



*Canada Excellence Research Chair  
in Ocean Science and Technology*

*Faculty of Science*

**Canada Excellence Research Chair  
in Ocean Science and Technology  
“The Changing Ocean”**

**Positions Open**

The Canada Excellence Research Chair in Ocean Science and Technology (CERC.OCEAN) has been established within Dalhousie University’s Oceanography Department to lead a major research effort towards observing, understanding and predicting change in the ocean. The CERC.OCEAN group is seeking candidates for a number of research and technical positions in connection with its research themes (see below). These personnel will create the core of a new, multidisciplinary research group, which will be linked closely to the activities of other members of the marine research community in the Halifax region. The following initial positions are available within the next 12 months:

**Research Associate or Engineer. *Autonomous Mobile Robots for Ocean Observation.*** The project involves development of innovative approaches for making biogeochemical measurements from a new generation of autonomous vehicles, including surface vehicles. This includes integration of sensors, analytical systems and telemetry and development of path-planning, and decision-making approaches to task these capabilities to meet ocean observation objectives. New capabilities will be simulated and tested in sea-trials. The project is a collaboration between Prof. Wallace and Dr. Mae Seto (Defence Research and Development Canada). This position is available immediately.

**Postdoctoral research position. *Novel approaches to measurement of nitrogen isotopes in coastal and open ocean systems.*** The project involves development and testing of new approaches for the measurement of stable nitrogen isotopes, comparison with existing methods, and application within multidisciplinary studies of nitrogen cycling in coastal and open ocean environments. Experience with isotope-ratio mass spectrometry and/or experience with analytical methods development and testing are required. A recent PhD in biological or chemical oceanography or other Earth Science discipline is preferred. The project is a collaboration between Prof. Wallace, Prof. Markus Kienast and Prof. Julie LaRoche. This position will be available in the next 8 months.

**Research associate / technical position. *Maintenance and supervision of the operation of isotope ratio mass spectrometers and gas chromatographs equipped with various detectors.*** Skills and experience with custom methods development, data quality-control and troubleshooting required. Willingness to work at-sea for extended periods of time on research vessels is required and prior fieldwork experience is

desirable. An undergraduate degree is required and a post-graduate science degree is preferred. This position will be available in the next 6 months.

**PhD or M.Sc. graduate student position.** *Freshwater sources and variability in the NW Atlantic using stable isotope tracers.* The project involves measurement of stable isotopes in water samples collected from the Labrador Sea and NW Atlantic Ocean and interpretation in terms of the changing freshwater sources for this important region of the ocean. Position requires basic laboratory expertise, interest in data collection at-sea, and interest/experience in data interpretation/modeling of oceanographic data. The project is a collaboration between Prof. Wallace and Dr. Kumiko Azetsu-Scott (Bedford Institute of Oceanography). This position is available immediately.

**Additional PhD and MSc positions.**

In addition to these initial positions, a number of openings for PhD and M.Sc. students will become available over the next 12-24 months. Expressions of interest and enquiries from students interested in ocean observation, and the integration of models with observations, are welcome at any time.

Candidates interested in applying for these initial positions in the CERC.OCEAN team should send a CV and brief statement of interest, stating clearly which position they are applying for, as soon as possible to:

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*Canada Excellence Research Chair  
in Ocean Science and Technology*  
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The main research themes of the Canada Excellence Research Chair in Ocean Science and Technology are:

- (1) Develop new ways of observing the ocean – including new instrumentation packages to be carried by ships of opportunity and autonomous vehicles to measure the biogeochemical state of the ocean over time.
- (2) Improve understanding of observed changes in ocean chemistry and ecology through characterization of fundamental processes, including mechanisms of nitrogen cycling.
- (3) Develop model-based approaches to estimate and predict variability in the air-sea exchange of greenhouse gases, ocean acidification and higher trophic level organisms in the oceans.