



RESEARCH IN THE SPOTLIGHT

A new full member joins Québec-Océan



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Jaime Palter is originally from the Boston, Massachusetts (U.S.) area. She completed her doctoral studies at Duke University and then furthered her training during post-doctoral fellowships at the Institute of Marine Sciences in Barcelona (Spain) and at New Jersey's Princeton University (U.S.). Jaime Palter recently joined the department of Atmospheric and Oceanic Sciences at McGill U. "The department attracts talented graduate students from the four corners of the globe and is home to very curious and intelligent undergraduates," says the young researcher. She is enthusiastic over the opportunity to join a team of excellent colleagues. Furthermore, the thought of living in a large, welcoming city like Montréal helped her make her career choice.

Her research interests include the formation and circulation of water masses and their impacts on marine ecosystems (nutrient dispersion, heat,

carbon, etc.). Jaime is currently working with oceanic data and models to understand the processes that control vertical exchanges between the surface and deep water as well as the associated heat and carbon fluxes.

One of her preferred areas is the subpolar North Atlantic because the vertical exchanges are very important. It is in this region that very dense water masses are formed. Interannual and decennial variations have been observed in the properties of these water masses. Jaime hopes to characterize this variability using data collected by the international Argo program's automated floats.

Jaime also plans to study the exchanges between the Arctic and the subpolar North Atlantic. She wants to obtain an underwater glider equipped with bio-optical sensors. That equipment would make it possible for her to measure the currents over the continental slope off Newfoundland, because Arctic waters flow through that area on their way to the North Atlantic subpolar gyre. Quantifying the volume of water flowing from the Arctic to the Labrador Sea would be of help in completing the North Atlantic's mass, heat and fresh water budget. Bio-optical sensors would also make it possible to characterize the impact of frontal dynamics on biological activity in this sector. This new member will have many opportunities for multidisciplinary collaboration with Québec-Océan's researchers.

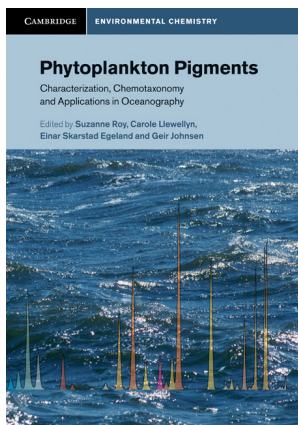
For more information on ARGO:

<http://www.argo.net/>

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A new book on phytoplankton pigments

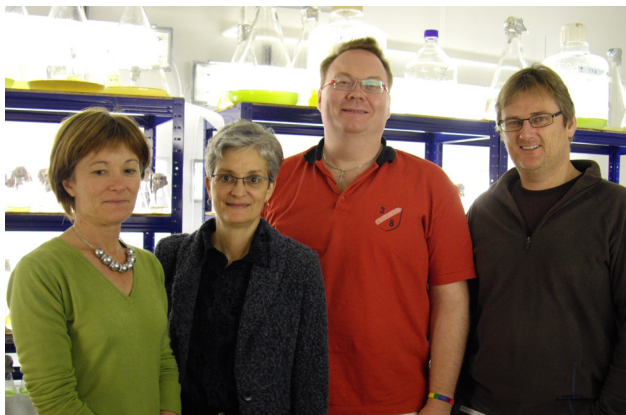


During the last decade, changes in analysis methods and techniques for cultivating algae has led to the discovery of a large number of phytoplankton pigments and algal groups.

Suzanne Roy, professor at UQAR/ISMER and full member of Québec-Océan, is one of the co-editors of the new book *Phytoplankton*

Pigments: Characterization, Chemotaxonomy and Applications in Oceanography. This collection of scientific texts, written by the world's leading experts on algal pigmentation, presents the latest knowledge on new pigments, new groups of algae, chlorophyll and carotenoid biosynthesis, phycobiliproteins, the most recent analytical methods and data processing methods (chemotaxonomy). The application of this new knowledge is also discussed: photoprotection, radioactive marking of pigments, remote sensing and coastal monitoring, especially for tracking harmful algae. The publication of the book was made possible by a grant from the Scientific Committee on Ocean Research (SCOR).

<http://www.cambridge.org/gb/knowledge/isbn/item6006763/>



Co-editors from left to right: Carole A. Llewellyn, Suzanne Roy, Einar Skarstad Egeland and Geir Johnsen.

Humpback whales, Canada's ambassadors to the Caribbean

In 2011, the Disney Worldwide Conservation Fund (DWCF) gave \$2 million for conservation projects around the world, including one developed by Lyne Morissette, of the UNESCO Chair on integrated analysis of marine systems and an associate member of Québec-Océan. The purpose of the "On the Trail of the Whales" project is to enhance the conservation of the great whales in their Canadian environment and in the Caribbean. It is the first Québec project to be funded by the U.S. foundation. According the grant recipient, "The plan that we proposed to Disney has a humpback whale research component, a conservation component and an educational component."



Credit: Cédric MILLON

This humpback whale, photographed in the AGOA sanctuary, in the French West Indies, may be a summer visitor from the St. Lawrence River.

A twinning program for protected marine areas linking the Saguenay – St. Lawrence Marine Park and the AGOA sanctuary in the French West Indies will make it possible to work together on conservation. The concept of twinning will be adapted to the project's educational component to link Francophone schools in Quebec, Guadeloupe and Martinique. "The message that we want to send to young people, says Dr. Morissette, is that conservation efforts made in Quebec will have a direct impact on their friends in the South. Together, they will be able to make a difference for global ocean protection."

IN THE FIELD

On the trail of silver nanomaterials in the Great Lakes – St. Lawrence system

The strategic NSERC program “Characterization of Silver Nanoparticles in Aquatic Environments” being carried out by Québec-Océan members Émilien Pelletier and Jean-Pierre Gagné at UQAR/ISMER, Claude Rouleau at the Maurice Lamontagne Institute (Fisheries and Oceans Canada) in collaboration with Karine Lemarchand (UQAR/ISMER), will be under way from 2011 to 2014. Québec-Océan is supporting the project with its financial assistance for collaborative projects.

The project’s objectives are to determine the various paths taken by silver nanomaterials, from their industrial and domestic sources to environmental media (water masses, particles in suspension, sediments and living organisms). The impacts of light, ionic strength and organic material on the aggregation and transformation of nanomaterials will be closely studied.



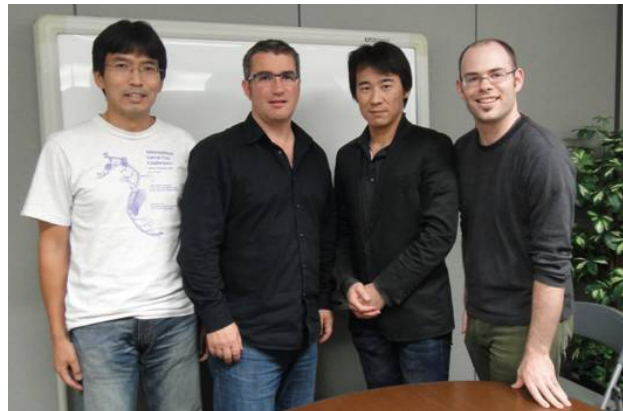
A sunset at the mouth of the Saguenay Fjord.

Currently, silver nanometric particles are used for food packaging materials, some anti-odour fabrics and sports equipment, cosmetics and in electronic and medical equipment. However, their future and their toxic effects in aquatic and terrestrial environments are still not well known.

The team’s work will be useful for industrial and environmental regulations that will make it possible to maintain a certain level of water and sediment quality in the Great Lakes and the St. Lawrence.

In Japan to review the growth-survival paradigm in fisheries oceanography

A workshop on the growth-survival paradigm (GSP) in the early life stages of fish was held in Yokohama from October 26 to November 1, 2011. The symposium was organized by Akinori Takasuka of the Japan Fisheries Research Agency and called on Pascal Sirois (full member), Dominique Robert (associate member), Jun Shoji (Hiroshima U.) and Yoshioki Oozeki (Japan Fisheries Research Agency).



Credit: Akinori TAKASUKA

From left to right : Jun Shoji, Pascal Sirois, Akinori Takasuka and Dominique Robert.

The goal of GSP research is to ensure predictive and sustainable management of fisheries resources. The hypothesis that the rapid growth of larval and juvenile stages is an essential condition for a high survival rate has been supported by numerous studies in the last two decades. Recent studies, including several carried out by Québec-Océan members, have, however, found evidence that contradict the paradigm. Therefore, it has become necessary to review what is known and to propose a new conceptual model to guide future research.

This Japan-Québec collaboration received funding assistance from the Japan Society for the Promotion of Science (JSPS), the Japan Ministry of Education and Québec-Océan’s program to provide assistance to researchers for meeting organization. The workshop will lead to the publication of a review paper in a leading scientific journal.

Toward a more acid ocean?



Souad Annane, PhD student at the Phytoplankton Ecology Laboratory directed by Gustavo Ferreyra (a Québec-Océan full member) at UQAR/ISMER, received a fellowship from the Fram Centre, in Norway, to participate in the workshop on acidification of aquatic environments that was held in Tromsø from September 27 to 29, 2011. Souad presented a poster entitled “Effects of rising CO₂ levels and eutrophication on plankton community structure and transparent exopolymer particles (TEP) production in the St. Lawrence estuary.” She was part of a group of students at the workshop who submitted a review article entitled “Ocean acidification: the next generation – a postgraduate perspective on research priorities” to the journal *Marine Biology*.

Experiments will soon follow the work already done by Ms. Annane and Mr. Ferreyra, in collaboration with Michel Starr and Michael Scarratt (Fisheries and Oceans Canada’s Maurice Lamontagne Institute). They will use a temperature and pH controlled cultivation system (at the Maurice Lamontagne Institute) and then mesocosms (at MEDIMEER CNRS-U. of Montpellier 2) to study the combined effects of temperature increases and acidification on the dynamics of natural phytoplanktonic communities in the St. Lawrence and the Mediterranean. Souad’s participation in the project, entitled “Global WARMing and ACIDification Effect on the Functioning of the Mediterranean plankton food WEB (WARMACIDWEB)”, received a funding grant for 2012 from MESOAQUA Transnational Access.

A new research vessel for GEERG



Credit: Jeffrey GALLANT (GEERG)

The R/V *Skalugsuak* being refitted at the Verreault Navigation shipyard.

The Greenland Shark and Elasmobranch Education and Research Group (GEERG), a Québec-Océan Ally, has recently taken possession of a research vessel thanks to a donation from Verreault Navigation. The *Skalugsuak* –the Inuit word for the Greenland shark– was modernized and adapted to the specific needs of GEERG at the Group Maritime Verreault shipyard. This 12-metre long vessel will make it possible for GEERG scientists to undertake their largest research project on the Greenland shark in the St. Lawrence and the Saguenay Fjord.

Acoustic and satellite transmitters will be attached to sharks in the summer of 2012 to better understand their distribution according to the environmental conditions in the Baie-Comeau sector. Thanks to donations from other collaborators, the *Skalugsuak* now has the most modern scientific and navigation equipment. “These contributions provide valuable assistance for this private research group, which does not receive any government funding,” said Jeffrey Gallant, GEERG’s director-Atlantic region.

www.geerg.ca/

AWARD AND RECOGNITION



According to the Québec Science magazine, one of the 10 discoveries of 2011 is to the credit of Québec-Océan members Alfonso Mucci, Michael Starr and Denis Gilbert (collaborator and associates, respectively) and Bjorn Sundby. The article “The estuary turns sour,” signed by journalist Dominique Forget, explains how deep waters

of the St. Lawrence estuary are becoming more acidic, which threatens present biodiversity. Now it’s the public’s turn to vote on the 2011 discovery of the year!

<http://www.quebecscience.qc.ca/les-10-decouvertes-2011/8-estuaire-tourne-au-vinaigre>

Mucci A., M. Starr, D. Gilbert, B. Sundby (2011) Acidification of Lower St. Lawrence Estuary bottom waters. *Atmosphere-Ocean* 49: 206-213. doi:10.1080/07055900.2011.599265

SHORT TRAINING AND CONFERENCES AROUND THE WORLD

Québec-Océan contributes to developing the skills and mobility of its students by offering assistance for conferences and short training opportunities. Applications for conferences can be made at any time. Application for short training programs must be made no later than May 31, 2012.

Two students presented their results in the U.S.

JEAN-BAPTISTE FAVIER



Jean-Baptiste Favier is a master's student in the oceanography program at UQAR/ISMER, under the supervision of Gesche Winkler (full member). Last November, he participated in the Coastal and Estuarine Research Federation

Conference (CERF) in Daytona Beach, Florida (U.S.) by presenting a poster entitled "Geographic segregation of the cryptic species complex *Eurytemora affinis* in the upper St. Lawrence estuary: habitat and trophic position."

The results summarized by Jean-Baptiste show a succession of three assemblies of the calenoid copepod *E. affinis* in the upper estuary of the St. Lawrence: the Atlantic clade (A) dominates in fresh water; the North Atlantic clade (NA) dominates in saltwater, and the two clades mix in brackish water. The isotropic analyses of seston, which the clades could eat, do not show any difference between the three habitats. The different isotropic signatures of clade A and clade NA indicate that their food sources are found, respectively, in fresh water and in brackish water; the NA clade does not seem to eat seston.

KATHERINE GAVRILCHUK



Katherine Gavrilchuk (U. Laval) is working on a master's degree on the determination of the diet of four species of rorqual by using stable isotopes, supervised by Gwénaél Beauplet (full member, U. Laval) and co-supervised by Véronique Lesage (associate, Maurice Lamontagne Institute). Katherine participated in the 19th Biennial Conference on the Biology of Marine Mammals, which was held in

Tampa, Florida in November 2011. She presented a poster entitled "Investigating isotopic niche characteristics among sympatric rorqual species in the Gulf of St. Lawrence, Canada."



Credit: Brian Kot

Small rorqual feeding opposite Longue-Pointe-de-Mingan, on the North Shore.

Katherine explained that she used the isotopic ratios of carbon and nitrogen in biopsy samples taken from 630 individuals, obtained between 1995 and 2010 in the Gulf of St. Lawrence. The Bayesian models of each species' diet clearly show a spatial segregation between humpback whales species, although they are sympatric during the summer. The blue rorqual and the humpback rorqual are not often together, unlike the common rorqual and the small rorqual. The models also show a change in their diet over the last 15 years that can be explained by changes in the trophic structure of the Gulf of St. Lawrence.

Four short training activities for four students

GENEVIÈVE PARENT



Geneviève Parent (U. Laval) is preparing a doctorate in biology under the supervision of Julie Turgeon (full member) and the co-supervision of Stéphane Plourde (associate member, Maurice Lamontagne Institute). She took advanced training in statistical analyses applied to genetic data that was offered as part of the 16th Summer Institute in Statistical Genetics at the U. of Washington, in Seattle (U.S.).

Geneviève tells us that the training had three units. The first compared various statistical approaches (e.g., Bayesian and minimum) to compare the methods for grouping individuals based on the various types of markers used (SNP, microsatellite and sequence).

The second unit covered the understanding of the methods' underlying algorithms based on Markov Monte Carlo chains and the analyses/problems associated with those methods. The last unit was to compare the methods for evaluating the relatedness of individuals – something very useful for population geneticists!

PIERRE-ÉTIENNE LESSARD



Pierre-Étienne Lessard (U. Laval) went to the U. of Manitoba, in Winnipeg, to learn how to use the diveMove software package (R software) as part of his master's studies in biology. Under the supervision of Gwénaél Beauplet (full member) and the co-supervision of Mike O. Hammill (associate member, Maurice Lamontagne Institute), he is studying the activity budget and ontogenesis of the diving behaviour of the young harbour seal in the St. Lawrence during lactation. The diveMove package is an essential tool for processing gross diving data. It makes it possible to carry out three main operations: zero correction, transformation of diving depth data and collection of informative data. Pierre-Étienne found the training to be very useful. "This very personalized approach made it possible to target some compatibility problems between the software and the format of my data set. Thereafter, it was much easier to solve them with the help of Mr. Luque, the software's developer, because he knows his program very well and the restrictions that must be observed," Pierre-Étienne said.

ERIC PEDERSEN



The subject of Eric Pedersen's doctoral studies (McGill U.) is "Dynamics and Recruit Dispersion Models for the American Lobster and Their Application to Management", under the supervision of Frédéric Guichard (full member). In the fall of 2011, Eric went to the Ocean Sciences Centre at Memorial U. (St-John's, Newfoundland) to participate in experiments being made in Paul Snelgrove's laboratory. Their purpose was to test the behaviour of lobster larvae, according to their density in the water column and water quality. "This work makes it possible to better understand how larval dispersion can change in response to fluctuations in the lobster population and climate change," remarked Eric Pedersen.

ANNE-MARIE DION-CÔTÉ



Anne-Marie Dion-Côté (U. Laval) recently completed training in Petr Ráb's laboratory, at the Czech Republic Academy of Sciences (Libechov), on understanding the molecular bases of post-zygotic isolation in lake whitefish. Anne-Marie became familiar with the techniques of comparative genome hybridization (CGH) and fluorescent in situ hybridization (FISH). "The training covered all the steps required by the project, from the preparation of chromosome sequencing to the fluorescent microscopic visualization of the various isolated structures," said the doctoral candidate. Anne-Marie is working on the identification of genomic and epigenomic barriers to hybridization in lake whitefish, under the direction of Louis Bernatchez (associate member).

IN THE MEDIA

Climate change threatens the survivability of Hudson Bay polar bears

According to David Barber at the U. of Manitoba and associate member of Québec-Océan, climate change is the reason for the famine that threatens Hudson Bay polar bears. The ice formed late at the end of 2011. The bears use pack ice to move around and approach seals. The lack of ice delayed by six weeks their hunting season. Since polar bears depend on the winter hunt to survive on dry land in the summer, they are indeed threatened by the decrease in pack ice.

<http://www.cyberpresse.ca/environnement/dossiers/changes-climatiques/201201/10/01-4484544-des-ours-polaires-vivent-la-famine.php>

The Québec Winter Carnival's scientific side!

For the second consecutive year, the David Suzuki Foundation organized a Québec Winter Carnival Summit, which was held from January 27 to 29, 2012. January 27 was a science day. The public was invited to attend presentations by explorer Bernard Voyer, astronaut Julie Payette and Professor Louis Fortier (U. Laval and full member of Québec-Océan). They talked about various aspects of climate change, and its impacts on winter.

http://www.radio-canada.ca/regions/Quebec/2012/01/16/008-re-chauffement_climatique-sommet_hiver-science.shtml

<http://www.cyberpresse.ca/le-soleil/dossiers/carnaval-de-quebec/201201/16/01-4486408-retour-du-sommet-de-lhiver-au-carnaval.php>

Inauguration of the Argentine Marine Observatory



Credit: Laurent BELLAVANCE

Québec and Argentine delegations at the GSJMO inauguration, in Comodoro Rivadavia.

During the week of November 8, 2011, the 3rd International Colloquium on the Gulf of San Jorge and the Austral Basin was held in Comodoro Rivadavia, a city in the south of Argentina. On that occasion, the Gulf of San Jorge Maritime Observatory (GSJMO) was inaugurated in the presence of the president of Argentina, Cristina Fernández de Kirchner, and the governor of the Province of Chubut, Martín Buzzi.

The observatory is modelled after the St. Lawrence Global Observatory (SLGO). It is intended to make available information on petroleum development and fisheries in the Gulf of San Jorge. Several projects are currently being carried out in association with the observatory:

- A partnership between Argentine businesses, Multielectronic Inc. and Sygif International of Rimouski for oceanographic buoys;

- A comparative study on the health of ecosystems in the Gulf of San Jorge and the St. Lawrence;
- An agreement between UQAR/ISMER and the Argentina Ministry of Science and Technology to facilitate exchanges between researchers and students.

<http://www.bas-saint-laurent.org/texte.asp?id=16331>

Yves Gratton explains spring tides

A storm surge associated with spring tides destroyed several infrastructures in eastern Québec in the fall of 2010, and the local population recalled this natural catastrophe a year later. To demystify the phenomenon, Yves Gratton, professor at INRS-ETE and full member of Québec-Océan, explained the factors involved and how their synergy can cause spring tides.

<http://www.cyberpresse.ca/le-soleil/vivre-ici/la-science-au-quotidien/201110/29/01-4462631-les-grandes-marees.php>

Likely reduction in the seal hunt quota

According to Mike Hammill, researcher at Fisheries and Oceans Canada (Maurice-Lamontagne Institute), the growth in seal stocks has been disturbed by the decrease in ice cover in the Gulf of St. Lawrence during the last two winters. "The young need pack ice," explained the scientist, otherwise, they will drown." Decisions on the seal hunt quota will be made soon, following the Atlantic Regions Forum.

<http://www.radio-canada.ca/regions/est-quebec/2011/12/16/001-chasse-phoques-environnement-quotas.shtml>

The magazine *L'actualité* on board the *Amundsen*

Reporter and blogger for the magazine *L'actualité*, Valérie Borde was on board the *Amundsen* in August 2011, during the ship's last mission in the Arctic. She gives her observations on the decrease in ice cover, Arctic natural resources now accessible, science, maritime transport, etc.

<http://www.lactualite.com/monde/le-diable-est-au-pole?page=0,1>

The effect of wind on primary production in the Arctic

The strong winds caused by climate change could be responsible for increased productivity in some Arctic regions. According to Jean-Éric Tremblay, professor at U. Laval, and 13 other Québec-Océan members who published their analysis in *Geophysical Research Letters* (see [Newsletter 4, October 2011](#)), these winds make it possible for nutrients to rise to the surface and become available to phytoplankton. The availability of light resulting from a decrease in ice cover and the accessibility of nutrients promote phytoplanktonic bloom (primary production). If these conditions persist, they could result in increased production throughout the food web (zooplankton, fish, whales...)

<http://www.aufil.ulaval.ca/articles/autant-emporte-vent-33105.html>

<http://www.cyberpresse.ca/le-soleil/dossiers/percees-scientifiques-2011/201201/04/01-4482894-productif-larctique.php>

Eel stocks decreasing in the St. Lawrence

Louis Bernatchez, professor at U. Laval and associate member of Québec-Océan, is interested in eels, a very special catadromous fish, that live in rivers and reproduce in the Sargasso Sea. Eels acquire genetic particularities depending on the rivers in which they spend much of their lives. In the upper St. Lawrence, they are in decline. Louis Bernatchez raises the hypothesis that the genetic components of the upper St. Lawrence are decreasingly present in the overall population of St. Lawrence eels because the eels with those genetic components are being killed by the turbines of hydroelectric dams.

<http://fr.canoe.ca/infos/environnement/archives/2011/10/20111017-022338.html>

EVENTS

...UPCOMING

November 2012: Québec-Océan's 10th anniversary

Québec-Océan is ten years old! To mark the occasion, the usual Annual general meeting will be transformed into a special colloquium to which scientists, the general public, deciders and the media will be invited. The 10th anniversary will be part of the program of the Québec Marine Science Forum

that will be held throughout November 2012. The Forum will begin in Montréal with the 10th anniversary of Québec-Océan and end with the 25th anniversary of the Maurice Lamontagne Institute (Fisheries and Oceans Canada). More details coming soon...

July 2012: ASLO Aquatic Sciences Meeting

The 2012 meeting of the Association for the Sciences of Limnology and Oceanography will be held from July 8 to 13, 2012, in Lake Biwa, Otsu, Shiga, Japan. Presentation summaries must be submitted before March 1, 2012.

<http://aslo.org/meetings/japan2012/index.html>

June 2012: World Oceans Day

Did you know that Québec-Océan is involved on a day celebrated around the world to honour oceans? World Oceans Day was proclaimed ten years ago during the United Nations Earth Summit that was held in Rio de Janeiro. It is celebrated every year on June 8 and reminds us of the role the oceans play as a source of life throughout the world.

To volunteer your services or find out more, do not hesitate to contact the Québec-Océan coordinator in Rimouski (quebec-ocean@uqar.qc.ca).



The 2011 World Oceans Day in Parc national du Bic.

Credit: Rachel PICARD

May-June 2012: CMOS Congress

The Canadian Congress on Oceanography will be held in Montréal on May 29 and June 1, 2012. The theme of the congress will be "The Changing Environment and its Impact on Climate, Ocean and Weather Services." Summaries can be submitted until February 17.

<http://www.cmos.ca/congress2012/en/index.shtml>

May 2012: 24 heures de science

On May 11 and 12, 2012, the 7th edition of 24 heures de science (24 Hours of Science) will be held to celebrate science and technology. A large number of activities will be taking place around the clock. In 2011, 260 activities were organized in 58 cities and 17 regions, and brought together 20,400 participants. And Québec-Océan was there!

The 2012 theme is "À l'eau la science !" (Science Gets Wet!). In the Lower St. Lawrence, Québec-Océan will partner with Phillippe Archambault's zooplankton and benthic ecology laboratory and Parc national du Bic. An activity to discover the fauna, flora and geology of the surrounding environment will be held on Saturday, May 12, in the morning, in Parc national du Bic's Pointe-aux-Épinettes salt marsh. Contact Rachel Picard (quebec-ocean@uqar.qc.ca).

<http://www.science24heures.com/>



The Québec-Océan at the 2011-24 Hours of Science.

April 2012: International Polar Year (IPY) Conference

The International Polar Year (IPY) 2012 Conference, whose theme is "From Knowledge to Action," will be held in Montréal from April 22 to 27, 2012. The conference will emphasize recent polar research discoveries and make it possible to reflect on the

application of that new knowledge to policies and interventions with respect to biodiversity, human health, environmental health, resource enhancement and maritime transport issues.

January 20, 2012, was the deadline for author registration. If you have not already done so, contact the conference secretariat at +1 613-993-9495 or by email at IPY2012Montreal@nrc-cnrc.gc.ca.

The registration cost for participants will be reduced until February 28.

<http://www.ipy2012montreal.ca/index-fr.php>

February 2012 : Ocean Science Meeting

The major joint meeting of the American Geophysical Union (AGU), The Oceanography Society (TOS), and Advancing the Science of Limnology and Oceanography (ASLO) will be held this year in Salt Lake City from February 20 to 24. The program is online and registration is still possible.

<http://www.sgmeet.com/osm2012/>

A LOOK BACK...

January 2012: Mid-term review

On January 11, 2012, at U. Laval, a crucial step was taken by the Fonds de recherche du Québec – Nature et technologies (Québec Nature and Technology Research Fund) concerning Québec-Océan's funding continuity. The group is funded for six years by the Québec government. At the mid-term review, the progress of the group's work was assessed by means of a highly technical report and meetings between an review committee, several group members, U. Laval and ISMER administrators, and "research users" from government departments and the private sector. The committee's conclusions will not be presented until the spring of 2012, but comments made by the review committee have already been very positive.

December 2011: Québec-Océan shares its vision with the first Great Lakes & St. Lawrence Symphony

On December 3, 2011, a vision exercise on the future of the Great Lakes and St. Lawrence system and the living conditions that will be found there around 2035 was held in Rimouski. The workshop was organized by Stratégies Saint-Laurent (a Québec-Océan Ally) and the Regroupement des organismes de bassins versants du Québec (ROBVQ). The project grew out of a citizens' initiative and is under the direction

of the International Secretariat for Water (ISW), a Québec-Océan Ally. Its purpose was to raise public consciousness about the importance of living in the Great Lakes and St. Lawrence system, and protecting its resources. The results of the discussions will be presented first at the 6th World Water Forum, in March 2012, in Marseille, France, and then in a public debate at the 2012 annual meeting of the Great Lakes & St. Lawrence Cities Initiative, in June, in Québec City.

SIE website:

<http://www.sie-isw.org/en/the-first-great-lakes-a-st-lawrence-symphony>

6th World Water Forum website :

<http://www.worldwaterforum6.org/en/>

November 2011: Annual general meeting of Québec-Océan

Over 130 people came to the 10th Annual general meeting of Québec-Océan, on November 17 and 18, 2011, at Manoir du Lac Delage. University and government researchers, students and representatives of organizations working to conserve marine environments came together to discuss their results in various areas concerning Arctic and subpolar ecosystems.

The two awards for best presentations were presented to Paul Nicot (UQAR/ISMER) and Vanessa Paradis (UQAC).



Credit: Brigitte ROBINEAU

From left to right: Dominique Robert, Paul Nicot, Vanessa Paradis, Daniel Bourgault and Michael Scarratt.

The three awards for best posters were presented to Samuel Collin (U. Laval), Virginie Galindo (U. Laval) and Anaïs Lacoursière-Roussel (McGill U.).



Credit: Brigitte ROBINEAU

From left to right: Emmanuel Devred, Dany Dumont, Samuel Collin, Virginie Galindo and Mathieu Cusson. Absent: Anaïs Lacoursière-Roussel.

During the same event, Simon Bélanger (UQAR) and Yves Gratton (INRS-ETE) of the Canadian Meteorological and Oceanographic Society (CMOS) presented an award for best poster to Lise Durantou (UQAR/ISMER).



Credit: Brigitte ROBINEAU

From left to right: Simon Bélanger, Lise Durantou and Yves Gratton.

ON THE BULLETIN BOARD

New members

Full and collaborator members: Cédric Chavanne (UQAR); Jaime Palter, Eric Galbraith (McGill U.); Florent Domine (U. Laval).

Associate members (post-doctoral fellows): Thomas Lacour, Adam Monier (U. Laval); Lyria Berdjeb, Adrien Lambert (UQAR).

Student members: Margaux Gourdal, Jade Larivière, Marie-Claude Perreault, Thew Suskiewicz (U. Laval);

Catherine Boisvert, Blandine Gaillard, Benoît Ruest (UQAR); Jorge Negrin-Dastis (McGill U.); Laetitia Joseph (UQAC).

Employees and trainees: Maxime Benoît-Gagné, Caroline Guilmette, Hélène Leclerc (U. Laval); Cindy Grant, Bazile Kinda (UQAR).

Québec-Océan Allies

To encourage collaboration with organizations in our field of endeavour and promote the results of our members' research, Québec-Océan has created a new category of members: Québec-Océan Allies. Several organizations have answered the call, and we expect to have interesting collaborations in 2012. We extend a hearty welcome to all our new Allies!



Next meeting of the Québec-Océan board of directors

The next meeting of the Québec-Océan board of directors is scheduled for March 2012. Do not hesitate to tell your ideas and comments to your representative before the meeting. You have a voice at the group's decision-making table; let it be heard!

Message from the manager of field equipment

Now is the time to make field equipment reservations for your 2012 missions! Contact Sylvain Blondeau (sylvain.blondeau@qo.ulaval.ca).

Message from the physical data quality manager

Do you have CTD (Sea-Bird) or ADCP (Nortek and RDI) data? Contact Pascal Guillot (Pascal_Guillot@uqar.qc.ca) to have them processed and controlled so as to obtain data standardized in accordance with recognized international procedures. You will then be able to archive them in a secure manner in databases like the Polar Data Catalog or SGDO-ISMER.

Around the blue planet

To illustrate our group's international visibility, members are encouraged to take a photo of the official Québec-Océan cap during their travels. The photo can show the cap only or a traveller wearing the cap, near the name of a foreign city or next to a distinctive monument (e.g., the Eiffel Tower). Send your photos to Rachel Picard (quebec-ocean@uqar.qc.ca). They will be displayed on the Québec-Océan Website with your name (or not, if you prefer).



Québec-Océan pools together the scientific activities of Québec's main universities active in oceanography, and those of their partners in government and the private sector. Funded by the Fonds de recherche du Québec – Nature et technologies, some universities and research grants, Québec-Océan's mission is to support Québec researchers and the training of students to promote excellence in oceanographic research and dissemination of knowledge.