2010 CNR Challenge

Next Generation Technologies for Today's Warfighter

Seedling Research Funding

Bring your innovative ideas here and help us uncover the "next big thing." Funding will be provided for innovations that fit the theme of the conference and the six featured science and technology topics

Code 32

Flow Noise Mitigation by Fish

ONR is looking for validation that fish, such as the Atlantic bluefin tuna (Thunnus thynnus) that have been clocked swimming at up to 30 mph for extended periods of time, can detect acoustic signals demonstrating ability to mitigate flow noise.

ONR

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OFFICE OF NAVAL RESEARCH

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Code 32 Guidelines:

Title: Flow Noise Mitigation by Fish

Objective: Fish are known to have hearing organs that have maximum sensitivity at low frequency (~100 Hz). Fish have also demonstrated the ability to determine the direction of arrival of low frequency sound.

Given the size and separation of fish hearing organs, the ability to measure arrival direction must involve detection of the vector component of the acoustic field, as opposed to the scalar (acoustic pressure) component. Current Navy acoustic vector sensors are highly susceptible to flow noise. Demonstration that fish can determine the arrival direction of low frequency sound while traveling at high speeds would indicate that they have the ability to mitigate flow noise.

Description: ONR is looking for validation that fish, such as the Atlantic bluefin tuna (Thunnus thynnus) that have been clocked swimming at up to 30 mph for extended periods of time, can detect acoustic signals demonstrating ability to mitigate flow noise.

POC: Dr. Mike Traweek (Code 321)

The 2010 CNR Challenge will award up to 10 awards, each totaling up to $100K, to open funding opportunities for a larger pool of participants. Before submitting your white paper, take time over the course of the 2010 Naval Science & Technology Partnership Conference to meet ONR subject matter experts at the Information Exchange and in breakout rooms to discuss their needs. Submit your idea on site at the Director of Innovation's break-out room (must be on CD). Once received on site, ONR will provide you with a receipt acknowledging your submission. Entries will be reviewed after the conference with all submissions evaluated based on individual merit, applicability, relation to naval energy and research needs.

Specific white paper guidelines and the Award Timeline are available in the Director of Innovation's break-out room.