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Applications are invited for a Master of Science thesis at Institute of Bioscience Aarhus University (Roskilde), Denmark, available from beginning of 2016.

Title

Response of harbour porpoise to seismic surveys in the central North Sea

Research area and project description:

Purpose and impact: this project is expected to shed light on the possible reactions of harbour porpoises to noise generated during seismic surveys in the North Sea. As such, this project will have broad impact on understanding the impact of anthropogenic sound on marine mammals and will constitute a strong reference for an adequate management of sound emitted by oil and gas industry. Currently there is very little information available on reactions of porpoises to noise from seismic air guns.

Background: Broad band noise and porpoise echolocation sounds were acquired by moored data loggers in 2013 during periods with 2D and 3D seismic surveys in the central North Sea. This project is a desktop study based on the collected data. The data consists of noise recordings, porpoise detections (C-POD data) and detailed activity information from seismic vessels. No additional field monitoring data acquisition in connection with this project is expected.

Methodology: The abundance of harbour porpoises before, during and after the seismic surveys will be investigated by correlating porpoise click activity with recorded levels of seismic noise and distance from the survey ships. In addition the relation will account for other known sources of noise in the areas (e.g. oil and gas platforms). The potential impact of sound emitted by seismic surveys on harbour porpoises will be compared with existing sound exposure limits (Tougaard et al. 2015).

This is a one-year, full time project. The thesis should be written in English, formatted as a manuscript for submission to an international journal.

Reference

Tougaard J, Wright AJ, Madsen PT (2015). Cetacean noise criteria revisited in the light of proposed exposure limits for harbour porpoises. Marine Pollution Bulletin 90:196-208

Qualifications and specific competences:

Applicants to the MSc project must have a relevant Bachelor's degree in marine biology, physics (acoustics) or similar. Experience with harbour porpoise, anthropogenic sound and offshore industry would be an advantage, but not required.

Quantitative skills and experience with programming in Matlab, R or similar is a requirement.

The successful candidate is required to have strong skills in English, documented through reports or other written material.

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Place of Work:

The place of registration is Aarhus University, with main place of work at the department of Bioscience, Frederiksborgvej 399, DK-4000 Roskilde, Denmark; however, an office space will also be made available at the department of Chemistry Environment at Maersk Oil and Gas, Brittaniavej 10, DK-6700 Esbjerg, Denmark.

Contacts:

Applicants seeking further information are invited to contact:

Main supervisor:

Senior scientist Jakob Tougaard,
Department of Bioscience, section for Marine Mammals, Aarhus University
Phone: +45 4098 4585, e-mail: jat@bios.au.dk

Or co-supervisor and project coordinator:

Matthieu Povidis-Delefosse,
Chemistry and Environment department, Maersk Oil
Phone: +45 7911 1876, e-mail: matthieu.delefosse@maerskoil.com

Application procedures:

Deadline for applications: 21st December 2015

Please send by e-mail to the above contacts information regarding:

- Personal contact information
- Academic background
- Application material including
    1. Reference letter (as a minimum 1 must be included or sent directly from the recommending person)
    2. Motivation (1 page)
    3. Curriculum vitae
    4. Publications where the applicant is first or co-author
    5. Relevant transcripts and diploma(s) in one merged file. Please specify your unweighted grade average calculated and based on your transcript's grading scale, BSc.

Application should be written in English.