 20<sup>th</sup>**.



Canadian  
Meteorological and  
Oceanographic Society

La Société Canadienne  
de Météorologie et  
d'Océanographie

La Société canadienne de météorologie et d'océanographie (SCMO), la Société principale au Canada pour les sciences atmosphériques et océanographiques, offre des bourses d'études de premier, deuxième et troisième cycle à des étudiants dans des programmes d'études en science de l'atmosphère, météorologie, climat, océanographie et sciences connexes (p.ex., mathématique, hydrologie, limnologie.)

Les bourses du premier cycle offrent 1 000\$ et 1 500\$.

La bourse de deuxième ou troisième cycle a une valeur de 5 000\$ (avec une possibilité d'une deuxième année). Vous trouverez tous les détails nécessaires en ligne au site [http://www.cmos.ca/site/scholarships?language=fr\\_FR](http://www.cmos.ca/site/scholarships?language=fr_FR). Vous ne devez pas être membre de la Société pour recevoir une bourse.

**La date limite pour les bourses du premier cycle est le 15 mars.**

**La date limite pour les bourses du deuxième ou troisième cycle est le 20 avril**

## Crowdfunding for SCOR Visiting Scholars Program

The SCOR Committee on Capacity Building is in the process of evaluating applications for the 2020 class of SCOR Visiting Scholars. As usual, we have more good applications than the funds available. We should be able to support 5 Visiting Scholars in 2020 from traditional sources. For the past several years, we have supported part of a sixth Visiting Scholar through crowdfunding.



If you would like to make a financial contribution to one SCOR Visiting Scholar, a giving page has been set up at <https://www.mightycause.com/story/Whps7f>. support the SCOR Visiting Scholar. Thank you to those of you who have contributed in the past.



100% of the funds will be used to support the SCOR Visiting Scholar. Thank you to those of you who have contributed in the past.



## 2020 Call for SCOR Working Group Proposals

The [SCOR Secretariat](#) will accept proposals for new working groups from now until **17 April 2020**. The guidelines, a template, and word limits are available [here](#), including a PowerPoint presentation explaining the proposal process.

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.

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 [Patricia Miloslavich](#) if you have any questions about the process for working group proposals.



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

Previous newsletters may be found on the [CNC/SCOR](http://www.cncscor.ca) web site.

Newsletter #**111** will be distributed in **March 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](http://www.cncscor.ca) antérieurs se retrouvent sur le site web du [CNC/SCOR](http://www.cncscor.ca).

Le Bulletin #**111** sera distribué en **mars 2020**.

Veuillez 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>

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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.

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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)