

Dean's Colloquium

Dr. Jeanette Davis, Assistant Professor
Marine and Environmental Science Department



When: Wednesday, November 8, 2023

Where: Turner 129

Time: 3:30 – 3:50 pm, Q&A: 5 min.

Title: From biotechnology to biomonitoring: eDNA as a tool in protecting marine ecosystems

Abstract: The emerging science of eDNA can provide a continuous flow of data which is a promising approach for biological investigation. Within the last decade, species detection from eDNA has shown great potential for routine species surveys. This research highlights several examples of the use of eDNA in marine ecosystems from biotechnology for drug discovery to biomonitoring of invasive species and fish distribution for ecosystem management. One research study highlights eDNA coupled with other genetic tools to uncover a marine bacterium that lives in association with a Hawaiian sea slug and its algal diet that produces a promising anticancer compound. Another research study showcases strategic considerations for invasive species managers in the use of eDNA as a surveillance tool and lastly research findings reveal the value of eDNA sampling of fish for estimation of abundance and distribution that are important for management relevant scales. Collectively these research examples highlight that eDNA serves as a less invasive and relatively inexpensive monitoring tool that provides insight into protecting marine ecosystems.

Bio: Dr. Jeanette Davis, (Dr. Ocean), is a marine microbiologist, ocean policy expert and 2X bestselling author whose books were created to explore and diversify science for young readers. She served for nearly a decade in government using genetic tools to manage ocean resources and worked with members of Congress on ocean policy and legislation. She currently serves as an Assistant Professor in the Marine Science Department at Hampton University. Her notable accomplishments include helping to discover a marine bacterium that fights cancer, which has been published in the Journal of Science, authoring the White House Ocean Decadal Plan that highlights essential ocean research and technology topics for the next decade, and serving as an ocean movie consultant for the Oscar award winning film Black Panther: Wakanda Forever.