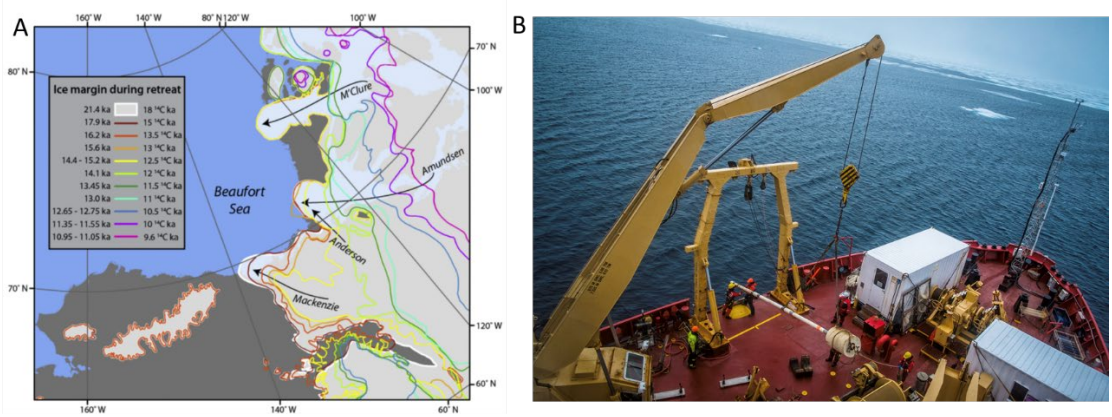
Ph.D. position in marine geology

Sedimentary dynamics and paleoceanography of the M'Clure Strait and Amundsen Gulf (Arctic Ocean) since the last deglaciation



A) Location of the M'Clure Strait and Amundsen Gulf in the Arctic Ocean showing the retreat of the ice margin (Klotsko et al. 2019). **B)** Piston coring operation on board the CCGS Amundsen (Photo @ Marc-André Pauzé).

Ice stream dynamics can play an important role in abrupt climate change through the discharge of large meltwater pulses and icebergs to the marine environment and the subsequent disruption of ocean thermohaline circulation (e.g., the Younger Dryas cooling event). Ice-raft debris provenance studies based on Arctic marine sediment cores suggest that the Canadian Arctic Archipelago is a major contributor of meltwater and iceberg discharge to the Arctic Ocean during the Late Pleistocene. In this context, this PhD project aims to study the sedimentological, mineralogical, geochemical and magnetic signatures of several sediment cores collected along the M'Clure Strait and Amundsen Gulf to reconstruct the dynamic of ice streams at the north-western margin of the Laurentide Ice Sheet. The proposed multiproxy approach will provide critical marine evidence for determining the timing of the collapse of M'Clure Strait and Amundsen Gulf ice streams and its influence on ocean circulation and climate. The student recruited as part of this Ph.D. project will have the opportunity to participate in at least one oceanographic campaign in the Arctic aboard the CCGS Amundsen or IB Oden, as well as attending national and international scientific meetings. A stay at the Department of Geological Sciences of the University of Stockholm (Sweden) is also planned during the development of this PhD project. The PhD thesis will be supervised by Professors Jean-Carlos Montero-Serrano (ISMER-UQAR; supervisor), Guillaume St-Onge (ISMER-UQAR; co-supervisor) and Matt O'Regan (University of Stockholm; co-supervisor).

DESIRED QUALIFICATIONS. The candidate should hold a M.Sc. degree in Earth Sciences, Oceanography, Geology, Geochemistry, Geological engineering, or any related discipline at the time of appointment, and having experience in sedimentology, paleoclimatology and mineralogy will be seen as an advantage. The candidate must have a grade point average (GPA) of at least 3.7/4.3 or the equivalent (ex. ≥ 14/20). Applicants must be proficient in both written and oral French and English.

HOW TO APPLY. Please send all the documents listed below in one PDF file to Jean-Carlos Montero-Serrano (jeancarlos_monteroserrano@uqar.ca):
1) Cover letter explaining the candidate's background and how it fits with the proposed project and the PhD in oceanography at ISMER;
2) CV (including scientific communications, fellowships, awards, missions at sea, etc.);
3) All university transcripts;
4) Three letters of recommendation (one of which must be from a research supervisor).