Graduate students! Participate in a BIOS^2-CIEE Working group on "Synthesizing fifty years of ecological change in the southern Gulf of St. Lawrence"

CIEE and BIOS2 are co-sponsoring a data-driven working group in biodiversity synthesis. The objective of this activity is to provide graduate students the opportunity to get experience in team projects oriented toward biodiversity synthesis and data analysis. Providing students a stimulating training environment is central to the activity. Working groups consist of a small group of researchers who meet in person in a single location, and work intensively and collaboratively on a research question, using best practices in team science and digital collaboration. The working group is limited to two established researchers and no more than 10 graduate students in order to create an open atmosphere and to engage participants in the project.

We invite graduate students from CIEE Member Universities and BIOS^2 Universities to apply to participate in a one week working group at UBC May 4-8, 2020.

The abundance and composition of marine animals in the southern Gulf of St. Lawrence changed dramatically in the last 50 years, with the near extinction of large ground fish species like Atlantic Cod, and a rapid increase of invertebrates such as Lobster and Snow Crab. This working group will analyse change in population size and distribution of marine taxa, drawing on a unique long-term database based on yearly bottom-trawl surveys conducted by Fisheries and Oceans Canada since 1971. The working group will be composed of ten graduate students selected from across Canada, and led by Dr. Nicolas Rolland (Fisheries and Oceans Canada) and Dr. Guillaume Blanchet (Université de Sherbrooke). On the first day, Rolland and Blanchet will present the structure of the dataset, explain how to manipulate spatiotemporal data and provide the training you will need on cutting-edge methods in statistical modelling. Following, the CIEE will provide training on the working group method. During the other days, the group will work collaboratively on analysing change in different taxa (fish, invertebrates) in relation to time and potential drivers (e.g. climate, fishing, natural mortality), and co-write a paper summarizing these results for publication in a peer-reviewed journal. By interacting with a Fisheries and Ocean Canada scientist and understanding the data that is gathered by this federal institution, participants will gain insight into the type of research being carried out in this government department. By developing an understanding of past drivers and trajectories of change, this project will help Fisheries and Oceans Canada predict the future of this important marine ecosystem and guide management measures that support sustainable development in a changing environment.

Eligibility: (1) Students currently registered in a MSc or PhD at either a BIOS^2 member university (Concordia University, Université de Montréal, Université de Sherbrooke, UQAM, UQAR, Université Laval, University of Alberta, University of British

Columbia and University McGill) or a CIEE member university (Carleton University, McGill University, Université de Montreal, University of British Columbia, University of Regina, Simon Fraser University, University of Guelph, University of Manitoba, UQAM, Queen's University, University of Toronto). (2) Proficient in the following: manipulation of large datasets in R, statistical modelling in R, knowledge of generalized linear models and mixed effect models, training in population ecology concepts including species distributions and population dynamics, demonstrated ability in scientific writing. A background in geospatial analyses, marine ecology and/or fisheries science would be an asset but is not required.

Selection process: Participants will be selected based on multiple criteria, including appropriateness of skill set and conceptual training to the working group, overlap of working group topic or skills to thesis research, complementarity of participant expertise, gender and geographic diversity of participants, and balanced representation of CIEE and BIOS^2 universities.

Applications due: **March 6, 2020**

Application form – fill in the form online here, we have reproduced the questions here so you can prepare your answers in advance of starting the online submission process

--the questions below are short answer text box or select the option---

Please enter your first name and last name in the form below:
First name
Last name

What is your email address?

What is your home mailing address?
Street address 1
Street address 2
City
Province
Postal code

What is your gender?

- Female
- Male
- Non-binary
- Not disclosed

What year did you begin your graduate education (any degree)?

What is your current academic status?

- MSc student
- PhD student

Which CIEE Member University or BIOS^2 University are you currently enrolled at?

- Concordia University
- Carleton University
- McGill University
- Université de Montréal
- University of British Columbia
- University of Regina
- Simon Fraser University
- University of Guelph
- University of Manitoba
- Université du Québec à Montréal
- Queen's University
- University of Toronto
- Université de Sherbrooke
- Université Laval
- Université of Alberta
- Université du Québec à Rimouski

What is your primary department?

What is your thesis topic or title?

--the following questions have large text boxes online for your answers—

What do you hope to gain from participating in this working group?

Please describe your experience and proficiency in manipulating large datasets in R. In your answer, describe examples of how you have demonstrated this proficiency in your own research, and list any formal training in this proficiency.

Please describe your experience and proficiency in statistical modelling in R. Please describe your experience and proficiency with generalized linear models and mixed

effect models. In your answer, describe examples of how you have demonstrated this proficiency in your own research, and list any formal training in this proficiency.

Please describe your training in population ecology concepts including species distributions and population dynamics. In your answer, describe examples of how you have demonstrated this knowledge in your own research, and list any formal training.

Please describe your experience and proficiency in scientific writing. In your answer, describe any scientific publications you have written, and list any formal training.

A background in geospatial analyses, marine ecology or fisheries science would be an asset but is not required. Please describe your experience and proficiency in these fields. In your answer, describe examples of how you have demonstrated this proficiency/knowledge in your own research, and list any formal training.

Please provide a brief biographic profile including recent academic degrees, publications, positions held and academic interests and expertise.