

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

**Special Bulletin, March 2018
Bulletin spécial, mars 2018**

CNC-SCOR Western Tour Speaker

Each year CNC-SCOR selects someone from the West coast to give a lecture tour heading East, and someone from the East to give a lecture tour heading West. The speakers give talks over one week at oceanographic institutes and schools in eastern and western regions of Canada. The eastern tour has already taken place. Here is the status of the western tour. It has moved forward from the dates announced in the January newsletter

CNC-SCOR East to West Tour Speaker

Cédric Chavanne, from l'Institut des sciences de la mer at Rimouski Quebec will be the CNC-SCOR tour speaker from eastern Canada talking at venues in western Canada. He is a physical oceanographer whose research interests focus on mesoscale (tens to hundreds of kilometers) and submesoscale (hundreds of meters to tens of kilometers) oceanic motions. He uses observations and theoretical models to investigate the ocean dynamics at these scales and their effects on biological processes. One of his observational tools are high-frequency radars, which hourly map ocean surface currents with a resolution of a few kilometers over areas of thousands of square kilometers. He received his PhD from the University of Hawaii in the USA in 2007 where he studied the impact of mesoscale currents on the propagation of internal tides generated at the Kauai ridge. He then held a post-doctoral position at the University of East Anglia in the UK where he investigated the dynamics of the slope front in the southeastern Weddell Sea in Antarctica. Since 2011 he has been a Professor in physical oceanography at UQAR-ISMER, Rimouski, Canada.



<http://www.ismer.ca/Chavanne-Cedric>

Cédric's talk will be ***Peering into the ocean interior from the surface.***

Abstract: Mesoscale (~100 km) and submesoscale (~1-10 km) processes in the upper ocean play a fundamental role in the vertical transport of tracers, exchanging heat and gases with the atmosphere, and supplying nutrients from the ocean interior into the euphotic zone. However, estimating the vertical velocities responsible for this transport

from in-situ observations would require to sample the ocean vertically at a prohibitive horizontal resolution. A new method to diagnose vertical velocities using only surface observations, while taking into account the key physical processes of the mixed layer (ML), has been developed and tested against numerical simulations and in-situ observations. Its skill varies regionally and seasonally, performing in particular quite well for deep winter MLs, with correlations between simulated and diagnosed vertical velocities reaching 0.8 in the ML. This good performance for deep winter MLs is important since the properties of waters downwelled from the ML into the permanent thermocline are set when the ML is deepest in late winter. This method will open new perspectives to fully exploit the high-resolution data from the Surface Water Ocean Topography (SWOT) satellite altimeter that will become available in 2021. Expected outcomes are global observational estimates of upper ocean turbulent tracer fluxes in the range of 10-100 km. These observational estimates will in turn provide valuable benchmarks to tune and refine parameterizations of unresolved processes in global ocean circulation models used to predict climate change.

Schedule

Monday March 5 13:30 UBC Department of Earth, Ocean and Atmospheric Sciences
Contact: Susan Allen sallen@eoas.ubc.ca

Tuesday March 6 14:00 Institute of Ocean Sciences, Auditorium
Contact: Bill Williams Bill.Williams@dfo-mpo.gc.ca

Thursday March 8 14:00 University of Alberta, Tory 3-36
Contact: Paul Myers pmyers@ualberta.ca

Friday March 9 University of Manitoba, Klaus Hochheim Theatre (5th floor, Wallace Building)
Contact: cj.mundy@umanitoba.ca

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

<p>Previous newsletters may be found on the CNC/SCOR web site.</p> <p>Newsletter #99 will be distributed in March 2018. Please send contributions to David Greenberg david.greenberg@dfo-mpo.gc.ca</p> <p>If you wish to subscribe to this newsletter, please send an email to listserv@lists.mcgill.ca with the following message:</p> <p>SUBSCRIBE OCEAN-NEWSLETTER</p> <p>If you wish to cancel your subscription, please send an email to listserv@lists.mcgill.ca with the following message:</p> <p>SIGNOFF OCEAN-NEWSLETTER</p>	<p>Les bulletins antérieurs se retrouvent sur le site web du CNC/SCOR.</p> <p>Le Bulletin #99 sera distribué en mars 2018. Veuillez faire parvenir vos contributions à David Greenberg, david.greenberg@dfo-mpo.gc.ca</p> <p>Si vous désirez vous abonner à bulletin, veuillez envoyer un courriel à listserv@lists.mcgill.ca avec le message suivant:</p> <p>SUBSCRIBE OCEAN-NEWSLETTER</p> <p>Si vous désirez annuler votre abonnement, veuillez envoyer un courriel à listserv@lists.mcgill.ca avec le message suivant:</p> <p>SIGNOFF OCEAN-NEWSLETTER</p>
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