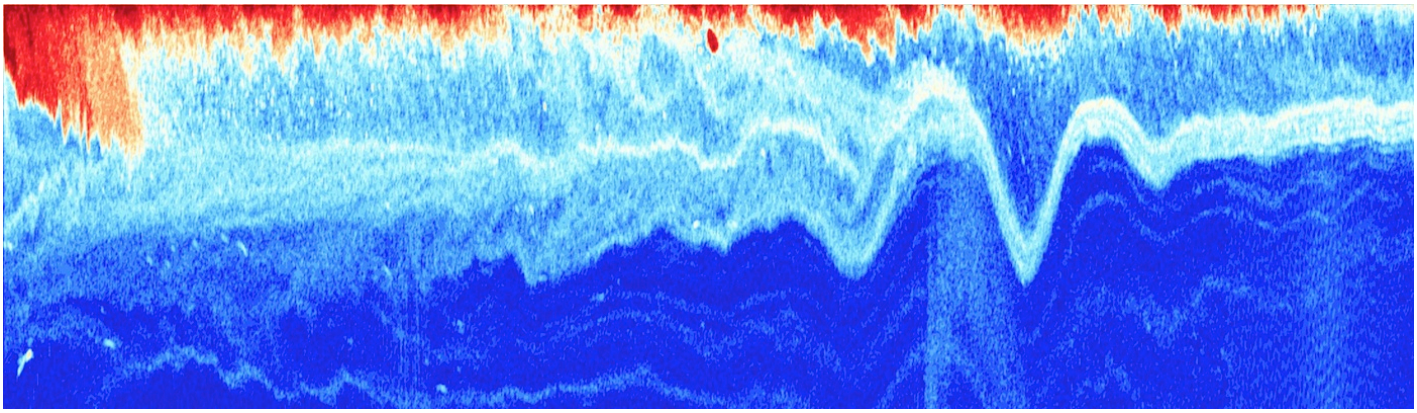
On the physics of internal waves in the ocean



I am looking for a student with whom to develop a doctoral research project to study some fundamental aspects of internal ocean waves and their roles in coastal oceans. The project's details are not specifically defined: I am looking for a creative, passionate, and autonomous candidate who is able to propose his/her own research question about internal ocean waves based on their interests and skills. I will offer supervision and the resources to achieve the proposed project in a timely manner.

There are many unanswered questions about the fascinating and complex behaviour of internal waves related to their generation, propagation, and dissipation. It is currently a hot research topic in physical oceanography that my group has been studying for several years. We study internal waves using direct field measurements as well as numerical simulations.

For supplementary plain language information about internal waves in general and about our research, you can read the post entitled Sur les vagues sous-marines (French only) published on the POLR blog or watch the documentary entitled Vagues sous-marines (French only) produced by the Radio-Canada TV show Découverte. For more technical information, you can consult the following research papers:

- Bourgault D, Galbraith P S and Chavanne C 2016 Generation of internal solitary waves by frontally forced intrusions in geophysical flows *Nature Communications* **7** 13606
- Bourgault D, Morsilli M, Richards C, Neumeier U and Kelley D E 2014 Sediment resuspension and nepheloid layers induced by long internal solitary waves shoaling orthogonally on uniform slopes *Continental Shelf Research* **72** 21-33
- Richards C, Bourgault D, Galbraith P S, Hay A and Kelley D E 2013 Measurements of shoaling internal waves and turbulence in an estuary *Journal of Geophysical Research* **118** 1-14

Additional information and thesis supervision: Daniel Bourgault, Supervisor.