



Two year Postdoctoral Fellow in Movement Modeling

About the position

A fully funded postdoctoral position to work on movement modeling is available at the Centre for Fisheries Ecosystems Research (CFER) within the Fisheries and Marine Institute of Memorial University of Newfoundland in St. John's, Newfoundland, Canada. The successful candidate will work with Dr. Arnault Le Bris (www.arnaultlebris.com) and collaborate with Dr. Jonathan Fisher (CFER-MUN), Drs. Dominique Robert and Dany Dumont (Université du Québec à Rimouski), and Dr. Peter Galbraith (DFO – Mont Joli).

Recent improvements in biotelemetry technologies have resulted in an explosion in the volume of high resolution data being collected on marine animal movement and their environments. Pop-up satellite archival tags (PSATs), which record near-continuous data for an entire year, allow for detailed characterization of migratory behaviours and environmental preferences of marine fish. However, a challenge when working with demersal fish species, is that electronic tags do not provide GPS locations or reliable light signal to infer animal position. Daily positions thus need to be estimated based on correspondence between recorded environmental data (e.g. depth, temperature) and oceanographic gridded data or model outputs.

The successful candidate will improve an existing state-space geolocation model for demersal fish species in Atlantic Canada ([Le Bris et al. 2017](#)). The scope of the work include i) model validation using simulations and data collected by moored and mark-report tags, ii) sensitivity analyses to input oceanographic and telemetry data, iii) reconstruction of migratory tracks of Atlantic halibut (*Hippoglossus hippoglossus*). The project benefits from a unique database of more than 100 PSATs deployed since 2013 throughout the Gulf of St. Lawrence. Reconstructed migratory tracks should help identify spawning habitats, migratory corridors, and stock structure of Atlantic halibut in Canada providing crucial information to improve the management of this increasingly valuable fishery resources.

The project is part of a multidisciplinary effort led by Dr. Dominique Robert to better understand the spatial dynamics of Atlantic halibut. Visits to collaborators' laboratories is expected. Additionally, there will be opportunities to participate in new PSAT deployment and recovery missions.

Qualifications

The successful candidate will have a Ph.D. in Fisheries Science or related discipline (Statistics, Ecology, Marine Biology) with strong quantitative background. Demonstrated experience in statistical modeling and proficiency in Matlab and / or R programming languages are required. Knowledge of spatial analyses, ocean circulation modeling, and R-TMB are additional assets. The successful candidate will have strong written and oral communication skills. The working language is English.

Application

The position is for up to two years conditional on satisfactory progresses. Funding includes a \$55,000 CAD annual salary, travel funds to attend regional stock assessment meetings and international conferences, and a comprehensive benefit packages in accordance with Memorial University collective agreements (<http://www.mun.ca/postdoc/>).

To apply please send a cover letter, a curriculum vitae and contact information for three professional references to Arnault Le Bris, arnault.lebris@mi.mun.ca.

The start date is flexible and could be as early as January 1, 2018. The position will remain open until filled.

Working environment

CFER was created in 2010 with a mandate to conduct research on fisheries science of the North Atlantic, the Canadian Arctic and other similar ecosystems internationally. CFER has built a dynamic team of research scientists and technical personnel with varying specialties. CFER is now the largest university-based capture fisheries research group in Canada. Graduate students and Post-Doctoral Fellows (PDF) play a key role in CFER research. Please go to www.mi.mun.ca/cfer for additional information.

CFER is part of the Fisheries and Marine Institute of Memorial University which is Canada's most comprehensive centre for education, training, applied research and industrial support for the ocean industries. Memorial is a dynamic university with teaching and research programs of international distinction. The University has more than 18,500 undergraduate and graduate students supported by 1,100 faculty members and a staff of over 2,500 employees. St. John's is a family friendly vibrant city, with mild winters and comfortable summers, with a rich culture and history and provides the best of outdoor lifestyles and activities along with city living. Please visit www.newfoundlandlabrador.com for more information.

