

**Indian River Lagoon Symposium 2023**  
***IRL Seagrass***

**Program Schedule – Technical Sessions**

**Thursday, February 23, 2023**

(Note: The presenting author of talks is the first author, unless indicated by underlining.)

- 0715 - 0815    Registration, Set Up Posters, and Coffee & Tea**
- 0815 - 0830    Welcome**  
M. Dennis Hanisak, FAU Harbor Branch
- 0830 - 0900    Keynote Address**  
Changing Seagrass in the Indian River Lagoon – Diagnosis Can Guide Therapy  
Lori Morris, St. Johns River Water Management District, Palatka, FL
- 0910 - 0950    Oral Session 1 – IRL Seagrass**  
Session Chair: Loraé Simpson, Florida Oceanographic Society
- 0910 – 0920    Remote Sensing of Submerged Aquatic Vegetation in the Indian River Lagoon in Brevard County**  
Andrew Kameronosky<sup>1</sup>, Claudia Listopad<sup>1</sup>, and Virginia Barker<sup>2</sup>  
<sup>1</sup>Applied Ecology, Inc., Melbourne, FL; <sup>2</sup>Brevard County Natural Resources Management, Viera, FL
- 0920 - 0930    Tracking Seagrass Loss in Mosquito Lagoon, Florida through Deep Neural Networks (STUDENT PRESENTATION)**  
Stephanie Insalaco, Russ Limber, and Hannah Herrero  
University of Tennessee Knoxville, Knoxville, TN
- 0930 - 0940    Seagrass Impacts on Predator and Forage Fish Dynamics and Distribution in the Indian River Lagoon (STUDENT PRESENTATION)**  
Michelle Shaffer<sup>1</sup>, Timothy C. MacDonald<sup>2</sup>, Kevin Thompson<sup>2</sup>, and Kristy A. Lewis<sup>1</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL
- 0940 - 0950    Mosquito Control Impoundments: An Unlikely Seagrass Hero?**  
Jonathan Linder<sup>1</sup>, Bridget Coffey<sup>1</sup>, Sarah Gaudreault<sup>2</sup>, Jiyahna Price<sup>3</sup>, and Hyun Jung Cho<sup>3</sup>  
<sup>1</sup>Brevard County Mosquito Control, Titusville, FL; <sup>2</sup>Riverside Conservancy, Edgewater, FL; <sup>3</sup>Bethune-Cookman University, Daytona Beach, FL
- 0950 - 1030    Break**

- 1030 - 1130 Oral Session 2 – IRL Water Quality, Human Impacts, HABs**  
Session Chair: Chuck Jacoby, St. Johns River Water Management District
- 1030 - 1040 **Particulate Loading from Lake Okeechobee Regulating Phosphorus Delivery to the St. Lucie Estuary as Observed on the IRLON Dataset: Comparisons to Nutrient Dynamics Measured on a Laboratory Sediment Resuspension Device (STUDENT PRESENTATION)**  
Owen Silvera and Jordon Beckler  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1040 - 1050 **Impacts of Salinity Stress on *Crassostrea virginica* Density, Recruitment, and Survival in the St. Lucie Estuary; An Examination of Spat and Predator Distributions Relative to Interstitial Space**  
Sarah Cole<sup>1</sup>, C. Aiden Rooney<sup>1,2</sup>, and Loraé T. Simpson<sup>1</sup>  
<sup>1</sup>Florida Oceanographic Society, Stuart, FL; <sup>2</sup>Eckerd College, St. Petersburg, FL
- 1050 - 1100 **Evaluating Ecosystem Degradation and Stakeholder Livelihood in a Marine Protected Area: A Case Study in Mosquito Lagoon, Florida**  
Hannah Victoria Herrero, Stephanie A. Insalaco, and William Barnett Wolfson  
University of Tennessee Knoxville, Knoxville, TN
- 1100 - 1110 **Nutrient Fingerprints in Groundwater Sources in Brevard County, FL**  
Laura Thompson<sup>1</sup>, Claudia Listopad<sup>1</sup>, and Virginia Barker<sup>2</sup>  
<sup>1</sup>Applied Ecology, Inc., Melbourne, FL; <sup>2</sup>Brevard County Natural Resources Management, Viera, FL
- 1110 – 1120 **Changes in Natural Habitat Availability in an Urbanized Estuary (STUDENT PRESENTATION)**  
Sarah Webb<sup>1,2</sup>, Robert D. Ellis<sup>3</sup>, Erick Ault<sup>1</sup>, and Matthew J. Ajemian<sup>2</sup>  
<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>2</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>3</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL
- 1120 – 1130 **Exploring *Pyrodinium bahamense*-bacterial Interactions in the Indian River Lagoon (STUDENT PRESENTATION)**  
Jackie Palau, Tracy Mincer, and Malcolm McFarland  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 1130 - 1200 Three Minutes, Three Slides**  
Session Chair: M. Dennis Hanisak, FAU Harbor Branch
- Interactions between Salinity, Temperature, and Availability of Light and the Rhizophytic Alga, *Caulerpa prolifera*, in the Indian River Lagoon**  
Lauren M. Hall<sup>1</sup>, Lori J. Morris<sup>2</sup>, Jan D. Miller<sup>2</sup>, and Charles A. Jacoby<sup>2</sup>  
<sup>1</sup>St. Johns River Water Management District, Palm Bay, FL; <sup>2</sup> St. Johns River Water Management District, Palatka, FL
- Seagrass Health: Maybe It Really Is as Simple as Water Clarity?**  
David Heuberger, M. Dennis Hanisak, Patrick Monaghan, and Kristen Davis  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Implications of Seagrass Changes on Manatee Distributions in the Indian River Lagoon Waters Surrounding NASA’s Kennedy Space Center**  
Douglas M. Scheidt, Jane A. Provancha, Naresa A. Cancro, Russell H. Lowers, Eric. A. Reyier, Bonnie J. Ahr, Eric D. Stolen and David. R. Breininger  
Herndon Solutions Group, LLC, Kennedy Space Center, FL

**A Comparison of *Syringodium filiforme* Individual vs. Multi-shoot Transplantation for Applications in Subtropical Seagrass Restoration**

Conor P. MacDonnell<sup>1,2</sup>, Carley A. Kestranek<sup>2</sup>, and Loraé T. Simpson<sup>2</sup>

<sup>1</sup>University of Florida, St. Augustine, FL; <sup>2</sup>Florida Oceanographic Society, Stuart, FL

**Impacts of Glyphosate on Seagrass Growth and Nutrient Cycling: Informing Aquaculture and Restoration Efforts to Improve Outcomes (STUDENT PRESENTATION)**

Eugenia Springer<sup>1</sup>, Austin Fox<sup>1</sup>, Tyler Provoncha<sup>2</sup>, and Emily Ralston<sup>1</sup>

<sup>1</sup>Florida Institute of Technology, Melbourne, Florida; <sup>2</sup>Brevard Zoo, Melbourne, FL

**Brevard County Seagrass Restoration Protocol**

Mark Fonseca<sup>1</sup>, Jenny Hansen<sup>2</sup>, Charles Jacoby<sup>3</sup>, Lori Morris<sup>3</sup>, Lauren Hall<sup>4</sup>, Dustin Myers<sup>1</sup>, Andrew Neil<sup>1,5</sup>, and Virginia Barker<sup>2</sup>

<sup>1</sup>CSA Ocean Sciences, Inc., Stuart, FL, <sup>2</sup>Brevard County Natural Resources Management, Viera, FL, <sup>3</sup>St. Johns River Water Management District, Palatka, FL, <sup>4</sup>St. Johns River Water Management District, Palm Bay, FL, <sup>5</sup>Ohio State University, Columbus, OH (current affiliation)

**Seagrass Recovery and Restoration: Bottlenecks and Knowledge Gaps**

Robert Virnstein

Seagrass Ecosystems Analysts, Gainesville, FL

**1200 - 1330 Lunch (provided)**

**1330 - 1330 Oral Session 3 – IRL Restoration**

Session Chair: Irene Arpayoglou, FDEP/Indian River Lagoon Aquatic Preserves

**1330 - 1340 The Joy of Permitting: Seagrass Restoration and USACE**

Jacob A. Zehnder, Brandon J. Conroy, and John C. Palmer

U.S. Army Corps of Engineers, Cocoa, FL

**1340 - 1350 SAVING the IRL with Seagrass in Stormwater? A Martin County Stormwater Project Investigating a Natural Solution to Help the Lagoon, by Incorporating Grasses in Coastal Stormwater Systems**

Nicholas Muzia

Martin County Public Works Department, Stuart, FL

**1350 - 1400 Co-restoration of Clams and Seagrass in the Northern and Central Indian River Lagoon**

Loraé T. Simpson<sup>1</sup>, Vivienne A. Main<sup>1</sup>, Morgan K. Gilligan<sup>1</sup>, and Todd Z. Osborne<sup>2</sup>

<sup>1</sup>Florida Oceanographic Society, Stuart, FL; <sup>2</sup>Whitney Laboratory for Marine Bioscience, St. Augustine, FL

**1400 - 1410 Factors Driving Survivorship of Co-restored “Super Clams” (*Mercenaria mercenaria*) in the Indian River Lagoon**

Morgan K. Gilligan<sup>1</sup>, Vivienne A. Main<sup>1</sup>, Sarah M. Cole<sup>1</sup>, Todd Z. Osborne<sup>2</sup>, and Loraé T. Simpson<sup>1</sup>

<sup>1</sup>Florida Oceanographic Society, Stuart, FL; <sup>2</sup>Whitney Laboratory for Marine Bioscience, St. Augustine, FL

- 1410 - 1420     **Evaluating the Success of a Pilot *Mercenaria mercenaria* Restoration Project in the Northern Indian River Lagoon**  
 Hope Leonard<sup>1</sup>, Todd Osborne<sup>2</sup>, Olivia Escandell<sup>1</sup>, Adam Klingenburg<sup>1</sup>, and Tyler Provoncha<sup>1</sup>.  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>University of Florida, The Whitney Lab for Marine Sciences, St. Augustine, FL
- 1420 - 1430     **Testing Alternative Materials for Oyster Restoration in the Indian River Lagoon**  
 Jenny Hansen<sup>1</sup>, Adam Klingenberg<sup>2</sup>, Jake Zehnder<sup>2,3</sup>, Olivia Escandell<sup>2</sup>, Tyler Provoncha<sup>2</sup>, Paul Sacks<sup>4</sup>, Melinda Donnelly<sup>4</sup>, Terry Williamson<sup>1</sup>, and Virginia Barker<sup>1</sup>  
<sup>1</sup>Brevard County Natural Resources Management, Viera, FL, <sup>2</sup>Brevard Zoo, Melbourne, FL, <sup>3</sup>United States Army Corps of Engineers, Cocoa, FL (current affiliation), <sup>4</sup>University of Central Florida, Orlando, FL
- 1430 - 1500     Three Minutes, Three Slides**  
 Session Chair: Zack Jud, Florida Oceanographic Society, Stuart, FL
- Tracking Hypoxia in the Indian River Lagoon: Sulfidic Sand and Intensified Internal Recycling plus Diminished Removal of Nitrogen and Phosphorus from the IRL**  
 Austin Fox<sup>1</sup>, Tyler Provoncha<sup>2</sup>, and Rebecca English<sup>1</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Brevard Zoo, Melbourne, FL
- Interconnections between Iron, CDOM, and DOC in the IRL (STUDENT PRESENTATION)**  
 Hanna Bridgham, Jordon Beckler, Mason Thackston, Owen Silvera, and Andrew Stancil  
 Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- Using Light Absorption and Attenuation Coefficients to Assess Water Clarity in the IRL**  
 Stephanie Schreiber and Malcolm McFarland  
 Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL
- Decadal Changes in Light Availability and Chlorophyll Concentrations in Florida's Indian River Lagoon (STUDENT PRESENTATION)**  
 Deanna Webber, Brian Lapointe, and Rachel Brewton  
 Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL
- Microplastics in Juvenile Marine Invertebrates from Restored Oyster Reefs in Mosquito Lagoon (STUDENT PRESENTATION)**  
 Luciana Banquero, Paul Sacks, and Linda Walters  
 University of Central Florida, Orlando, FL
- The Halifax River Urban Watershed Project: A Holistic Approach to Coastal Urban Sustainability**  
 Michael A. Reiter and Hyun Jung Cho  
 Bethune-Cookman University, Daytona Beach, FL
- 2022 Indian River Lagoon Harmful Algal Blooms Review: A View from 700 Km Up**  
 Cindy Whitten<sup>1</sup>, Claudia Listopad<sup>1</sup>, and Virginia Barker<sup>2</sup>  
<sup>1</sup>Applied Ecology, Inc., Melbourne, FL; <sup>2</sup>Brevard County Natural Resources Management, Viera, FL
- 1500 - 1540     Break**

- 1540 - 1640 Oral Session 4 – IRL Biodiversity & Ecology**  
Session Chair: Linda Walters, University of Central Florida
- 1540 - 1550 **Don't Kill the Messengers: What Infaunal Indicator Species Can Tell Us about Seagrass and Softbottom Degradation in the IRL**  
L. Holly Sweat, Emma Chesley, and Jessica Glanz  
Smithsonian Marine Station, Fort Pierce, FL
- 1550 - 1600 **Seeking a Friend in a Changing World: Shifting Infaunal Networks in the Indian River Lagoon**  
Jess Glanz and L. Holly Sweat
- 1600 – 1610 **Is There a Link between Young Eagle Rays' Habitat Preference and Seagrass in the IRL? Let's Sea!**  
**(STUDENT PRESENTATION)**  
Ariadna Rojas Corzo, Breanna DeGroot, Michael McCallister, and Matthew J. Ajemian  
Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL
- 1610 – 1620 **Impacts of Tropical Herbivore Population Expansions on Seagrasses and Associated Fisheries in a Subtropical Lagoon**  
**(STUDENT PRESENTATION)**  
Adam R. Searles<sup>1,2</sup>, Douglas H. Adams<sup>3</sup>, Lauren M. Hall<sup>4</sup>, Lori J. Morris<sup>4</sup>, Charles W. Martin<sup>2</sup>, and Laura Reynolds<sup>1</sup>  
<sup>1</sup>University of Florida, Gainesville, Florida; <sup>2</sup>University of Florida, Cedar Key, Florida; <sup>3</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, Florida; <sup>4</sup>St. Johns Water Management District, Palm Bay, Florida
- 1620 - 1630 **Monitoring Dolphin Food Web Health in the IRL over Time to Predict Resilience and Recovery**  
Christopher Moore<sup>1</sup>, Iris Segura-Garcia<sup>1,2</sup>, Michael McCoy<sup>1</sup>, and Krista McCoy<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Smithsonian Marine Station, Fort Pierce, FL
- 1630 - 1640 **Environmental DNA Assessment and Monitoring of Estuarine Biodiversity**  
Jeff Eble<sup>1</sup>, Steven Canty<sup>2</sup>, Christopher Meyer<sup>3</sup>, Holly Sweat<sup>4</sup>, Sarah Tweedt<sup>3</sup>, and Michelle R. Gaither<sup>5</sup>  
<sup>1</sup>Hubbs SeaWorld Research Institute, Melbourne Beach, FL; <sup>2</sup>Smithsonian Environmental Research Center, Edgewater, MD; <sup>3</sup>National Museum of Natural History, Washington, DC; <sup>4</sup>Smithsonian Marine Station, Fort Pierce, FL; <sup>5</sup>University of Central Florida, Orlando, FL
- 1640 - 1710 Three Minutes, Three Slides**  
Session Chair: Kelli Hunsucker, Florida Institute of Technology
- A Comparison of Two Biodegradable Breakwaters for Living Shoreline Stabilization: Effects on Erosion, Wetland Plants, Oysters, and Seagrasses in Mosquito Lagoon**  
Melinda Donnelly<sup>1</sup>, Tess Sailor-Tynes<sup>2</sup>, Paul Sacks<sup>1</sup>, and Linda Walters<sup>1</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>Marine Discovery Center, New Smyrna Beach, FL
- Shuck & Share Oyster Recycling: Restoration for Native Species and Conservation for Future Generations**  
Tess Sailor-Tynes<sup>1</sup>, Linda Walters<sup>2</sup>, Melinda Donnelly<sup>2</sup>, and Paul Sacks<sup>2</sup>  
<sup>1</sup>Marine Discovery Center, New Smyrna Beach, FL; <sup>2</sup>University of Central Florida, Orlando, FL

**Samsons Island Submerged Lands Restoration (SISLR) Project: Creating a “Habitat Mosaic Pilot Project” to Determine the Feasibility of Habitat Restoration Techniques in the Indian River Lagoon**

Nicholas Sanzone

City of Satellite Beach, Satellite Beach, FL

**Bioluminescence of the Ctenophore *Mnemiopsis leidyi*: First Flash Kinetics and Shear Stress Thresholds**

**(STUDENT PRESENTATION)**

Abigail Blackburn<sup>1</sup>, Ed Malkiel<sup>1</sup>, Malcolm McFarland<sup>1</sup>, Francis Letendre<sup>1</sup>, Carina Poulin<sup>1</sup>, Michael Latz<sup>2</sup>, Dorothy Mitchell<sup>3</sup>, and Michael Twardowski<sup>1</sup>

**Evaluating the Potential to Use 3D Scanning to Monitor the Growth of Sessile Invertebrates**

**(STUDENT PRESENTATION)**

Samantha Pringle and Emily Ralston

Florida Institute of Technology, Melbourne, FL

**Ichthyoplankton Recruitment within Mangrove-dominated Mosquito Control Impoundments**  
**(STUDENT PRESENTATION)**

Margaret Rodrigue<sup>1</sup>, John Baldwin<sup>2</sup>, Dave Fuss<sup>3</sup>, Lily Harned<sup>3</sup>, Rachel Reinhard<sup>1</sup>, M. Dennis Hanisak<sup>1</sup>, and Jonathan Shenker<sup>1,4</sup>

<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL;

<sup>2</sup>Florida Atlantic University, Davie, FL; <sup>3</sup>Indian River Land Trust, Vero Beach, FL;

<sup>4</sup>Florida Institute of Technology, Melbourne, FL

**The Marine Mammal Stranding and Population Assessment Program at Florida Atlantic University’s Harbor Branch Oceanographic Institute: Potential for Collaboration with Other Indian River Lagoon-Based Research Programs**

Steve Burton, Wendy Marks, Lydia Moreland, Brooke Davis, Nicole Pegg, Tracy Kowalczyk, Lauren Clance, and Annie Page-Karjian

**Review and Gap Analysis of Northern Indian River Lagoon Biodiversity**

Nicholas Davis, Allison Cutting, Michaela Stenerson, and Robert D. Sluka

A Rocha USA, Titusville, FL

**Dolphin Spotter: A Land-Based Citizen Science Project**

Samantha McGuire, Laura Issac Norton, Jennifer Cutter, Steve Burton, and Gabby Barbarite

Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL

**1720 Announcements and Transition to Poster Session & Reception**

**1730 - 2000 Poster Session & Reception (Open to the public, too!)**

**1930 Announcement of Student Awards (Auditorium)**

## Posters

Posters will be displayed all day in the Education Annex (Posters #1-30) and the Gallery (Posters #31-37). During the poster session, presenters of odd-numbered posters will minimally be at their posters between 1730 and 1815; presenters of even-numbered posters will minimally be at their posters between 1815 and 1900. We also encourage students to be at their posters during the second half of lunch break. **Please join us in the Auditorium for the presentation of student awards at 1930.**

- 1. Potential *Halodule wrightii* Planting Methods and Restoration Suitability Modeling in Mosquito Lagoon, FL  
(STUDENT PRESENTATION)**  
Gabriel Benson, Melinda Donnelly, Paul Sacks, and Linda Walters  
University of Central Florida, Orlando, FL
- 2. Sediment Saviors: Infaunal Communities as Potential Restorers of Benthic Habitat in the Indian River Lagoon**  
Emma Chesley, Jessica Glanz, and Holly Sweat  
Smithsonian Marine Station, Fort Pierce, FL
- 3. Does Bottlenose Dolphin (*Tursiops truncatus*) Presence Overlap with Seagrass Presence in the Southern Indian River Lagoon?  
(STUDENT PRESENTATION)**  
Lauren Clance, Brooke Davis, Tracy Kowalzczyk, Wendy Marks, Lydia Moreland, Nicole Pegg, Steve Burton, and Annie Page-Karjian  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 4. IRL Seagrass Restoration Using Mosquito Control Impoundment  
(STUDENT PRESENTATION)**  
Bridget Coffey<sup>1</sup>, Sarah Gaudreault<sup>2</sup>, Jiyahna Price<sup>3</sup>, Jonathan Linder<sup>1</sup>, and Hyun Jung Cho<sup>3</sup>  
<sup>1</sup>Brevard County Mosquito Control, Titusville, FL; <sup>2</sup>Riverside Conservancy, Edgewater, FL; <sup>3</sup>Bethune-Cookman University, Daytona Beach, FL
- 5. Morbidity and Mortality Patterns of Indian River Lagoon Bottlenose Dolphins (*Tursiops truncatus*) 2002-2020**  
Wendy Noke Durden<sup>1</sup>, Teresa Jablonski<sup>1</sup>, Megan Stolen<sup>1,4</sup>, Connie Silbernagel<sup>1</sup>, David Rotstein<sup>2</sup>, and Judy St. Leger<sup>3,5</sup>  
<sup>1</sup>Hubbs-SeaWorld Research Institute, Melbourne Beach, FL; <sup>2</sup>Marine Mammal Pathology Services, Olney, MD; <sup>3</sup>SeaWorld San Diego, San Diego, CA; <sup>4</sup>Blue World Research Institute, Cocoa, FL; <sup>5</sup>College of Veterinary Medicine, Cornell University, Ithaca, NY
- 6. Observing the Relationship between Light Availability and Dissolved Oxygen in the Indian River Lagoon  
(STUDENT PRESENTATION)**  
Rebecca English<sup>1</sup>, Austin Fox<sup>1</sup>, and Tyler Provoncha<sup>2</sup>  
<sup>1</sup>Florida Institute of Technology, Melbourne, FL; <sup>2</sup>Brevard Zoo, Melbourne FL
- 7. Composition and Abundance of the Avian Community in the Coastal Oaks Preserve  
(STUDENT PRESENTATION)**  
Anne Fretwell<sup>1,3</sup>, Carah Mullen<sup>1,3</sup>, Josh Nevarez<sup>2,3</sup>, Kayla Osowski<sup>1,3</sup>, and Ben Wood<sup>2,3</sup>  
<sup>1</sup>Vero Beach High School, Vero Beach, FL; <sup>2</sup>Sebastian River High School, Sebastian, FL; <sup>3</sup>Junior Scientists Program

- 8. “Keep the Sea Free of Debris”: A Junior Ambassador Program for Teens in Underserved Communities**  
**(STUDENT PRESENTATION)**  
Madelyn Hair, Laura Issac Norton, Katelyn DiGirolomo, Josephine Story, Jennifer Cutter, and Gabrielle Barbarite  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 9. Comparing Virtual Reality and In-Person Science Communication**  
**(STUDENT PRESENTATION)**  
Katherine Harris<sup>1</sup>, Carley Metcalf<sup>2</sup>, Ryan P. McMahan<sup>1</sup>, and Linda Walters<sup>1</sup>  
<sup>1</sup>University of Central Florida, Orlando, FL; <sup>2</sup>Marine Discovery Center, New Smyrna Beach, FL
- 10. Impact of Feral Hogs on Restored versus Natural Mangrove Shorelines in Canaveral National Seashore**  
**(STUDENT PRESENTATION)**  
Amarilis Henlon, Paul Sacks, Melinda Donnelly, and Linda Walters  
University of Central Florida, Orlando, FL
- 11. Using Wrack to Determine Seagrass Viability**  
**(STUDENT PRESENTATION)**  
Nicole Jerrell, Tara Blanchard, June Davison, Madison Serrate, Cindy Whitten, Melinda Donnelly, and Linda Walters  
University of Central Florida, Orlando, FL
- 12. Hook, Line and Science: Seagrass Density and Game Fish Weight Trends in the Central Indian River Lagoon**  
Carley Kestranek<sup>1</sup>, Lori Morris<sup>2</sup>, Lauren Hall<sup>3</sup>, and Loraé T. Simpson<sup>1</sup>  
<sup>1</sup>Florida Oceanographic Society, Stuart, FL 34996, <sup>2</sup>St. Johns River Water Management District, Palatka, FL, <sup>3</sup>St. Johns River Water Management District, Palm Bay, FL
- 13. Recruitment of Native Halophytes at an Ongoing Tidal Marsh Restoration Site**  
**(STUDENT PRESENTATION)**  
Ava Kopchak<sup>1,4</sup>, Pjark Sander<sup>1,4</sup>, Armando Silva<sup>2,4</sup>, Lily Ward<sup>2,4</sup>, and Billy Wade<sup>3,4</sup>  
<sup>1</sup>Indian River Charter High School, Vero Beach, FL; <sup>2</sup>Vero Beach High School, Vero Beach, FL; <sup>3</sup>Sebastian River High School, Sebastian, FL; <sup>4</sup>Junior Scientists Program
- 14. Fish Communities Associated with *Halodule wrightii* and *Caulerpa prolifera* Habitats under Seagrass-dominated and Algal-dominated Conditions**  
Shawna L. Landers, Derek M. Tremain, and Richard Paperno  
Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 15. Dead Dolphins Dated by Stranding Domain along Florida’s Coastline**  
**(STUDENT PRESENTATION)**  
Laura Lesyna, Greg O’Corry-Crowe, Annie Page-Karjian, Elizabeth Stratton, and Tim Moore  
Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 16. Autonomous Boat Design for Remote Sensing**  
**(STUDENT PRESENTATION)**  
Jackinson Marcellus, Jamal Burey, and Juan Calderon  
Bethune-Cookman University, Daytona Beach, FL



- 17. Long-term Observations on the Seagrass Community in Jupiter Sound, Southernmost Indian River Lagoon, Florida**  
Jon A. Moore<sup>1,2</sup> and Susan L. Richardson<sup>1,2</sup>  
<sup>1</sup>Florida Atlantic University, Jupiter, FL; Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 18. Exchange of Juvenile Tarpon *Megalops atlanticus* between a Mosquito Impoundment and the Indian River Lagoon Estuary**  
Shannon Moorhead<sup>1</sup>, Sarah Webb<sup>1</sup>, Erick Ault<sup>1</sup>, Erin McDevitt<sup>2</sup>, Zachary Hughes<sup>3</sup>, and Philip Stevens<sup>4</sup>  
<sup>1</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Tequesta, FL; <sup>3</sup>Martin County Public Works, Stuart, FL; <sup>4</sup>Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL
- 19. Assessing Inherent Optical Property ZTT Models across Freshwater and Marine Environments (STUDENT PRESENTATION)**  
Ipanema Mora-Carrera<sup>1</sup>, Timothy S. Moore<sup>1</sup>, Srinivas Kolluru<sup>1</sup>, Michael S. Twardowski<sup>1</sup>, Michael Sayers<sup>2</sup>, Robert Shuchman<sup>2</sup>, and Caren Binding<sup>3</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Michigan Technological Research Institute, Ann Arbor, MI; <sup>3</sup>Environment Canada, Burlington, Ontario, Canada
- 20. *Rhizophora mangle* (Red Mangrove) Seedling Success in Different Habitats in Mosquito Lagoon (STUDENT PRESENTATION)**  
Mekail Negash, Melinda Donnelly, Chase Mason, Lisa Chambers, and Linda Walters  
University of Central Florida, Orlando, FL
- 21. Fibropapillomatosis in Stranded Green Sea Turtles in Florida: 20 years of Spatiotemporal Trends and Associations with Environmental Factors (STUDENT PRESENTATION)**  
Hannah Niland<sup>1</sup>, Justin Perrault<sup>2</sup>, Tim Moore<sup>3</sup>, and Annie Page-Karjian<sup>3</sup>  
<sup>1</sup>Florida Atlantic University, Boca Raton, FL; <sup>2</sup>Loggerhead Marine Life Center, Juno Beach; <sup>3</sup> Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 22. The Effects of Tropical Storms and Culverts on Water Quality between the Indian River Lagoon and the Coastal Oaks Preserve (STUDENT PRESENTATION)**  
Daniela Nunez<sup>1,3</sup>, Anthony Marzouk<sup>1,3</sup>, Kara Malone<sup>1,3</sup>, Gabriel Burchett<sup>2,3</sup>, and Sawyer Held<sup>2,3</sup>  
<sup>1</sup>Vero Beach High School, Vero Beach, FL; <sup>2</sup>Sebastian River High School, Sebastian, FL; <sup>3</sup>Junior Scientists Program
- 23. Four Years and 18 Million Clams Later: How Are We Doing with Clam Restoration and What Have We Learned**  
Todd Z. Osborne<sup>1,2</sup>, Lorae T. Simpson<sup>3</sup>, Annie Roddenberry<sup>4</sup>, Jon Rueben<sup>1</sup>, and Hope Leonard<sup>5</sup>  
<sup>1</sup>University of Florida, St. Augustine, FL; <sup>2</sup>University of Florida, Gainesville, FL; <sup>3</sup>Florida Oceanographic Society, Stuart, FL; <sup>4</sup>Florida Fish and Wildlife Conservation Commission, New Smyrna Beach, FL. <sup>5</sup>Brevard Zoo, Melbourne, FL
- 24. Center for Coastal and Marine Ecosystems: A NOAA EPP-Funded Cooperative Science Center (STUDENT PRESENTATION)**  
Jiyahna Price, LaKean McGregor, Shawna Brooks, and Hyun Jung Cho  
Bethune-Cookman University, Daytona Beach, FL

- 25. Establishing Monitoring Protocols and Identifying Site Selection Parameters for Brevard Zoo IRL Seagrass Restoration**  
 Tyler Provoncha<sup>1,2</sup>, Olivia Escandell<sup>1</sup>, Adam Klingenberg<sup>1</sup>, Hope Leonard<sup>1,2</sup>, Austin Fox<sup>2</sup>, Rebecca English<sup>2</sup>, and Don Deis<sup>3</sup>  
<sup>1</sup>Brevard Zoo, Melbourne, FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL; <sup>3</sup>Brevard Zoo, Melbourne, FL (Volunteer)
- 26. Impacts of Rotational Impoundment Management (RIM) and Summer Drawdowns on the Migrations of Juvenile Fishes in Indian River Lagoon Mosquito Control Impoundments (STUDENT PRESENTATION)**  
 Rachel Reinhard<sup>1</sup>, Margaret Rodrigue<sup>1</sup>, David Fuss<sup>2</sup>, Jonathan Shenker<sup>1,3</sup>, and M. Dennis Hanisak<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Indian River Land Trust, Vero Beach, FL; <sup>3</sup>Florida Institute of Technology, Melbourne, FL
- 27. Recovery of Epiphytic Foraminiferal Populations in a Seagrass Meadow in Jupiter Sound, Southernmost Indian River Lagoon, Florida**  
 Susan L. Richardson<sup>1,2</sup> and Jon A. Moore<sup>1,2</sup>  
<sup>1</sup>Florida Atlantic University, Jupiter, FL; Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL
- 28. Diversity of Animals That Utilize Stabilized Shorelines along the Indian River Lagoon – Insights from Trail Camera Observations**  
 Paul Sacks, Amarilis Henlon, Melinda Donnelly, and Linda Walters  
 University of Central Florida, Orlando, FL
- 29. Fine-scale Genetic Structure of Sheepshead, *Archosargus probatocephalus*, under Prevailing Environmental Conditions in the Indian River Lagoon**  
 Iris Segura-García<sup>1</sup>, Douglas Adams<sup>2</sup>, Michael McCoy<sup>1</sup>, and Krista McCoy<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Florida Fish and Wildlife Conservation Commission, Melbourne, FL
- 30. Microplastic Pollution on the Sandy Beaches of Florida’s Space Coast**  
 Robert D. Sluka, Allison Cutting, Nicholas Davis, and Michaela Stenerson  
 A Rocha USA, Titusville, FL
- 31. Examining Increasing Coastal Development and Mangrove Coverage Impacts on Oyster Abundances in Mosquito Lagoon, FL (STUDENT PRESENTATION)**  
<sup>1</sup>Emily Suchonic, <sup>1</sup>Melinda Donnelly, <sup>2</sup>Giovanna McClenachan, and <sup>1</sup>Linda Walters  
<sup>1</sup>University of Central Florida, Orlando FL; <sup>2</sup>Nicholls State University, Thibodaux, LA
- 32. Boating Intensity and Proximity to Live Conspecifics Influence Settlement of Oyster Larvae in Mosquito Lagoon, Florida (STUDENT PRESENTATION)**  
 Tom Sussan and Corie L. Charpentier  
 Stetson University, DeLand, FL
- 33. Hydro-morphologic Mechanisms Leading to Dislodgement of Red Mangrove (*Rhizophora mangle*) Seedlings**  
 Jyotimita Taye, Katherine R. Barrera C., and Kelly Kibler  
 University of Central Florida, Orlando, FL

- 34. Continuously Monitoring Benthic Redox Conditions with an In Situ Electrochemical Analyzer to Reveal Sediment Sulfide Dynamics at High Temporal Resolution**  
**(STUDENT PRESENTATION)**  
Mason Thackston<sup>1</sup>, Don Nuzzio<sup>2</sup>, Owen Silvera<sup>1</sup>, and Jordon Beckler<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Analytical Instrument Systems Inc., Ringoes, NJ
- 35. Turbid Body Water-Leaving Radiance Correction**  
**(STUDENT PRESENTATION)**  
Maxwell Twardowski<sup>1,2</sup>, Nima Pahlevan<sup>2</sup>, Malcolm McFarland<sup>2</sup>, and Tim Moore<sup>2</sup>  
<sup>1</sup>University of North Florida, Jacksonville, FL; <sup>2</sup>Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL
- 36. Seasonal Variation in the Biodiversity of Benthic Animals along an Artificial Oyster Reef in Mosquito Lagoon, FL**  
**(STUDENT PRESENTATION)**  
Nicole Verdecia and Corie L. Charpentier  
Stetson University, DeLand, FL
- 37. Hurricane Spikes in Microplastics: A Case Study in Mosquito Lagoon**  
Linda Walters, Paul Sacks, Katherine Harris, Colleen Gilbride, and Advanced Marine Biology  
**(STUDENT PRESENTATION)**  
Undergraduate Students  
University of Central Florida, Orlando, FL
- 38. Using AERONET-OC Data to Validate Satellite Imagery Products of the Banana River Lagoon**  
Zackery Wistort<sup>1</sup> Avery Cook<sup>1,2</sup>, Malcolm McFarland<sup>1</sup>, Charles Jacoby<sup>3</sup>, Nima Pahlevan<sup>4</sup>, and Timothy Moore<sup>1</sup>  
<sup>1</sup>Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL; <sup>2</sup>Florida Institute of Technology, Melbourne, FL; <sup>3</sup>St. Johns River Water Management District, Palatka, FL; <sup>4</sup>NASA Goddard Space Flight Center, Greenbelt, MD
- 39. Characterizing the Metagenome of Northern Indian River Lagoon *Aureoumbra lagunensis* Harmful Algal Blooms**  
**(STUDENT PRESENTATION)**  
René K.M. Xavier and Tracy J. Mincer  
Harbor Branch Oceanographic Institution at Florida Atlantic University, Fort Pierce, FL