

PhD Scholarship in Population Genomics of Tiger Sharks

A PhD Scholarship in Population Genomics of tiger sharks is available at the National Institute of Aquatic Resources (DTU Aqua) with starting time December 2015. The project will be carried out in affiliation to the Section for Marine Living Resources' population genetics research group in Silkeborg, Denmark. DTU Aqua is an institute at the Technical University of Denmark.

The purpose of DTU Aqua is to provide research, advice and education at the highest international level within the sustainable exploitation of living marine and freshwater resources, the biology of aquatic organisms and the development of ecosystems as well as their integration in ecosystem-based management. The institute has an international research staff comprising approx. 120 academic employees.

Project description

Knowledge of species responses to past environmental changes is vital for understanding current patterns of biodiversity. In this context, collections of archived specimens in museums and other repositories represent exclusive DNA "log-books" for climate change research. Virtually nothing is known about the genetic impact of past environmental changes and exploitation on sharks and other elasmobranchs, which are keystone species for healthy marine ecosystems. Shark jaws are abundant in museums and as trophies with recreational anglers constituting one of the world's most abundant sources of DNA for retrospective genetic analysis. However, until now the potential of genomic analysis of these unique samples remain largely unexplored. The aim of this project is to apply cutting edge genomic tools to abundant samples of tiger sharks (*Galeocerdo cuvier*) in order to describe historical changes in population distribution, abundance and evolutionary response to global change and exploitation. The project will comprise sample collection of archived tiger and possibly white sharks in Australia. The majority of molecular genomic work, bioinformatics and population genomics analyses will be conducted at DTU Aqua in Denmark, in tight collaboration with researchers at University of Queensland, Australia. Accordingly, the applicant should have an interest in working in an international atmosphere in the interphase between basic and applied research.

Qualifications

We are looking for a candidate who has:

- Master of Science (M.Sc.) degree in Aquatic Science & Technology or similar
- Experience in population genetics/genomics
- Experience with bioinformatics will be advantageous
- Proficiency in written and spoken English
- Keen interest in research within a field combining molecular genomics with aquatic sciences

Approval and Enrolment

Scholarships for a PhD degree are subject to academic approval, and the successful candidate will be enrolled in one of the general degree programmes at DTU. For information about the general requirements for enrolment and the general planning of the scholarship studies, please see the [DTU PhD Guide](#).

Assessment

The assessment of the applicants will be made by Professor Einar Eg Nielsen and Senior Scientist Jakob Hemmer-Hansen, DTU Aqua.

Salary and appointment terms

The salary and appointment terms are consistent with the current rules for PhD degree students at DTU. The period of employment is 3 years.

Further information

For further information about the project, please contact Professor Einar Eg Nielsen, een@aqu.dtu.dk. General information may be obtained from Laura Mundus Nielsen, launie@dtu.dk

Application

Please submit your online application no later than **15 October 2016**.

Applications must be submitted as **one pdf file** containing all materials to be given consideration. To apply, please open the link "Apply online," fill in the online application form, and attach **all your materials in English in one pdf file**. The file must include:

- A letter motivating the application (cover letter)
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma

- Excel sheet with translation of grades to the Danish grading system (see [guidelines](#) and [excel spread sheet](#) here)
- Brief research proposal (1-2 pages) presenting ideas on how to address the research topics given in the short description of the PhD project above.

Candidates may apply prior to obtaining their master's degree, but cannot begin before having received it.

All interested candidates irrespective of age, gender, race, disability, religion or ethnic background are encouraged to apply.

The purpose of DTU Aqua is to provide research, advice and education at the highest international level within the sustainable exploitation of living marine and freshwater resources, the biology of aquatic organisms and the dynamics of ecosystems as well as their integration in ecosystem-based management. DTU Aqua has 260 employees, of whom a third are scientific staff. The other employees are assistant biologists, laboratory technicians, IT employees, administrative staff, ship's crew, student assistants etc. The institute is organized into eight scientific sections which carry out the research, educational and advisory activities. In addition, the institute has a number of scientific and administrative support functions, including the research vessel DANA. DTU Aqua has employees in Charlottenlund, Silkeborg, Nykøbing Mors and Hirtshals as well as on Dana. You can read more about DTU Aqua on www.aqua.dtu.dk

DTU is a technical university providing internationally leading research, education, innovation and public service. Our staff of 5,000 advance science and technology to create innovative solutions that meet the demands of society; and our 10,000 students are educated to address the technological challenges of the future. DTU is an independent academic university collaborating globally with business, industry, government, and public agencies.