Upcoming Events

Wed May 31
The Harbor Branch Immersion Tour
A behind the scenes tour of Harbor Branch. Call 772-242-2293. Click here for ticket information.

Wed June 8
World Oceans Day
PB Catch, Palm Beach at 5:30 p.m. RSVP here and "Like" the event on Facebook here.

Wed June 28
Ocean Science Lecture Series
Restoration of Aquatic Habitats along Florida's East Coast: the Projects, Partners, and Prosperity presented by Jeff Beal, FWC. Johnson Education Center Auditiorum, 7 p.m. only, admission is free. For the full season lineup, click here.

If you enjoy our programs at FAU Harbor Branch, please consider making a donation.

Join Our Mailing List!

"Like" us on Facebook and follow us on Twitter!

May, 2017

From the Field: Research in Peru and Cuba

FAU Archaeologist Involved in Ancient Peru Discovery

FAU Harbor Branch archaeologist James M. Adovasio, Ph.D., D.Sc. is among a team of scientists who made a groundbreaking discovery in Huaca Prieta in coastal Peru - home to one of the earliest and largest pyramids in South America. Hundreds of thousands of artifacts, including intricate and elaborate hand-woven baskets excavated between 2007 and 2013 in Huaca Prieta, reveal that early humans in that region were a lot more advanced than originally thought and had very complex social network.

"The mounds of artifacts retrieved from Huaca Prieta include food remains, stone tools and other cultural features such as ornate baskets and textiles, which really raise questions about the pace of the development of early humans in that region and their level of knowledge and the technology they used to exploit resources from both the land and the sea," said Adovasio, Ph.D., D.Sc., co-author of the study and a world acclaimed archaeologist at FAU's Harbor Branch. Adovasion is the foremost authority on ancient textiles and materials such as those used in basketry. Read on here.

Mission Log Update: Cuba's Twilight Zone Reefs and Their Regional Connectivity

FAU Harbor Branch researchers in Cuba exploring never-before-studied deep coral reefs. The research cruise, "Cuba's Twilight Zone Reefs and Their Regional Connectivity," is taking place after nearly a year and half of deliberations. The work will focus on discovery and characterization of deep coral reefs in Cuba that have never been studied before, and future work on genetic connectivity of reef corals and sponges in Cuba and U.S. Marine Sanctuaries. The expedition will be a true exploration, and virtually every dive will provide new discoveries while documenting the coral reefs beyond scuba depths.

Chief Scientist, FAU Harbor Branch Research Professor John Reed, provided the first expedition update on the NOAA Ocean Explorer

blog, read more here. The blog updates regularly during the research cruise, so stay tuned!

FAU Harbor Branch receives award from Raytheon for Variable Depth Sonar

Raytheon photo - Raytheon and FAU Harbor Branch perform developmental testing. The Littoral Combat Ship Variable Depth Sonar deployed and recovered at sea.

The U.S. Navy selected and awarded a $27.9 million contract to Raytheon Company to provide the new Variable Depth Sonar (VDS) submarine warfare asset. Designed and built in partnership with FAU Harbor Branch, the VDS will be deployed from Littoral Combat Ship (LCS) to locate and track enemy submarines.

This ship-deployed sonar system design, identical for both LCS variants, features reduced weight to minimize ship impact, increased maneuverability and it provides the opportunity for increased warfighting payloads. Ease of operation improves crew efficiency and operational effectiveness. These features were validated by the fleet sailors who operated the system at a full-scale demonstration at FAU Harbor Branch in August 2016.

FAU Harbor Branch's Megan Davis is administrative Principal Investigator, Ben Metzger is the lead project manager and technical Principal Investigator, and Geoff Beiser is Senior Engineer on the newly awarded ($875,000) project with Raytheon.

Read the full press release here.

Harbor Branch Research Report

Schaefer CoAuthors Paper Comparing Health of Wild Dolphins Versus Those in Captivity

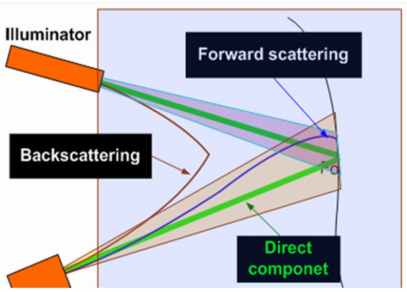
FAU Harbor Branch epidemiologist Adam Schaefer co-authored a paper that was recently published in PLOS ONE which measured immune and endocrine related markers in groups of managed-care (captive) dolphins and wild dolphins in the Indian River Lagoon and Charleston. Click here to read it.

The study found that wild dolphins are more prone to immune stress in their environment, constantly putting their immune system on "high alert" to fight off pathogens and other endocrine challenges. For managed-care dolphins, their environment of consistent food, temperature, salinity and fewer pathogens means a less stressed immune system.

While the underlying mechanisms are likely multiple and complex, the marked differences observed in the immune and endocrine

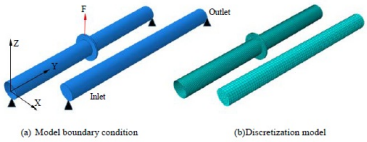
systems of wild and managed-care care dolphins appear to be shaped by their environment.

FAU Harbor Branch Faculty Co-author Paper Published in SPIE Journal of Applied Remote Sensing



FAU Harbor Branch's Dr. Bing Ouyang, Dr. Fraser Dalgleish and Dr. Anni Vuorenkoski Dalgleish are co-authors on a recently published paper titled, "Integrating dynamic and distributed compressive sensing techniques to enhance image quality of the compressive line sensing system for unmanned aerial vehicles application." The paper is published in the SPIE Journal of Applied Remote Sensing. Read the full paper here.

FAU Harbor Branch Faculty Co-author Paper to be Published in Advances in Civil Engineering Materials



FAU's Tsung-Chow (Joe) Su and FAU Harbor Branch's Yanjun Li (Leo), Dr. Bing Ouyang, Dr. Fraser Dalgleish and Dr. Anni Vuorenkoski Dalgleish are co-authors on a manuscript entitled "Field testing and numerical modeling of inflatable structure for underwater applications." The paper has been accepted for publication in the Advances in Civil Engineering Materials. Read the full paper here.

Exploration Command Center at FAU Harbor Branch Hosts Remote Deepwater Expedition

NOAA and partners recently completed a telepresence-enabled ocean exploration ("Mountains in the Deep") expedition on NOAA Ship Okeanos Explorer. The expedition served as an opportunity to collect critical baseline information about unknown and poorly known deepwater areas in the Kingman Reef and Palmyra Atoll, and Jarvis

Island Units of the Pacific Remote Islands Marine National Monument (PRIMNM).

As a partner institution of the NOAA Cooperative Institute for Ocean Exploration, Research & Technology (CIOERT), FAU Harbor Branch hosted a shore-based visiting science team at the on-campus Exploration Command Center (ECC). Harbor Branch researchers were joined by Semester by the Sea students and FAU graduate students at the ECC.

Read more about this expedition here.

Dolphin Disentanglement - Second Attempt Success

Photo Credit: Hubbs-Seaworld

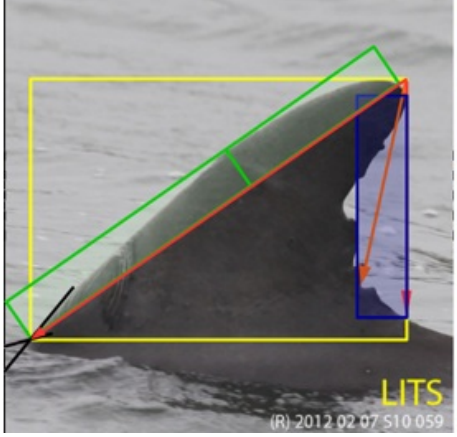
FAU Harbor Branch Stranding and Photo ID teams collaborated on a successful second attempt to free an entangled dolphin calf in May.

The calf was initially reported on March 24th by an ecotour boat. Hubbs-SeaWorld noted that although the entanglement appeared to be life-threatening, the calf was in good body condition and swimming well. The initial rescue attempt was called off when the mother hit and rolled, lifting the net and allowing the calf to swim away. However, rescuers were able to tag the mother before her release to continue tracking the pair.

The calf's mouth was bridled with the rope and its left pectoral fin had a substantial monofilament wrap. An estimated 8 feet of rope were trailing behind the calf on its left side. Rescuers were able to remove the gear and release both animals.

This work was performed under the National Oceanic and Atmospheric Administration Marine Mammal Health and Stranding Response Program. A big thanks to all of the volunteers and to our stranding partners: Clearwater Marine Aquarium, SeaWorld, Georgia Aquarium Conservation Field Station, Hubbs-SeaWorld Research Institute, and Florida Fish and Wildlife Conservation Commission.

Volunteer Spotlight: Chris Waln Creates New Algorithm to Identify Dolphins



FAU Harbor Branch Photo ID team volunteer, Chris Waln, has created a new way to identify dolphins. The process, known as Framing, views dolphin fins from an engineer's perspective rather than that of a biologist. With 40 years of sailboat racing experience, Chris noticed that a dolphin's dorsal fin is comparable to an upside-down sailboat keel and that a process similar to the one used to assign racing handicaps to boats could be applied to dolphins.

Framing assigns numerical characteristics to each dolphin fin, taking into account the aspect ratio, sweep, contour and the position of damage to the fin. These data points are funneled through a Microsoft Excel algorithm, which in turn supplies the names dolphins who match all five measurements.

The traditional identification process requires matching pictures by naked eye alone, taking 30 minutes to three hours to sort through the thousands of dolphin photos catalogued. While a good pair of human eyes can't be replaced, Framing provides the most likely dolphin match candidates in 4-6 minutes instead. This project falls in line with the FAU Harbor Branch pillar concept of ecosystem science serving as a translational science, bringing together multiple disciplines to fuel innovation.

The team is working to complete at least 250 samples before expanding the project. Adding the backlog of images to the new system will initially be time intensive and likely require the assistance of undergraduates and volunteers. Chris will continue to train the team on the framing project.

In addition to his sailboat racing experience, Chris is a 24 year Air Force veteran, an engineering industry executive and holds a M.S. in Chemical Engineering from Texas A&M University. FAU Harbor Branch is proud to work with stellar volunteers such as Chris.

FIO Launches New Research Vessel

Megan Davis (Right) attended, representing Florida Atlantic University. Jackie Dixon (Left), Dean of University of South Florida College of Marine Science, is the current chair of the FIO Advisory Council.

On Tuesday the new R/V W. T. Hogarth was christened and launched. This research vessel was jointly funded by the State of Florida and Florida Institute of Oceanography (FIO) member institutions, including FAU. The R/V W. T. Hogarth, named after former FIO Director William Hogarth, was built in Tarpon Springs by the Duckworth Steel Boats, Inc. FAU Harbor Branch looks forward having ship days on the new vessel. View this story in the news here.

MOA Students Give Back!

Students at Fort Pierce Westwood's Marine and Oceanographic Academy (MOA) completed two fundraisers this semester to give back to their "home" community. While students are enrolled at MOA, they are immersed in marine science and oceanographic classes through a close partnership with FAU Harbor Branch. The Senior Leadership class organized an ice cream fundraiser and a trivia challenge (Students vs. Teachers!) to raise money for Marine Science Education at FAU Harbor Branch. Students raised a grand total of $634.75 for their favorite Harbor Branch Program. Thank you to the wonderful students at MOA

for giving back to your community.