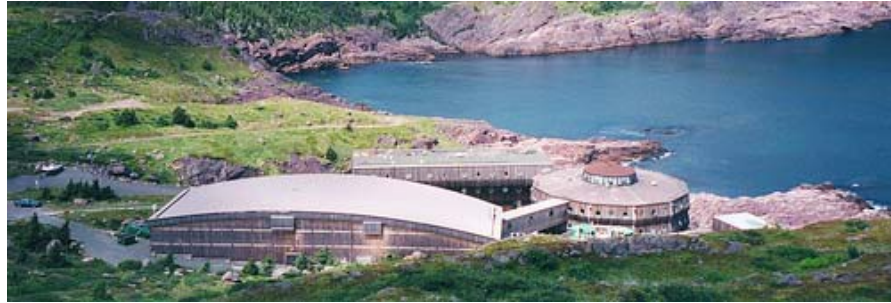


## Graduate Student Positions in Fish Physiology Available in the Dept. of Ocean Sciences (Memorial University of Newfoundland)



Graduate student positions (M.Sc. and Ph.D.) in fish physiology are currently available at the Ocean Sciences Centre (where the Dept. of Ocean Sciences is located) starting between January and Sept. 2017. Applicants are expected to have a strong background in animal physiology and/or fish biology, and a keen interest in learning interdisciplinary, and multi-level, approaches to examining how these animals adapt to changing environmental conditions.

Over the next few years, our laboratory (see <http://remote.osc.mun.ca/kgamperl/>) will use techniques such as *in vivo* measurements of cardiorespiratory parameters, respirometry, pharmacology, microvessel techniques, echocardiography, measurements of heart muscle contraction kinetics, and functional genomics to address a number of questions. These include, but are not limited to: 1) what factors (mechanisms) limit heart function in fishes at high and low temperatures?; 2) what roles do the immune system and stress physiology play in regulating cardiovascular function at environmental extremes?; 3) why heart function is compromised following acclimation to prolonged hypoxia?; 4) microvascular control of tissue blood flow, and how it is impacted by changes in temperature, oxygen level etc.; and 5) hyperbaric effects on fish metabolism and cardiorespiratory physiology.

Overall, this work will provide a comprehensive and integrative (from whole animal to genomic) view of numerous aspects of fish cardiorespiratory physiology, and of the capacity of fish to deal with environmental stressors of ecological importance. Such studies are key to understanding how changing environments will affect fish populations, and the importance of plasticity to physiological adaptation and evolution.

For more information on these positions contact Dr. A. Kurt Gamperl, Tel (709) 864-2692; e-mail [kgamperl@mun.ca](mailto:kgamperl@mun.ca). Memorial University offers competitive financial packages (stipends \$19,500 M.Sc., \$21,000 Ph.D.; and conference travel support etc.) to qualified students (i.e. those having a > 75% average in their last 20 courses).

