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## Curtin University turn their Sonar Heads to shark detection

Curtin University's Centre for Marine Science and Technology (CMST) has welcomed the Western Australian Government's decision to award \$273k from the Applied Research Program to develop sonar imaging techniques to detect sharks.

The Hon. John Day, minister for science and innovation, recently announced the project which will be led by Drs. Miles Parsons and Iain Parnum from CMST, and conducted in collaboration with Intellipulse (Kim Allen), DSPComm, Shark Bay Ecosystem Research Project and a number of other collaborators.

The research team will examine the efficacy of detecting sharks using marine-acoustic sonar systems, with the ultimate goal of developing techniques which can be applied towards an automated detection system to help reduce the number of human and shark encounters around WA's beaches.

"Detection of marine mammals and divers using sonar systems is becoming more and more common, however, the acoustic return from a shark is substantially different as it does not possess a gaseous chamber (lungs)," said Dr. Parnum.

The project aims to examine the acoustic reflectivity of different sharks (size and species) at different frequencies by 'insonifying' sharks at different locations along the WA coastline. A variety of sonar devices (differing in operating frequency, beamwidth and power) are to be tested, including diver detection, single and multi-beam sonar and sidescan sonar, to identify the most effective detection method.

CMST has decades of experience working with underwater sound, the physical and behavioural impacts of noise on marine fauna, as well as active acoustic techniques to map underwater habitats and biomass in the water-column. As one of the world's leading underwater acoustics research groups CMST is ideally qualified to be examining the marine-acoustic detection of sharks.