

POSTDOCTORAL POSITION IN ECOLOGICAL MODELLING TO ASSESS THE IMPACT OF THE INVASIVE SNOW CRAB ON THE BARENTS SEA ECOSYSTEM

Norwegian Institute for Water Research (NIVA, Oslo) and Akvaplan-niva (APN, Tromsø), Norway

NIVA

The Norwegian Institute for Water Research (NIVA) is Norway's leading institute for basic and applied research on marine and freshwaters. The institute's research comprises a wide array of environmental, climatic and resource-related fields. NIVA's world-class expertise is multidisciplinary with a broad scientific scope. We combine research, monitoring, evaluation, problem-solving and advisory services at international, national and local levels. The NIVA group has approximately 300 employees. NIVA's head office is in Oslo with regional offices in Bergen, Grimstad, Hamar and Copenhagen, a marine research station at Drøbak on the Oslofjord, as well as subsidiaries in Tromsø, Stockholm and Chile.

AKVAPLAN-NIVA

Akvaplan-niva AS is a research-based subsidiary of the Norwegian Institute for Water Research. APN has four main thematic areas: research and innovation; industry and environment; public sector environmental services; and aquaculture services. APN is based in Tromsø and includes an accredited laboratory for the identification of benthic organisms, a testing facility for rearing organisms and performing ecotoxicology experiments, a center for land-based aquaculture, and Unilab AS that provides accredited chemical analyses. Akvaplan-niva has a multidisciplinary and international staff, including 100 environmental and aquaculture specialists and a number of Ph.D students.

POSTDOCTORAL POSITION WITHIN THE EISA PROJECT

A Postdoc position for 24 months is available at the Norwegian Institute for Water Research connected to the research project **EISA "Ecology and management of the invasive snow crab: Predicting expansion, impacts and sustainability in the Arctic under climate change"** funded by the Norwegian Research Council under the MARINFORSK programme (2019-2022).

The position is available from **1st January 2020**, for **24 months**. The successful candidate will be employed by **NIVA (head office in Oslo)**, and will join the Marine Biology department, but the postdoc will be based at the offices of **Akvaplan-niva in Tromsø**, where the modellers in the project are based.

EISA PROJECT

Only twenty-two years after it appeared in the eastern Barents Sea, the snow crab (*Chionoecetes opilio*) has rapidly spread and, in 2017, this invasive species was recorded off Svalbard. Because of its dual nature as an invasive species and potential exploitable resource, the snow crab's expansion in the Barents Sea has important ecological, economic and political implications, both nationally and internationally. EISA will use state-of-the-art methods (including species distribution and ecosystem modelling, evolutionary genetics and machine learning) to provide empirical and modelling data on the snow crab's dynamics in the Barents Sea, identify how it changes the structure and function of the benthic community, and predict broader impacts in the framework of climate change. EISA will answer 3 main questions addressed under 4 research work packages:

- 1) How does the snow crab affect the transfer of matter and energy to high trophic levels, and what are the predicted impacts on the ecosystem (WP1 & 3)?
- 2) Where does the snow crab come from and what do they eat as they expand (WP2)?
- 3) How will the tradeoffs between ecology and socio-economics drive the development of sustainable management measures in the Barents Sea (WP4)?

POSTDOC TASKS

The postdoc will work in an international marine research team focusing on the modelling and prediction of the distribution and impact of the snow crab in the Barents Sea ecosystem. The postdoc is expected to:

1. Actively engage with the partners in all workpackages of the project, to ensure that all data necessary for the modelling activities are collected and processed accordingly.
2. Work closely with the ecological modellers in the project (Uni. Tromsø, Akvaplan-niva, ICM-CSIC).
3. Develop his/her own independent research within the goals of EISA.
4. Write at least 2 first-author papers per year and present the results in at least 1 international conference.
5. Assist the project coordinator with overall coordination tasks, including the maintenance of the project website, data management, annual meetings and communication.
6. Conduct regular short stays in NIVA's main office in Oslo as well as working visits to ICM-CSIC in Barcelona, Spain.
7. Participate in the EISA cruise to the Barents Sea in summer 2019, if he/she is available.

SCIENTIFIC QUALIFICATIONS

We are seeking a candidate with the following professional qualifications:

- PhD and research experience in marine ecology;
- Ecological modeling expertise using ECOPATH with ECOSIM and network analyses;
- Expertise using Species Distribution modelling approaches;
- Knowledge or interest in machine-learning analyses and methods;
- Expertise in working and managing large data sets from different sources;
- Proven expertise in writing scientific publications on a high international level;
- Capacity to lead independent research;
- Excellent English communication skills, both verbally and in writing.
- Background in introduced species or ecosystem approach to fisheries management would be considered advantageous.

PERSONAL QUALIFICATIONS

We are seeking an enthusiastic, goal-oriented candidate with good communication skills, who can demonstrate ability to work in a broad interdisciplinary and international research group and project. You should be able to work in a team of researchers with different backgrounds, but also to propose and develop independent research within the project's framework.

NIVA OFFERS

- Challenging tasks at the leading national water research institute with a comprehensive international network of contacts.
- Office and lab space at Akvaplan-niva in Tromsø, where the postdoc will benefit from the close proximity to the modelling experts, and Barents Sea expertise.
- Stimulating work environment with capable and dedicated employees.
- A head office at CIENS (The Oslo Centre for Interdisciplinary Environmental and Social Research) centrally located near the University of Oslo.
- Competitive conditions and salaries, pension plans and insurance benefits.

APPLICATION PROCESS

- Send your **CV** and **motivation letter** to Dr Eva Ramirez-Llodra: eva.ramirez@niva.no
- **Application deadline:** 30/04/2019
- **Additional information** about the EISA project can be sent upon request.