Postdoc position in physical oceanography of polar regions – McGill University, Montreal

Title
Impact of ocean mesoscale heat transport on sea ice retreat

Description
Fundamental questions remain on how polar oceans will respond to climate change and how rapidly changes will occur. One burning question relates to the role played by the ocean in shaping the sea ice cover and on the subsequent impact on sea ice melting. As satellite sensors become more able to capture small scale features, there is growing evidence that ocean and sea ice interact at fine scale, suggesting for instance that ocean mesoscale and submesoscale eddies significantly influence sea ice spatial and temporal patterns. Furthermore, most climate models overestimate sea ice extent, suggesting that key processes responsible for transporting heat toward the sea ice region are missing in these models. Addressing the role of oceanic fine scale processes on sea ice pattern and evolution is key to improve our ability to project climate change. This is of particular relevance to the Arctic where dramatic melting of the sea ice cover has been observed over the past decades.

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.

Desirable skills and knowledge
- PhD degree in physical oceanography or related fields
- Experience in ocean-sea ice numerical model development (preferably with the MITgcm) and analysis
- Experience with calculation on High Performance Computing platforms
- Excellent oral and written communication in English

Location
The department of atmospheric and oceanic sciences is located at McGill University, an English-speaking university located in Montreal, one of North America’s most cosmopolitan cities. For more information about McGill University and the Department of Atmospheric and Oceanic Sciences, please see http://www.mcgill.ca/meteo.

Conditions
The salary will be CAD$55,000 per year plus benefits.
The work schedule is Monday to Friday during the day for 35h per week.
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.
**Equity and diversity**

McGill University is committed to equity and diversity within its community and values academic rigour and excellence. Hence, all qualified candidates are encouraged to apply.

If you are interested in this position, please send a cover letter explaining how your interests and experiences would make you a suitable candidate; and a CV including a list of publications and contact information from 3 references by **February 9th 2020** to Carolina Dufour (carolina.dufour@mcgill.ca). Evaluation will begin immediately and continue until the position is filled.