



4 June 2017

PhD Students opportunities

### **Environmental productivity of the Salish Sea: Two PhD student opportunities in ecological modelling at Institute for the Oceans and Fisheries, The University of British Columbia**

The two PhD student opportunities (PhDs) are available for work on a research project at the Institute for the Oceans and Fisheries (<http://oceans.ubc.ca>) conducted in cooperation with the Pacific Salmon Foundation (<https://www.psf.ca>). The study, Environmental Productivity Patterns of the Salish Sea, seeks to determine the primary factors affecting the survival of juvenile salmon and steelhead in the Salish Sea, and is conducted as part of the Salish Sea Marine Survival Project (SSMSP, <http://marinesurvivalproject.com>). This project seeks to understand how the environmental productivity of the Sea has changed over the last half century along with the consequential impacts throughout the ecosystem.

One of the PhDs will be responsible for the development of a spatial ecosystem model of the Salish Sea based on the Ecopath with Ecosim (EwE) approach and software, building on previous work in the area along with the extensive databases that have been built as part of the SSMSP (<http://sogdatacentre.ca>).

The other PhD will further develop an individual based model (IBM) of juvenile salmon survival and distribution patterns in the Salish Sea, which will obtain hydrographic and biogeochemical information from a GETM/FABM (<http://www.getm.eu>, <https://sourceforge.net/projects/fabm/>) model of the Salish Sea that will be built as part of the project as well as food web information from the EwE model that is being developed through the same overall activity.

The PhDs will work in close cooperation with Professors Villy Christensen and Carl Walters at UBC, and other team members at UBC and elsewhere.

The successful applicants are expected to have a strong quantitative background, and experience with programming (notably .NET and R) will be a definite advantage, especially if

combined with experience in ecosystem modelling. A M.Sc. in marine biology, ecology, biological oceanography, or a related field is a requirement, as is an interest in working independently within a collaborative, interdisciplinary research group.

The starting date for the PhD openings is September 1, 2017 or as soon as possible thereafter, and applicants should submit (in a single pdf-file),

- A CV, including email and phone numbers for three references;
- A short letter explaining the applicant's motivation for working on the project and giving an overview of relevant background;
- Reprints of published papers

Submit applications by email to: Dr Villy Christensen, [v.christensen@oceans.ubc.ca](mailto:v.christensen@oceans.ubc.ca). Webpage: <http://oceans.ubc.ca/villy-christensen/>

The project will cover the PhD's stipends and tuition according to UBC rules, and the successful applicants will need to apply for and be accepted as UBC graduate students. Graduate students at IOF are usually admitted through UBC Zoology ([www.zoology.ubc.ca](http://www.zoology.ubc.ca)) or IRES (<https://ires.ubc.ca>).