
Woods Hole Oceanographic Institution
Biology Department Seminar



Wednesday, February 14, 2024 – 3:00 p.m.

Behavioral Responses of Whales to Military Mid-Frequency Active Sonar

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Following several unusual mass stranding events associated with military exercises, the past several decades have witnessed massive research effort to understand whale behavioral responses to military mid-frequency active sonar sounds. Within and alongside this effort, there has been rapid development of high-resolution animal-borne tags to record acoustics along with whale posture, movements and location. In addition to providing a window into behavioral responses to sonar, biologging data have given exciting insights into the basic biology of species like beaked whales whose behavior was poorly understood before. But putting all the pieces together has also required creativity and interdisciplinary and cross-sectoral collaboration. We have developed new software tools to process and share tag data, co-opted and even developed state-of-the-art statistical models to make sense of the data, and integrated best practices from disparate specialties like statistics, signal processing, and acoustic propagation modeling, all while trying to keep the biological big picture in mind. This talk will try to tell the story of about 20 years of large collaborative behavioral response studies from a personal perspective, tracing my journey from a MIT-WHOI JP student to a statistics professor, and highlighting the examples of animaltags.org and hierarchical hidden Markov models.

HYBRID! In Person: Redfield Auditorium **Zoom:** <https://whoi-edu.zoom.us/j/95030585214> Meeting ID: 950 3058 5214 **By phone:** Find your local number: <https://whoi-edu.zoom.us/j/95030585214>