

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

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World Ocean Day June 8 2019

On World Oceans Day, people around our blue planet celebrate and honor the ocean, which connects us all. A healthy world ocean is critical to our survival. On 8 June each year, we celebrate the ocean, its importance in our lives, and how each of us can protect it, no matter where we live. This day raises the profile of the ocean, connects people worldwide, and inspires continuing action year-round to protect and restore this amazing resource that we all depend on.

[The Ocean Project](#) helps lead global promotion and coordination of World Oceans Day. Since 2002, we have collaboratively worked in partnership with hundreds of organizations and networks from all sectors to help rally the world around 8 June, and continue to grow engagement and action for our shared ocean throughout the year. Over the last two decades, our global network of partners around our planet has grown to include more than 2,000 organizations, including youth groups, aquariums, zoos, museums, groups representing sailors, divers, swimmers and other recreational interests, the maritime industry, religious organizations, governments, the tourism sector, conservation organizations, universities, schools, businesses, celebrities, and many others. Each year an increasing number of countries and organizations mark 8 June as an opportunity to celebrate our world ocean and our personal connection to the sea.



Shaw Centre for the Salish Sea, Sidney, BC Celebrate World Oceans Day AND our 10th birthday with this FREE family friendly outdoor event on Sunday, **June 2**, 11:00-3:00. Join us outside in Beacon Park on the Sidney oceanfront! Educational exhibits, entertainment and more! And cake, birthday cake! [The Shaw Centre for the Salish Sea](#) is open by donation this day only!

[Website](#)

World Oceans Day Dive Against Debris HFX Terence Bay, NS



June 8 @ 11:00 am. Grab a mesh bag and don't let your dives go to waste! In celebration of Oceans Week HFX and World Oceans Day, [Torpedo Rays SeaFoxes' Ladies Dive Club](#) and the [Ocean Tracking Network \(OTN\)](#) invite you to Dive Against Debris at Terence Bay Wharf along Nova Scotia's iconic Lighthouse Route. The shallow dive site is suitable for all divers, beginners and snorkelers alike. **Torpedo Rays will be offering \$39 full scuba package rentals for this event.**

[Website](#)

Descanso Bay Regional Park, Gabriola Island , BC

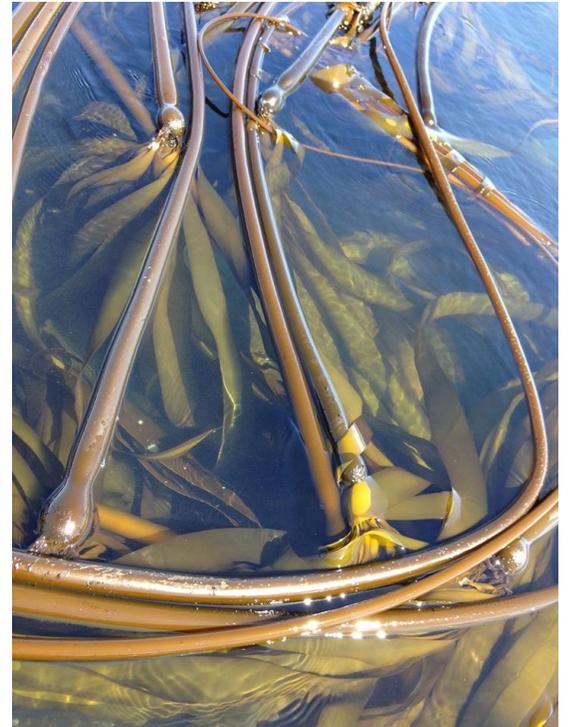
June 9 1:00-4:00 pm. The 11th annual Oceans Day on Gabriola Island, British Columbia, Canada is happening Sunday June 9th 1:00-4:00 pm at Descanso Bay Regional Park. Celebrate world oceans day with community groups, music, touch tanks, and fish-printing on fabric, and much more. The event will include some special activities or engagements for youth and/or young adults, under 12, ages 12-18, college/university age.



[Website](#)

Threats of our Oceans Maritime Museum of the Atlantic, Halifax, NS

The Maritime Aboriginal Peoples Council (MAPC) has developed an underwater threats activity that will be set up inside of the gazebo at the Maritime Museum of the Atlantic in Halifax Nova Scotia on **June 7th**, 2019. MAPC will be displaying various threats that marine animals face every day - fishing gear, plastic pollution, pipelines/subsea cables, decrease in prey availability, underwater noise etc. and participants will travel through these threats as they move through the exhibit. Additionally, we have two adjacent smaller activities: one that highlights the impacts of ocean acidification on animals with a calcium carbonate exoskeleton and another which allows participants to look through microscopes at the structure of various beach finds, such as seaweed, shells, and sand.



[Website](#)

Fisherman's Wharf YYJ, Victoria, BC

Join us for this free, family-friendly event celebrating the world's oceans and the Salish Sea! With over 20 different conservation organizations on site, there is plenty to do, see, and learn about! From live divers to touch tanks to a real, life-sized killer whale skeleton you can help build, there is something for everyone!

[Website](#)

World Oceans Day Cooking Class Package, Summerville, NS



June 7,8. Celebrate World Oceans Day with a cooking class featuring sustainably farmed seafood. This package includes: 2 Demo Class Registrations, Dinner on Friday (in your class), Accommodations & Breakfast! Learn to create three great dishes with sustainably farmed seafood: NS Mussels cooked in Garlic, Onion & Tidal Bay Wine, served with Baguette, Selva Shrimp Salad with Avocado, Greens & Citrus Vinaigrette Sustainable Blue Salmon Tacos with Spiced Cucumber Salsa and Flying Apron Luscious Lemon Tart.

[Website](#)

Festival of Ocean Films, Vancouver, BC

June 5,6 @ 7:00 pm. Georgia Strait Alliance is pleased to present the 10th annual Festival of Ocean Films in celebration of World Oceans Day, featuring: Raven People Rising Pacific Herring: Little Fish - Big Problem, Return of the Humpbacks, Fish First and For the Love of Salmon.

[Website](#)

Sechelt Oceans Day, Sechelt, BC

The Sunshine Coast Conservation Association invites you to celebrate World Oceans Day by joining us for the third annual SECHELT OCEANS DAY! Saturday, **June 8th**, 12 - 4 pm at Friendship Park. Come on down for an afternoon of FREE family fun featuring ocean-themed activities and games on the downtown Sechelt waterfront. Learn about ocean ecology and conservation, and celebrate our spectacular coastal marine environment! Pick up your Oceans Day Passport at our info booth, and gain stamps at each activity for your chance to win prizes. Live music, free art activities, Shoreline Clean-up, and much more ... visit our website or Facebook page for the latest updates on what exciting activities we have in store for you!

[Website](#)

Biology Dept. of St. Francis Xavier University, Antigonish, NS

June 8 @ 11:00 am. Explore the St.FX Biology Dept.'s touch-tanks and learn about ocean preservation. A hands-on fun event for the whole family. The event will include some special activities or engagements for youth and/or young adults, under 12 and ages 12-18.

[Website](#)



WORLD OCEANS DAY

"Hands-on fun for the whole family!"

Hosted by the StFX Biology Dept.
 Saturday, June 8, 11:00 am to 1:00 pm
 (Sensory friendly & reduced mobility time 10:00 - 10:45 am)
 J. Bruce Brown Building, 2320 Notre Dame Ave.

Àros na Mara World Oceans Day Festival, Iona, NS

June 6-9 – Iona, Barra Strait, Cape Breton. The Port of Iona and the Barra Strait, overlooking the beautiful Bras d’Or Lake, come alive with festivities acknowledging World Oceans Day. World Ocean Day will be celebrated on Sunday, June 9th. Àros na Mara (*Gaelic for House of the Sea*) is a Marine Science Centre being built at the Barra Strait, for the purposes of research, education



and tourism. Àros na Mara World Oceans Day has been selected as one of Destination Cape Breton ‘19 in 19 Events’ for 2019. Join our family fun and ocean-themed festival and enjoy scientific and interactive displays, beach clean-up, hike, children’s games, and historical demonstrations.

[Website](#)

Fisheries and Oceans Canada has a [web page](#) devoted to Oceans Day listing events and suggesting ways to get involved. It includes this [downloadable poster](#).



The circulation loop in the North Atlantic and Arctic oceans depicted by the artificial radionuclides

From [GEOTRACES Science Highlights](#) March 2019 - GEOTRACES eNEWSLETTER n°33

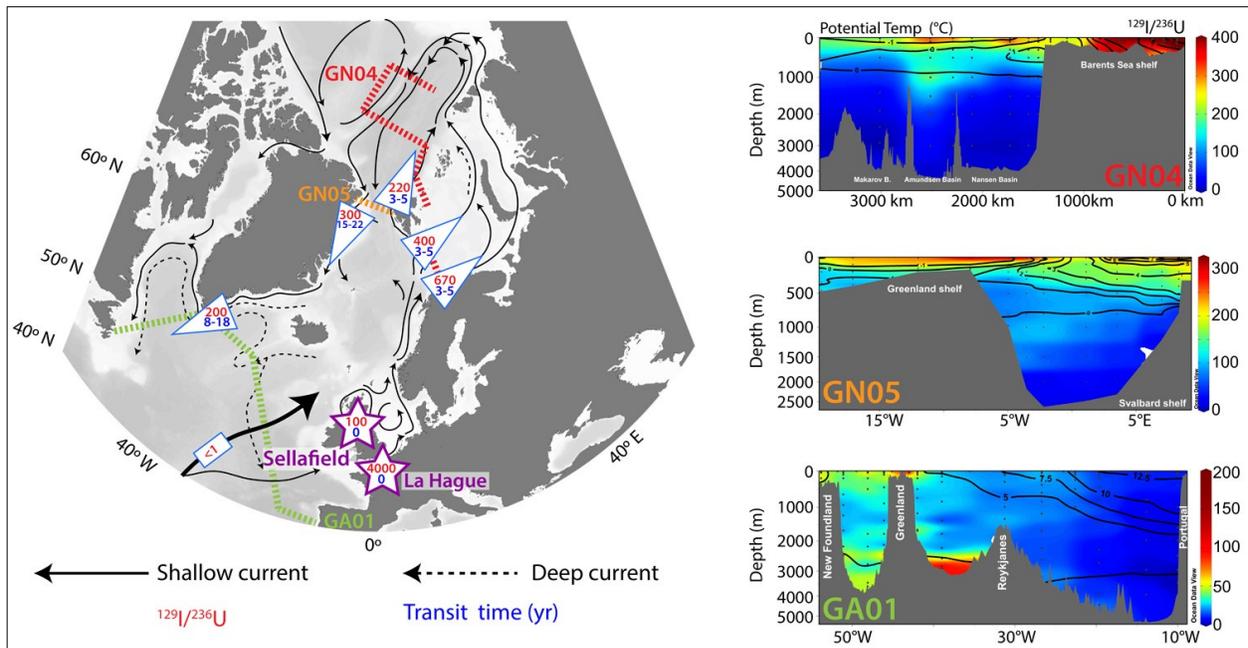


Figure: (Left) Map showing the main Atlantic water circulation in the North Atlantic and Arctic oceans (black arrows). Dashed lines represent the three GEOTRACES sections sampled between 2014 and 2016: North Atlantic Ocean ([GA01](#)), Arctic Ocean ([GN04](#)) and Fram Strait ([GN05](#)). Both ^{129}I and ^{236}U are released from the two European Reprocessing Plants of Sellafield and La Hague (purple stars). Blue triangles represent the $^{129}\text{I}/^{236}\text{U}$ atom ratios (in red) at sampling time and the transit time of Atlantic waters (in blue) from their source in the North Sea, to the sampling location. (Right) Section plots of $^{129}\text{I}/^{236}\text{U}$ atom ratio in the three GEOTRACES sections, with black contour lines representing potential temperature. Click [here](#) to view the image larger.

Atlantic waters have been recently recognized to play an increasing role in reducing sea-ice extent in the Arctic Ocean at a rate now comparable to losses from atmospheric thermodynamic forcing. Beyond the Arctic Ocean, the water mass transport and transformation processes in the North Atlantic Ocean substantially contribute to the Atlantic meridional overturning circulation (AMOC). Artificial radionuclides can be used as transient tracers that provide crucial information on pathways, timescales and processes of key water masses that cannot be obtained from hydrographic properties alone. In particular, radionuclides released from the two European Nuclear Reprocessing Plants, have proven to be specifically useful to trace the circulation of Atlantic waters into the Arctic and sub-Arctic oceans. Within this context, the three recent articles by Castrillejo et al. (2018), Wefing et al. (2019) and Casacuberta et al. (2018, see references below) describe the journey of the two long-lived anthropogenic radionuclides iodine-129 (^{129}I ; $T_{1/2}=15.7 \cdot 10^6$ y) and uranium-236 (^{236}U ; $T_{1/2}=23.4 \cdot 10^6$ y) from their sources up through the

Arctic Ocean and back into the North Atlantic Ocean. Each paper corresponds to one GEOTRACES expedition that took place between 2014 and 2016 in the North Atlantic Ocean ([GA01 section](#)), Arctic Ocean ([GN04 section](#)) and Fram Strait ([GN05 section](#)). Main results show that the combination of ^{129}I and ^{236}U serves very well to identify the different Atlantic branches entering the Arctic Ocean: Barents Sea Branch Water (BSBW) and Fram Strait Branch Water (FSBW). Due to the uneven mixing of ^{129}I and ^{236}U from the two European Reprocessing Plants of Sellafield and La Hague in the North Sea, each branch brings a different $^{129}\text{I}/^{236}\text{U}$ ratio. Furthermore, this ratio allowed identifying a third Atlantic branch evolving from the Norwegian Coastal Current (NCC), that stays within the upper Polar Mixed Layer and carries a significantly larger proportion of ^{129}I and ^{236}U releases from the European reprocessing plants compared to the FSBW and the BSBW. The evolution of the NCC with a strong ^{129}I and ^{236}U signal is further observed when it returns to the Atlantic Ocean as Polar Surface Water (PSW) in the Fram Strait. This allowed estimating a transit time of 15-22 years for the PSW flowing through the Arctic Ocean. In the subpolar North Atlantic Ocean (SPNA), an increase of ^{129}I was observed in the deep overflow waters in the Labrador and Irminger Seas, confirming the major pathways of Atlantic Waters in the SPNA that were previously suggested by other authors: a short loop through the Nordic seas into the SPNA (8-10 years) and a longer one, which includes transport all the way through the Arctic Ocean (>16 years). The output of these works proves the potential of using ^{129}I and ^{236}U as a tool for investigations on the circulation within and exchanges between the Arctic and sub-Arctic Seas.

References:

Casacuberta, N., Christl, M., Vockenhuber, C., Wefing, A.-M., Wacker, L., Masqué, P., Synal, H.-A., Rutgers van der Loeff, M. (2018). Tracing the Three Atlantic Branches Entering the Arctic Ocean With ^{129}I and ^{236}U . *Journal of Geophysical Research: Oceans*, 123(9), 6909–6921. DOI:<http://doi.org/10.1029/2018JC014168>

Castrillejo, M., Casacuberta, N., Christl, M., Vockenhuber, C., Synal, H.-A., García-Ibáñez, M. I., Lherminier, P., Sarthou, G., Garcia-Orellana, J., Masqué, P. (2018). Tracing water masses with ^{129}I and ^{236}U in the subpolar North Atlantic along the GEOTRACES GA01 section. *Biogeosciences*, 15(18), 5545–5564. DOI: <http://doi.org/10.5194/bg-15-5545-2018>

Wefing, A.-M., Christl, M., Vockenhuber, C., van der Loeff, M. R., & Casacuberta, N. (2019). Tracing Atlantic waters using ^{129}I and ^{236}U in the Fram Strait in 2016. *Journal of Geophysical Research: Oceans*. DOI: <http://doi.org/10.1029/2018JC014399>

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*

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*

MEETINGS

XXVII IUGG General Assembly, CMOS 2019 update



WELCOME

Beyond 100: The next century in Earth and Space Science

The 27th IUGG General Assembly will be held July 8-18, 2019 at the Palais des Congrès in Montréal, Québec, Canada. This is a special opportunity for participants from Canada and from around the world to come together and share their science and culture. 2019 marks the 100th anniversary of IUGG; we will look back on the accomplishments of the previous century of Earth and space science research, and forward to the next century of scientific advancement. Join us for a host of scientific activities, including special public lectures, keynote Union lectures and a wide variety of themed sessions.

BIENVENU

Sciences de la Terre et de l'espace : un siècle de progrès, un autre à bâtir

La 27e Assemblée générale de l'UGGI aura lieu du 8 au 18 juillet 2019, au Palais des Congrès de Montréal, dans la province de Québec, au Canada. Cette assemblée fournira l'occasion aux participants nationaux et internationaux de partager leur science et leur culture. Nous soulignerons le 100e anniversaire de l'UGGI, mettant en perspective la recherche liée aux sciences de la Terre et de l'espace en revoyant les réalisations du siècle dernier et en rêvant celles du prochain. Joignez-vous à nous pour plusieurs activités scientifiques incluant des présentations destinées au public, des conférenciers invités de qualité et surtout, une grande variété de sessions sur des thèmes pertinents.

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

There are now some details for the [oral sessions](#) and [poster programs](#).



Les gens de SCMO notent que contrairement aux congrès habituels, l'inscription au congrès **NE COMPREND PAS LE BILLET DU BANQUET**. Pour s'inscrire au banquet de la SCMO, il faut revenir au site <http://iugg2019montreal.com/>, cliquer sur l'onglet "EVENTS", descendre au bas de la page à "SOCIAL EVENTS". Vous y verrez l'annonce du banquet de la SCMO le jeudi 11 juillet et le lien

où s'inscrire au coût de 100\$ par personne. On vous encourage fortement à vous inscrire au banquet puisque ce sera un des rares moments où les membres de la SCMO se retrouveront ensemble pour socialiser, réseauter et applaudir les récipiendaires des prix de notre Société.

The CMOS folks note that unlike usual congresses, the registration to the IUGG *DOES NOT INCLUDE THE BANQUET TICKET*. To register to the banquet, go back to the site <http://iugg2019montreal.com/>, click on the "EVENTS" tab, go down to the bottom of the page. You'll see the announcement of the CMOS Banquet on Thursday, July 11th and the link to register at a cost of \$100 per person. You are strongly encouraged to register for the banquet as it will be one the rare times when CMOS members will meet together to socialize, network and cheer the recipients of our Society awards.

And CMOS 2020 in Ottawa

Planning for the 2020 CMOS Annual Congress in Ottawa (May 24-28, 2020) is well underway.

The Scientific Program Committee co-chairs for this meeting are Drs. Gordon McBean and Leonard Barrie. They will assist the LAC, led by Bruce Angle, in putting together what's shaping up to be a great meeting. The proposed theme and description of the 2020 Congress follow:

Title: *Building Societal Resilience to Changing Weather, Climate and Environment*

Description: The CMOS Congress in 2020 in Ottawa, the nation's capital, presents a 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. In addition, the Congress aims to catalyze 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 strengthen societal resilience? Special sessions will be held not only on the use of weather, climate and environmental observations and forecasts for risk reduction but also on: (i) protecting Canada's vast Arctic and sub-Arctic and (ii) strengthening cooperation to reduce risks to agriculture as weather, climate and environment changes.



Et SCMO 2020 à Ottawa

La planification du Congrès annuel 2020 à Ottawa (du 24 au 28 mai) va bon train.

Les coprésidents du comité du programme scientifique de cet événement sont messieurs Gordon McBean et Leonard Barrie. Ils aideront le comité local d'organisation, sous la direction de Bruce Angle, à organiser ce qui s'annonce comme une rencontre formidable. Voici le thème et la description proposés du congrès de 2020:

Thème: *Renforcer la résilience de la société face à l'évolution du temps, du climat et de l'environnement*

Description: le Congrès 2020 à Ottawa, la capitale nationale, offre une occasion unique de faire connaître



aux décideurs 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 et de souligner les enjeux auxquels nous sommes confrontés dans la gestion de notre environnement dans le cadre du programme Future Earth. En outre, le congrès vise à favoriser les échanges interdisciplinaires entre les professionnels de la recherche et de la gestion qui interviennent 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 renforcement de la résilience de la société? Des séances spéciales porteront non seulement sur l'utilisation des observations et des prévisions météorologiques, climatologiques et environnementales pour réduire les risques, mais aussi sur i) la protection des vastes régions arctique et subarctique du Canada et ii) le renforcement de la coopération afin de réduire les risques menaçant l'agriculture à mesure que le temps, le climat et l'environnement changent.

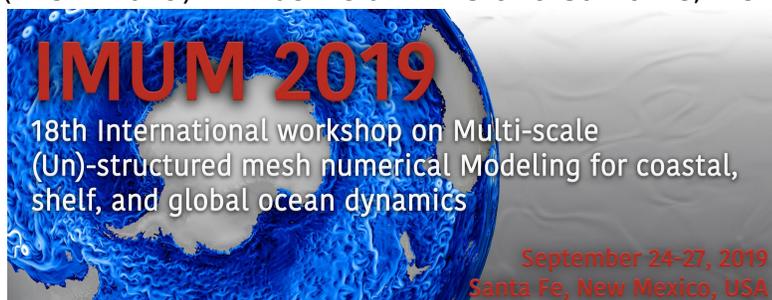
Suggestions/Feedback: Len Barrie: leonardbarrie@gmail.com,
Gordon McBean: gmcbean@uwo.ca, Paul Kushner: president@cmos.ca

IMUM 2019

September 24 - 27, Hotel Santa Fe, Santa Fe, New Mexico

The 18th International workshop on Multi-scale (Un)-structured mesh numerical Modeling for coastal, shelf, and global ocean dynamics (IMUM 2019) will be held in historic Santa Fe, New Mexico, just 40 miles southeast of Los Alamos National Laboratory, over the dates of September 24-27, 2019. The workshop is organized by the Center for Nonlinear Studies at Los Alamos National Laboratory.

The IMUM workshops bring together researchers working on the development and implementation of unstructured-grid methods for simulation of oceanic processes over a wide range of scales from global ocean modeling to small-scale, nonhydrostatic modeling. Topics of discussion include but are not limited to:



- Finite-volume, finite-element, or spectral methods
- Numerical methods, including stability/accuracy analyses of existing methods, higher-order schemes, mimetic methods, pre-conditioners, advanced linear solvers
- Transport schemes
- Vertical coordinates and optimal horizontal/vertical grid design
- Mesh generation
- Adaptive mesh and/or polynomial refinement
- Parallel methods and high-performance computing
- Multiphysics applications including coupling to atmospheric, biogeochemical, wave, or sediment transport models
- Data assimilation
- Connecting the coastal to the global ocean
- Model validation studies and methods

You must [register](#) before you can [submit an abstract](#).

[Website](#)

Gulf of Maine 2050 International Symposium

November 4-8, 2019, The Westin Harborview, Portland, Maine

The purpose of the Gulf of Maine 2050 International Symposium is to increase the collective understanding about how the Gulf of Maine is expected to change over the next 30 years and to promote regional resilience in the context of those changes. The Symposium seeks to:

- Explore how warming waters, sea level rise, ocean acidification, and socioeconomic trends will impact the Gulf of Maine over the next 30 years
- Ignite multi-sector discourse and strategic efforts to determine how a changing Gulf of Maine will impact economic, environmental and community sectors
- Build a shared vision for regional resilience
- Identify steps needed achieve that vision
- Activate new collaborations for action

Deadlines: Abstracts August 5, Early Registration July 15

[Website](#)



ORCA Events

The [Oceans Research in Canada Alliance](#) (ORCA) was established to improve the coordination of ocean science and technology (S&T) in Canada. They are participating in two events coming up.

ORCA Ocean Innovation & Technology Workshop and Oceans Outlook Day at the H₂O

Conference - June 6-7th, Halifax NS The annual [H₂O Conference](#) is coming up during

Oceans Week, featuring an ocean industry showcase, international delegates, presentations, networking events and more! New this year to the program is Oceans Outlook Day, taking place during the morning of June 6, at the [Halifax Convention Centre](#). This is a collaborative Canadian ocean event focusing on pulling together government, industry, and academia to discuss upcoming ocean



technology and innovation needs. From R&D to procurement to Business2Business, if you work in ocean technology, you won't want to miss this. Programming details and registration at: <http://www.h2oconference.ca/>.

An **ORCA community meeting** is being planned on the margins of the [Canadian Science Policy Conference 2019 in the week of November 12](#). This meeting will have a broader focus and will include discussions and activities around several ORCA Challenge Areas, including Science in Support of Public Policy, Regulation and Decision Making

([Challenge Area 3](#)). As always, we are happy to receive suggestions for any programming ideas that would be helpful in advancing your collaborative work — just drop the [Secretariat](#) a line.



5th International Symposium on the Ocean in a High-CO2 World

September 7-10 2020, Lima, Peru

The 5th Symposium on the Ocean in a High-CO2 World follows the symposia in Paris in 2004, Monaco in 2008, Monterey in 2012, and Hobart in 2016, which were all key events for the international community of researchers studying ocean acidification and related stressors. The 5th symposia will maintain the traditional focus of the four previous symposia and look at ocean acidification and associated impacts on marine



organisms, ecosystems, and biogeochemical cycles. Ocean acidification will be considered in combination with other global changes such as warming and deoxygenation. The Symposium is inter-disciplinary and contributions are expected to detail advances in observations, modelling, field and laboratory studies. Dedicated sessions will emphasize processes and impacts as well as consequences for humans and their potential responses through policy and management.

[Website](#)

Deadlines: Abstracts March 6, 2020, Early registration June 5, 2020

*Please send meeting announcements to
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

*SVP faites parvenir vos annonces de réunion à
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

POSITIONS AVAILABLE

Postdoctoral Researcher- Ocean Biogeochemistry Modelling

LEMAR, Plouzané, France

The postdoctoral researcher will work on a recently funded ANR project entitled "BIIM" (Biogeochemical Impact of Iron released by Marine particles of sedimentary and hydrothermal origin) which aims to 1) assess the processes leading to the net dissolution of abiotic particulate iron from sedimentary and hydrothermal origin, and 2) evaluate its impact on marine biogeochemistry.

In particular, the postdoctoral researcher will be in charge of setting up the numerical simulation of this newly considered iron compartment. The modelisation will have more specifically to take into account the impact of external parameters (e.g. T° , light, bacteria abundance) on the dissolution of these iron particles. The selected candidate will have to write the equations describing the time evolution of the dissolved iron originating from the iron particles. A 0D model derived from these equations will then have to be coded in Fortran (in order to be easily incorporated in the full 3D biogeochemical model, later in the project) and used to numerically simulate the role of the various in-situ environmental parameters (e.g. T° , light, sediment types) on the dissolved iron concentration. Results of the 0D simulations will be confronted to the comparable experimental data to refine the parameterization. In some cases, this confrontation between the 0D simulations and the experimental data may lead us to modify the experimental design, which has been thought to be flexible. Then, the processes modelled in 0D will be embedded in a 3D ocean biogeochemical model (PISCES) by adding the code corresponding to the influence of the iron particles on the dissolved iron to the PISCES iron module. The end goal of this work is to produce an assessment of the global biogeochemical impact of iron particles on the dissolved iron distribution and variability that, in turn, will impact global biological production patterns. He/She is expected to publish the results in high-impact journals and participate to international conferences. Previous experience with biogeochemical modelling (Unix/Linux environment, Fortran) and knowledge in trace metal biogeochemical cycles are required. Excellent oral and written English and ability to work within a multidisciplinary team are compulsory.



How to apply

To apply, a CV, a letter of application (2 pages max) and the names of three referees should be emailed to helene.planquette@univ-brest.fr

Closing date for applications

All applications for this post should be received in advance of on **Monday 17th June 2019**. Please note that late applications will not be accepted. Starting date would ideally be in September 2019.

Contact

For further information, contact Dr Thomas Gorgues : thomas.gorgues@ird.fr

Postdoctoral Researcher - Trace metal ocean biogeochemistry

LEMAR, Plouzané, France

The postdoctoral researcher will work on a recently funded ANR project entitled "BIIM" (Biogeochemical Impact of Iron released by Marine particles of sedimentary and hydrothermal origin) which aims to 1) assess the processes leading to the net dissolution of abiotic particulate iron from sedimentary and hydrothermal origin, and 2) evaluate its impact on marine biogeochemistry.

In particular, the postdoctoral researcher will be in charge of undertaking careful dissolution experiments of sedimentary and hydrothermal particles. Analyses will include SF-ICP-MS (Element XR/SeaFAST), iron organic speciation by competitive ligand exchange adsorptive cathodic stripping voltammetry (CLE-ACSV) and SEM/XDS imaging. He/She will interpret the results regarding the parameters affecting the dissolution of iron from suspended sedimentary particles. He/she will be interacting with the modellers so that outputs of these experiments can be embedded in biogeochemical models. The end goal of this work is to produce an assessment of the global biogeochemical impact of iron particles on the dissolved iron distribution and variability that, in turn, will impact global biological production patterns.

Previous experience with trace metal clean analytical techniques is required. Excellent oral and written English and ability to work within a multidisciplinary team are compulsory. He/She is expected to publish the results in high-impact journals and participate to international conferences. Strong knowledge in trace metal biogeochemical cycles are required.

How to apply

To apply, a CV, a letter of application (2 pages max) and the names of three referees should be emailed to helene.planquette@univ-brest.fr

Closing date for applications

All applications for this post should be received in advance of on Tuesday 25th June 2019. Please note that late applications will not be accepted. Please note that late applications will not be accepted. Starting date would ideally be in September 2019.



Post-Doc fellowship in biological fractionation of non-traditional isotopes

Laboratoire d'Océanographie, Villefranche-sur-Mer, France

The post-doc will focus his/her activity on characterizing and quantifying biological fractionation of lithium, copper and zinc isotopes in the marine environment. The post-doc will also participate to the experimental work initiated at the cellular level, in collaboration with a laboratory located at the Faculty of Medicine in Nice. At the organism level, the candidate will perform high sensitivity



isotopic measurements on plankton, plankton-feeders, fishes, bivalves and corals, collected in contrasted environments, or cultured under controlled conditions. The objective is to establish the control laws of biological isotope fractionations in the ocean and to provide new approaches in

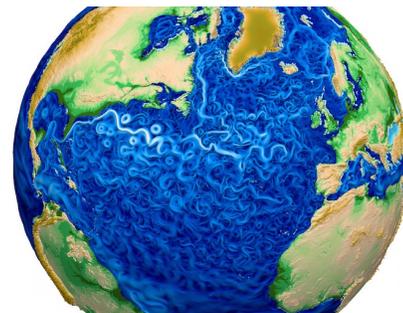
ecotoxicology, paleoenvironment and medical fields. LOV is a joint research unit of both the CNRS and Sorbonne University, and is a French marine station specialized in plankton ecology, ocean acidification and marine biogeochemical cycles. At LOV, the post-doc will participate to the newly formed Chemistry-Ocean-Climate (CHOC) team dynamics, that involve 8 researchers, technical staffs and several PhD students.

Deadline for applications June 25 2019.

PhD student - Global Ocean Modeling/Scientific Computing

MICDE Ann Arbor, MI, USA

A PhD student is sought for a Department of Energy (DOE)-funded project in Global Ocean Modeling and Scientific Computing. The student will work with Professor [Brian Arbic](#) at the University of Michigan (U-M), [Dr. Phillip Wolfram](#) and Dr. Andrew Roberts of DOE's Los Alamos National Laboratory, and other DOE scientists. The project involves insertion of tides into the ocean component of the [DOE Energy Exascale Earth System Model](#) (E3SM). The ocean component is based upon the [Model Prediction Across Scales](#) (MPAS) code, which uses a finite-element mesh to focus attention on coastal regions. With the addition of tidal forcing, the model will be an ideal tool with which to quantify



the changes likely to occur in coastal areas over the next 50-100 years. The student will be strongly encouraged to spend

significant time in Los Alamos, working alongside DOE scientists.

[Details](#)

Deadline to start in January 2020 - September 15, 2019, for Fall 2020 - January 7, 2020.

Postdoctoral Research Associate

University of Liverpool, Liverpool, UK

The University of Liverpool is looking for a Postdoctoral Researcher to join Professor Tagliabue's research group at the University of Liverpool. This post is linked to the "Bermuda Atlantic Iron Time-series" (BAIT) project, which is a new joint NSF-NERC funded project that links world leading laboratories in the UK and USA. BAIT will bring together observations and modelling to better understand the processes regulating the ocean iron cycle in the upper ocean over the seasonal cycle, using the Bermuda Atlantic Time Series as a natural laboratory. You should have a PhD in ocean biogeochemistry or a related discipline and will be based in the School of Environmental Sciences at the University of Liverpool; the post is available immediately for 24 months.



UNIVERSITY OF
LIVERPOOL

[Details](#)

Deadline June 13, 2019

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

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

GENERAL

The Martin Bergmann Medal for Excellence in Arctic Leadership and Science

Established by the [Royal Canadian Geographical Society](#) in 2012, the [medal](#) recognizes achievement for “excellence in Arctic leadership and science”. It celebrates “Marty” Bergmann, a public servant with an outstanding talent for networking that led him to connect scientists with resources and technology, to inspire business leaders, explorers and innovators towards new goals and to consider and attempt to meet the challenges inherent in opening up the Arctic, whether these were related to logistics, safety, resources, people, knowledge or will.



The Martin Bergmann Medal is awarded for:

- distinguished accomplishments in Arctic leadership and science in the Canadian Arctic
- excellence for a recent outstanding achievement, or for a lifetime of achievement, both being equally eligible.

All nominations [must be made on-line](#) and received at the Society’s office by **11:59 pm EST on June 30**.

SCOR International News

Newsletter

The [March newsletter](#) from SCOR International is now available. Past editions of the newsletter and other material are available on their [publications page](#). You are encouraged to [subscribe](#) to their email stream.



New Working Group Proposals

Six SCOR working group proposals were submitted for consideration at the 2019 SCOR Annual Meeting. The proposals for review this year are:

1. Roadmap for a Standardised Global Approach to Deep-Sea Biology for the Decade of Ocean Science for Sustainable Development (DeepSeaDecade)
2. Marine Species Distribution Modelling in the global ocean (MSDM-GO)
3. DiagnoSis of Carbon in the Ocean: Variability, uncERtainty and the Coasts (DISCOVER-C)
4. Changing Biotic-Sediment Interactions in the Ocean Seabed (CBIOS)
5. Coordinated Global Research Assessment of Seagrass System (C-GRASS)
6. Integration of international ocean acidification research at CO2 seeps (InterSEEP)

The proposals are available at <https://scor-int.org/events/scor-annual-meeting-2019/>. One or two of these will be funded at the Annual SCOR meeting in September. Comments from any interested scientist are welcomed. Comments can be sent to CNC-SCOR, either via the Chair (Paul Myers, pmyers@ualberta.ca) or the Secretary (David Greenberg, david.greenberg@dfo-mpo.gc.ca). The deadline for comments for this year is June 30, 2019.

OERA 2019 Webinar Series

oera 2019
webinar 1
series 9

Thursday, April 25 | 1:00PM AST

"Using energy storage to increase renewable electricity generation capacity in Nova Scotia"



Dr. Lukas Swan
Dalhousie University

Thursday, May 23 | 1:00PM AST

"Risk & Reward: Protecting Your Supply Chain, Your Interests and Your Investment"



Mohammad Ali Raza, Peter Zed, Matt Dorreen
Cox & Palmer – Halifax

Thursday, June 20 | 1:00PM AST

"eDNA Solutions for Species Detections in Tidal Energy Environmental Effects Monitoring"



Dr. Marc Skinner
Stantec Consulting Ltd

Thursday, July 25 | 1:00PM AST

"Taking tidal energy research in the Bay of Fundy to the next level"



Dr. Richard Karsten
Acadia University

Thursday, Sept 26 | 1:00PM AST

"Microbial genomics for de-risking offshore oil and gas exploration in Nova Scotia"



Carey Ryan
OERA

Thursday, Oct 24 | 1:00PM AST

"Using radar data to evaluate seabird abundance and habitat use at the Fundy Ocean Research Centre for Energy site near Parrsboro, NS"



Jake Walker
Acadia University

Thursday, Nov 21 | 1:00PM AST

"Electrification of Marine Fleet (Modeling of electric boats as energy storage)"



Dr. Sue Molloy
Glas Ocean Electric

Thursday, Dec 12 | 1:00PM AST

"Developing Enhanced Marine Operations (DEMO) in High Flow Tidal Environments"



Dr. Etienne Mfoumou
NSCC Applied Research

Register at oera.ca/events/webinar-series



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

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

Newsletter #107 will be distributed in July 2019.

Please send contributions to David Greenberg
david.greenberg@dfo-mpo.gc.ca

Subscription

CNC-SCOR is changing the server that distributes the *Canadian Ocean Science Newsletter*. Until that is complete, please email david.greenberg@dfo-mpo.gc.ca if you want changes in your subscription status.

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

Le Bulletin # 107 sera distribué en juillet 2019.

Veillez faire parvenir vos contributions à David Greenberg, david.greenberg@dfo-mpo.gc.ca

Abonnement

CNC-SCOR est en train de changer le serveur qui distribue le *Bulletin Canadien des Sciences de l'Océan*. En attendant, veuillez envoyer un courrier électronique à david.greenberg@dfo-mpo.gc.ca si vous souhaitez modifier le statut de votre abonnement.

CNC-SCOR

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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.

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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