

Job opportunity: Scientific Programmer

Employer Description

The Whales, Habitat and Listening Experiment ([WHaLE](#)) project in the Oceanography Department at Dalhousie University represents a group of oceanographers working to reduce risk to endangered whales. We do this by 1) finding and defining whale habitat, and 2) developing, testing, and implementing a Canadian Whale Alert system. We are motivated by the dire status of the North Atlantic right whale. Ship strikes and entanglement in fishing gear have spurred a population decline that may lead to extinction in ~20 years. We are working with research, regulatory, and industrial sectors to characterize and mitigate risks to these whales.

Job Description

We seek an experienced, motivated, and creative individual to help build and maintain an operational Whale Alert system. Our prototype system has two major facets. First, it collates whale survey results from multiple groups/platforms in near real-time and displays them via an interactive online time/space map. Second, it disseminates the near real-time observations to nearby vessels so they can take measures to reduce risk. The successful candidate will:

- Refine and maintain the online interactive mapping system. Source code for the prototype available [here](#).
- Coordinate with academic, international governmental and NGO survey crews throughout the 2018 field season (May to October) to ensure data are up-to-date and faithfully represented.
- Develop a system by which near real-time whale locations can be disseminated to nearby vessels via a remote Automatic Identification System (AIS) aid to navigation (ATON) transceiver.
- Compile all software into well-documented, portable, open-source package capable of adoption and sustained use by other research and/or regulatory groups

This is full time, 6-month work term (May to October) with the possibility of renewal. The candidate must be based at Dalhousie University in Halifax, Nova Scotia. Salary will be commensurate with qualifications.

Requirements

The successful applicant will possess the following qualifications:

- Fluency in a scripting language, ideally R and the 'Shiny' package for online data visualization
- Proficiency with version control and project documentation, ideally using GIT and GitHub
- Familiarity with Linux shell scripting, task automation, and GNU Make build tools
- Strong written and oral communication skills
- Ability to work and solve problems independently
- Ability to train others on both technical and general aspects of the system

Helpful skills

Additional desirable qualifications include:

- Experience with serial programming (for ATON)
- Experience with database management and full-stack web development
- Understanding of basic oceanography
- Familiarity with marine mammal visual and acoustic survey methods and data

How to apply

Interested applicants should send a copy of their CV and a cover letter to Hansen Johnson (hansen.johnson@dal.ca) by 16 April. The successful candidate would ideally be available to start by 01 May.