

Keynote Talk

Underwater Communications and AUVs: From The Arctic to the Equator and Other Places Before, After and In Between

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Abstract

From the early days of the Autonomous Ocean Sampling Networks (AOSN) researchers have tried to exploit the synergies that exist between underwater navigation, communications and adaptive control. Over the last ten years we have made slow but steady progress in this regard.

In this talk, we examine the role of underwater communications in the context of use on Autonomous Underwater Vehicles (AUVs). In particular this talk is based on our work with the Seabed, Jaguar and Puma AUVs and their use in studies aimed marine archaeology, habitat characterization, coral reef ecology, hydrothermal vent studies and arctic operations. Based on user requirements we highlight cases where acoustic communications were used for vehicle health related telemetry, vehicle navigation and telemetry, telemetry of sensor scalar data for adaptive surveys, telemetry of vehicle imagery and multiple vehicles operations.

Categories & Subject Descriptors: Algorithms, Experimentation, Verification

General Terms: Experimentation

Keywords: experimentation

Bio

The speaker is an Associate Scientist in the Department of Applied Ocean Physics and Engineering at the Woods Hole Oceanographic Institution. He completed his Ph.D. in the MIT-WHOI Joint Program in 1995. His research interests are in the area of robotics and imaging. His research takes him on multidisciplinary expeditions across the world's oceans.