



Special Seminar Series on Fisheries and Ecosystem Acoustics

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Woods Hole Oceanographic Institution ~ AOP&E and Biology Departments

***Remote inference of biological parameters using broadband acoustic
"color"***

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NEFSC Stephen H. Clark Conference Room, NOAA Aquarium Building

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ABSTRACT

Active narrowband acoustic scattering techniques have been used for decades to infer the distribution of marine organisms, such as fish, squid, and zooplankton. Accurately inferring relevant biological parameters from the acoustic returns, such as size or abundance of organisms, has represented a far more formidable obstacle, requiring a multi-faceted approach in order to make significant headway. Over the years, advances have been made in understanding the fundamental scattering physics, resulting in more robust and accurate scattering models. These models have been guided and tested by controlled laboratory scattering experiments as well as in a plethora of field experiments. Rapid advances in instrumentation and deployment platforms have also enabled new insights to be gained. In this presentation, a brief overview of this research area is given, results from the development and implementation of broadband scattering techniques for studying biological processes over relevant spatial and temporal scales are presented, and limitations of these techniques considered.