

# 36<sup>th</sup> NATIONAL CONFERENCE ON BEACH PRESERVATION TECHNOLOGY

February 1-3, 2023 ♦ Luminary Hotel, Fort Myers, Florida

**DRAFT PROGRAM as of 1-26-22**

## Wednesday, February 1

### **OPENING GENERAL SESSION**

**1:00 p.m. to 5:15 p.m.**

**Location: Salon C, Caloosa Sound Convention Center**

**1:00 p.m.**

**Welcome from Chairman Brian Hamman, Board of County Commissioners, Lee County Commissioner – District 4**

**1:10 p.m.**

**Hurricane Ian's Impacts to Southwest Florida's Barrier Islands**

**Michael Poff, P.E., Coastal Engineering Consultants, Inc., Bonita Springs, FL**

**1:35 p.m.**

**Impact of Hurricane Ian on Southwest Florida Coast**

**Ping Wang, Ph.D., Elizabeth Royer, Sophia Gutierrez, and Kendal Jackson, University of South Florida, Tampa, FL and Tiffany Roberts Briggs, Ph.D., Department of Geosciences, Florida Atlantic University, Boca Raton, FL**

**2:05 p.m.**

**The Impact of Hurricane Ian on the Beaches and Dunes of Florida**

**Guy Weeks, Office of Resilience and Coastal Protection, Florida Department of Environmental Protection, Tallahassee, FL**

**2:25 p.m.**

**Use of UAV-flown LiDAR and Georadar to Assess the Geomorphological Impact of Hurricane Ian Along the Southwest Florida Coast**

**Michael Savarese, Ph.D., Dhruvkumar Bhatt, Christopher Daly, Ph.D, Felix Jose, Ph.D., and Rachel Rotz, Ph.D., The Water School, Florida Gulf Coast University, Fort Myers, FL and Ilya Buynevich, Ph.D., Temple University, Philadelphia, PA**

**2:45 p.m.**

**Emergency Assessment of Coastal Changes Caused by Hurricane Ian**

**Quin Robertson, Ph.D., P.G., Coastal Protection Engineering, Boca Raton, FL, Zhifei Dong, Ph.D., APTIM, Boca Raton, FL, and Charlene Sylvester and Jennifer Wozencraft, Joint Airborne Lidar Bathymetry Technical Center of Expertise, U.S. Army Engineer Research and Development Center, Kiln, MS**

**3:05 p.m.**

**Professional Exchange Break (30 Minutes)**

**3:35 p.m.**

**The Impact of Hurricanes Ian and Nicole on Coastal Development in Florida**

**Ralph Clark, P.E., Office of Resilience and Coastal Protection, Florida Department of Environmental Protection, Tallahassee, FL**

**3:55 p.m.**

**USACE Emergency Operations Mission to Assess Failing Coastal Infrastructure Caused by Hurricanes Ian and Nicole in Volusia County, FL**

**Will Reilly, P.E., U.S. Army Corps of Engineers, Jacksonville District, FL**

**4:15 p.m.**

**Captiva Island Coastal Impacts from Hurricane Ian and the Path to Recovery**

**Nicole Sharp, P.E., APTIM, Boca Raton, FL and Daniel Munt, Captiva Erosion Prevention District, Captiva, FL**

**4:35 p.m.**

**Simulating Coastal Flooding due to Extreme Storms: Lessons Learned from Hurricane Ian**

**Lindino Benedet, Ph.D., Coastal Protection Engineering, Boca Raton, FL**

**4:55 p.m.**

**Surge and Rainfall Compound Flood Modeling Using Gridded Rainfall from Bi-Variate Joint Surge-Rainfall Pairings**

**Michael Kabling, Ph.D., P.E., CFM, Taylor Engineering, Inc., Jacksonville, FL**

**5:15 p.m.**

**Adjourn**

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## Thursday, February 2

### **CONCURRENT SESSION A1**

8:05 a.m. to 9:45 a.m.

Location: Salon C, Caloosa Sound Convention Center

8:05 a.m.

#### **Johnson Tract Lagoon Tidal Connectivity Study**

Todd DeMunda, P.E. and Matthew Starr, P.G. Stantec Consulting Services, Rockledge, FL and Laurel, MD and Taylor Kroll, Florida Fish and Wildlife Conservation Commission, Newberry, FL

8:25 a.m.

#### **Wave and Storm Surge Modeling of Island Breakwaters for Hurricane Protection of Florida's Largest Marina**

Leonard Barrera Allen, P.E., CFM, Jannek Cederberg, P.E., and Jason Cummins, P.E., Cummins Cederberg, Inc., Coral Gables, FL

8:45 a.m.

#### **Application of the Longshore Transport Curve for Coastal Structure Improvements at Coquina Beach in Manatee County, Florida**

Thomas Pierro, P.E., D.CE, Coastal Protection Engineering, Boca Raton, FL, Charlie Hunsicker, Natural Resources Department, Manatee County, Bradenton, FL, and Morjana Signorin, APTIM, Boca Raton, FL

9:05 a.m.

#### **Coastal Structures Alternatives Analysis for Shoreline Stabilization Using the Delft3D Model – Coquina Beach and Longboat Pass Jetty Case Study**

Doris Otero, Ph.D., APTIM, Boca Raton, FL and Charlie Hunsicker, Natural Resources Department, Manatee County, Bradenton, FL

9:25 a.m.

#### **Lessons Revisited on the Interaction of Beach Nourishment and Terminal Structures**

Douglas Mann, P.E., D.CE, Nicole Sharp, P.E., and Morjana Signorin, APTIM, Boca Raton, FL

9:45 a.m.

**Professional Exchange Break**

### **CONCURRENT SESSION B1**

8:05 a.m. to 9:45 a.m.

Location: Salon E, Caloosa Sound Convention Center

8:05 a.m.

#### **Hydrodynamic Dredging in the US – Challenges and Opportunities**

William Fuller, EI and Joe Wagner, P.E., D.NE, BCEE, HDR Engineering, Inc., Wilmington, NC and Jacksonville, FL

8:25 a.m.

#### **Navigating Borrow Area Challenges in Palm Beach County**

Steven Howard, P.E., D.CE, Olsen Associates, Inc., Jacksonville, FL, and Andy Studt and Reubin Bishop, Palm Beach County Department of Environmental Resources Management, West Palm Beach, FL

8:45 a.m.

#### **Southeast Florida Regional Sediment Morphodynamics Study – A Summary of the Lake Worth Inlet Metocean and Sand Tracer Study, Lake Worth, FL**

Jon Marsh, Ph.D., Environmental Tracing LLC, St. Augustine, FL and Laurel Reichold, U.S. Army Corps of Engineers, Jacksonville District, FL

9:05 a.m.

#### **A Hydro-Sediment-Morphodynamical Modeling Framework for Southeast Florida**

Nathanaël Geleynse Ph.D. and L. Perk, WaterProof Marine Consultancy LLC, Lelystad, The Netherlands, L.C. van Rijn, Ph.D., P.E., LVRS-Consultancy, The Netherlands, Jon Marsh, Ph.D., Environmental Tracing LLC, St. Augustine, FL, and Laurel Reichold, U.S. Army Corps of Engineers, Jacksonville District, FL

9:25 a.m.

#### **Advanced Methods for Dredging and Hurricane Ian Response**

Matthew Starr, P.G., Stantec Consulting Services, Tampa, FL

9:45 a.m.

**Professional Exchange Break**

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## Thursday, February 2

### **CONCURRENT SESSION A2**

10:15 a.m. to 12:00 p.m.

Location: Salon C, Caloosa Sound Convention Center

10:15 a.m.

**Innovative Stormwater Solutions for Use in Coastal Areas**  
Johnny Martin, P.E., Moffatt and Nichol, Inc., Raleigh, NC

10:35 a.m.

**Coastal Outfalls – Stormwater Resiliency for Coastal Communities**

Nicholas Muzia, P.E., Martin County Public Works, Stuart, FL

10:55 a.m.

**Lake Worth Inlet Sand Transfer Plant Integrity Assessment**

Michael Barnett, P.E., D.CE, Craig Kruempel, Matthew Trzcinski, Nicholas Bragaia, and Charles Card, GHD, Mobile, AL, Wellington, FL, Tampa, FL, West Palm, FL, and Harrisburg, PA and Dave Hoffman, Ballard Marine Construction, Neenah, WI

11:15 a.m.

**The Use of Wave Trip Walls to Reduce Storm Vulnerability**  
Marc Gold, P.E., CFM and Francis Way, P.E., CFM, ATM a Geosyntec Company, Charleston, SC

11:35 a.m.

**Matheson Hammock Park Seawall Project**

Melissa Burns, P.E., Jesse Davis, P.E., and Craig Kruempel, GHD, Altamonte Springs, FL, Miami, FL, and Wellington, FL, and Duane Kopp, P.E., Miami-Dade County, Miami, FL

12:00 p.m.

**Lunch**

Location: Salon D, Caloosa Sound Convention Center

### **CONCURRENT SESSION B2**

10:15 a.m. to 12:00 p.m.

Location: Salon E, Caloosa Sound Convention Center

10:15 a.m.

**CHEERS: Lessons from the Great Lake's most Ambitious Multi-Phase Resiliency Plan**

Joe Wagner, P.E., D.NE, BCEE and William Fuller, EI, HDR Engineering, Inc., Jacksonville, FL and Wilmington, NC

10:35 a.m.

**A True Regional Effort – Lessons Learned from a 9-County Vulnerability Analysis**

Jenna Phillips, Cummins Cederberg, Inc., St. Petersburg, FL and Sean Lahav, Halff Associates, Inc., Jacksonville, FL

10:55 a.m.

**Martin County Four Mile Beach Resilience**

Wendy Laurent, P.E. and Angela Schedel, Ph.D., P.E., Taylor Engineering, Philadelphia, PA and Jacksonville, FL

11:15 a.m.

**Miami-Dade County RER-DERM, Coastal Modeling, Planning, Permitting, and Design Services for Miami-Dade County Shorelines**

Alberto Pisani, P.E. and Marina Blanco-Pape, P.E., Miami-Dade County Department of Regulatory and Economic Resources, Miami, FL, Jesse Davis, P.E. and Nicholas Bragaia, GHD, Inc., Miami, FL and West Palm Beach, FL

11:35 a.m.

**Reclamation of the Coastal Edge through Offshore Construction**

Brian Cook, PLA, Applied Sciences, Tampa, FL

12:00 p.m.

**Lunch**

Location: Salon D, Caloosa Sound Convention Center

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## Thursday, February 2

### **CONCURRENT SESSION A3**

1:00 p.m. to 3:00 p.m.

Location: Salon C, Caloosa Sound Convention Center

1:00 p.m.

**Flagler County, Florida – Beach Management**

Chris Creed, P.E., D.CE. and Ben Gross, P.E., Olsen Associates, Jacksonville, FL and Faith Alkhatib, P.E., MBA, Flagler County, Bunnell, FL

1:20 p.m.

**Indian River County Sector 3 Beach and Dune Restoration Project: 2021-22 Project and Post-Ian Update**

James Austin and Nicole Sharp, P.E., APTIM, Boca Raton, FL and Eric Charest, Coastal Division, Indian River County Public Works, Vero Beach, FL

1:40 p.m.

**Two FCCE Projects from One Unnamed Storm: St. Johns County's Upcoming Beach Renourishments**

Patrick Snyder, P.E., U.S. Army Corps of Engineers, Jacksonville District, FL, Damon Douglas and Stephen Hammond, St. Johns County Public Works Department, St. Augustine, FL

2:00 p.m.

**St. Johns County, Florida Hurricanes Matthew and Irma FEMA Emergency Berm Restoration Project**

Damon Douglas and Stephen Hammond, St. Johns County Public Works Department, St. Augustine, FL, Thomas Gillespie, Michael Barnett, P.E., D.CE, and Melissa Burns, P.E., GHD, Savannah, GA, Mobile, AL, and Altamonte Springs, FL and Patrick Kenning, CHC, Ponte Vedra Beach, FL, and Mark Zanardi and David Juelle, CHC, Miami, FL

2:20 p.m.

**Quantifying the Impact of Hurricane Ian on Dune Morphology at Matanzas Inlet, Florida**

Matheus de Assis Bose, Peter Adams, and Copeland Cromwell, Department of Geological Sciences, Orlando Cordero, Center for Coastal Solutions, and Christine Angelini, Ph.D., Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL

2:40 p.m.

**Analysis of Morphological Change at Ponte Vedra, FL caused by Hurricane Ian Using Drone Imagery and RTK GPS Surveys**

Copeland Cromwell, Peter Adams, Matheus de Assis Bose, Department of Geological Sciences, Orlando Cordero, Center for Coastal Solutions, Andrew Ortega, Geomatics Program, and Christine Angelini, Ph.D., Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL

3:00 p.m.

**Professional Exchange Break**

### **CONCURRENT SESSION B3**

1:00 p.m. to 3:00 p.m.

Location: Salon E, Caloosa Sound Convention Center

1:00 p.m.

**Darker Beaches and Brighter Minds – Using Hot Spot Analyses to Monitor Lighting Compliance and Spark Change in Palm Beach County, FL**

Teal Kawana, Colette Biondi, Matt Mitchell, and Emma Rimmer, Palm Beach County Department of Environmental Resources Management, West Palm Beach, FL

1:20 p.m.

**Seabird Nesting Habitat Restoration in Charleston Harbor, South Carolina**

Steven Jachec, Ph.D., P.E., and Marc Gold, P.E., CFM and Francis Way, P.E., CFM, ATM a Geosyntec Company, West Palm Beach, FL and Charleston, SC

1:40 p.m.

**Living Shorelines and Oyster Reef Balls in Jupiter, Florida**

Gina Chiello, Jordon Cheifet, P.E., CFM, Colton Manning, P.E., and Danielle Irwin, CFM, PWS, Cummins Cederberg, Inc., Jupiter, FL

2:00 p.m.

**The Development of Conceptual Nature-based Shorelines for Captiva, FL**

Cheryl Hapke, Ph.D., Matt Jamieson, and David Revell, Ph.D., Integral Consulting, Inc., St. Petersburg, FL

2:20 p.m.

**Nature-Based Coastal Resiliency for Barrier Islands in Southwest Florida, Case Study on Marco Island Post-Hurricane Ian**

Mohamed Dabeas, Ph.D., P.E., D.CE, Humiston & Moore Engineers, Naples, FL

2:40 p.m.

**Flora Dunes: Ecology, Protection and Restoration of Florida's Dunes**

Fritz Wettstein, RLA, Office of Resilience and Coastal Protection, Florida Department of Environmental Protection, Tallahassee, FL

3:00 p.m.

**Professional Exchange Break**

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## Thursday, February 2

### **CONCURRENT SESSION A4**

**3:30 p.m. to 5:10 p.m.**

**Location: Salon C, Caloosa Sound Convention Center**

**3:30 p.m.**

**Sharing Collier County's Strategies in Implementing Truck Haul Beach Nourishment Projects & Immediate Post-Hurricane Ian Observations of the Newly Constructed Project Areas**

**Tara Brenner, P.G., P.E., Coastal Protection Engineering, Boca Raton, FL and Andrew Miller, P.E., Collier County Coastal Zone Management Section, Naples, FL**

**3:50 p.m.**

**Coastal Impacts and Recovery Plans for Collier County, Florida from Hurricane Ian**

**Stephen Keehn, P.E. and Nicole Sharp, P.E., APTIM, Boca Raton, FL and Andrew Miller, P.E., Collier County Coastal Zone Management Section, Naples, FL**

**4:10 p.m.**

**The Morphological Evolution of Little Estero Island, Fort Myers Beach, Florida**

**Ralph Clark, P.E., Office of Resilience and Coastal Protection, Florida Department of Environmental Protection, Tallahassee, FL**

**4:30 p.m.**

**Natural and Anthropogenic Influences on National Beach Nourishment Activities**

**Jyothirmayi Palaparathi and Tiffany Roberts Briggs, Ph.D., Department of Geosciences, Florida Atlantic University, Boca Raton, FL**

**4:50 p.m.**

**Listening to the Data, Non-Linear Concepts in Coastal Processes and Monitoring Data Analytics**

**Matthew Fleming, P.E., Humiston & Moore Engineers, Naples, FL**

**5:10 p.m.**

**Adjourn**

### **CONCURRENT SESSION B4**

**3:30 p.m. to 5:10 p.m.**

**Location: Salon E, Caloosa Sound Convention Center**

**3:30 p.m.**

**Red Tide and HAB Mitigation**

**Kevin Claridge, Mote Marine Laboratory, Sarasota, FL**

**3:50 p.m.**

**The Reefline – Snorkel Trail and Artificial Reef in Miami Beach, Florida**

**Jordon Cheifet, P.E., CFM and Gina Chiello, Cummins Cederberg, Inc., Jupiter, FL**

**4:10 p.m.**

**Extensive SAV Data Collection for South Florida Beach Project Points to Value of Maintained Database for Longterm Analysis**

**Sandra Walters, Resource Environmental Solutions, LLC, Fort Myers, FL**

**4:30 p.m.**

**Forecasting Sea Level Rise, Storm-Induced Wave Risk, and Vulnerability of Infrastructure in Estuarine Marshes Using 1D and 2D Modeling**

**Adam Clinch, AECOM, Charleston, SC**

**4:50 p.m.**

**Application of Unmanned Aerial System (UAS) to Evaluate High-Frequency Changes in Intertidal Wormreef and Nearshore Reef at Bathub Beach Park, Martin County, Florida**

**Greg Ward and Cheryl Miller, Coastal Eco-Group, Deerfield Beach, FL, Jessica Garland, Martin County, and Kathy FitzPatrick, P.E., Stuart, FL**

**5:10 p.m.**

**Adjourn**

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Friday, February 3

## **CLOSING GENERAL SESSION**

**8:05 a.m. to 12:00 p.m.**

**Location: Salon C, Caloosa Sound Convention Center**

**8:05 a.m.**

**Vibrations & Excitations...what the Beach Boys didn't tell you**

**Dave Swigler, P.E., Department of Environmental Resources Management, Palm Beach County, FL**

**8:25 a.m.**

**Low-Cost Method Using a Laser Level to Collect Pre/Post Storm Surveys to Estimate Sand Loss**

**John Bishop, Ph.D., Environmental Management Division, Pinellas County, Clearwater, FL**

**8:45 a.m.**

**Tropical Cyclones: A Global Perspective**

**Michael Jenkins, Ph.D., P.E., ATM a Geosyntec Company, West Palm, FL**

**9:05 a.m.**

**A Sinking Feeling: Using Nature to Calculate Offshore Transport Rates**

**Zachary Westfall and John Bishop, Ph.D., Environmental Management Division, Pinellas County, Clearwater, FL**

**9:25 a.m.**

**Flood Prediction and Inundation Mapping at Large-scales using a Multidisciplinary Machine Learning Approach**

**Chris Mack, P.E., D.CE, PMP, Stantec Consulting Services, North Charleston, SC**

**9:45 a.m.**

**Student Scholarship Presentations**

**Michael Poff, P.E., Coastal Engineering Consultants, Inc., Bonita Springs, FL**

**9:50 a.m.**

**Professional Exchange Break**

**10:20 a.m.**

**Session Sponsor Recognition**

**Fred Aschauer, Lewis, Longman & Walker, P.A.**

**10:25 a.m.**

**Responsible Sediment Management at Pensacola Pass**

**Krista Egan, P.E., Albert Browder, Ph.D., P.E., D.CE, and Sergio Peña, Olsen Associates, Inc., Jacksonville, FL**

**10:45 a.m.**

**Federal Funding for Beaches: Recent Decisions and Implications**

**Robert (Bob) Glassen, FEMA Region IV, and Trisston Brown, Chief, Coastal/Navigation Section, U.S. Army Corps of Engineers, Jacksonville, FL**

**11:05 a.m.**

**The Influence of Interannual Sea Level Changes on Shoreface Sand Volume and Decadal Scale Sediment Budget Calculations**

**Gary Zarillo, Ph.D., P.G., Florida Institute of Technology, Melbourne, FL**

**11:25 a.m.**

**Determination of Extraordinary Storm Classification for recent Florida events**

**Drew Condon, Ph.D., P.E. and Kevin Hodgens, P.E., U.S. Army Engineer Research and Development Center, Vicksburg, MS**

**11:45 a.m.**

**The Measured Fate of Beach Nourishment Sand at Panama City**

**James Houston, Ph.D., U.S. Army Engineer Research and Development Center, Vicksburg, MS**

**12:05 p.m.**

**Adjourn**