

SOUTH FLORIDA ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS

ANNUAL SYMPOSIUM
NOVEMBER 5, 2014

NEW TECHNOLOGIES AND TECHNIQUES FOR ENVIRONMENTAL PROFESSIONALS

TREE TOPS PARK, 3900 S.W. 100TH AVE., DAVIE, FL

An organization of professionals practicing environmental planning, engineering, science and law in South Florida.



South Florida Association of Environmental Professionals

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SCHEDULE OF EVENTS

- 8:30 am Registration (30 Min)**
- 9:00 am Welcome and Recognitions:** David Bogardus, SFAEP President **(10 min)**
- 9:10 am Keynote Speaker:** Armando Rodriguez, Director of Environmental Affairs for Disney, Environmental stewardship **(50 Min)**
- 10:00 am Morning Break - Explore Information Booths & Continental/Morning Beverages (15 min)**
- 10:15 am FPL Port Everglades Next Generation Clean Energy Center—Clean domestically produced energy, is it a myth or reality: The Port Everglades Power Plant modernization story.** Justin J. Sobol, Project Development Manager, FPL **(35 min)**
- 10:50 am Sunshot Grant Partnership –** Kay Sommers, LEED Green Associate, Broward County Pollution Prevention Division **(35 min)**
- 11:25 am Biogas to Energy Plant –** Alonso G. Griborio, Ph.D., PE, Broward County and Chevron Energy Solutions; Vin Morello, Broward County Water and Wastewater Services; Adam Bogusch, P.E. BCEE Lead Process Engineer OpTerra Energy Services; Jay Pakarinen P.E. Senior Project Manager, Ft Lauderdale Office OpTerra Energy Services **(35 min)**
- 12:00 pm Catered lunch (Grandpa’s Bakery of Dania Beach) on site. (1 hr. and 15 min)**
- 1:15 pm SFAEP Elections and Chapter Business (20 min)**
- 1:35 pm Our Florida Reefs Marine Planner and Survey -** Brian K. Walker, Ph.D., Research Scientist, National Coral Reef Institute, Nova Southeastern University, Oceanographic Center **(35 min)**
- 2:10 pm LEAF Awards—**Michael McCoy **(20 min)**
- 2:30 pm Applying Surficial Geophysics to Geological, Geotechnical, HydroGeological, Environmental Investigations -** Mike Wightman, GeoView **(35 min)**
- 3:05 pm Everglades National Park, Hole in the Donut: Techniques for Addressing Invasive Exotic Plants -** Jonathan Taylor, Everglades National Park **(35 min)**
- 3:40 pm Afternoon Break—**Snacks and Drinks **(15 min)**
- 3:55 pm Unmanned Aerial System (UAS) Capabilities for Environmental Professionals -** Michael Melendez, PE, Principle, Genesis Enterprises & Engineering Services, LLC. **(35 min)**
- 4:30 pm Closing Comments and Roundup**
- 5:00 pm Networking Social Event -** Landlubbers, Cooper City



KEYNOTE SPEAKER

ARMANDO RODRIGUEZ—WALT DISNEY WORLD CO.

“ENVIRONMENTAL PROGRAMS AT THE WALT DISNEY COMPANY”

Armando Rodriguez has been the Director of the Environmental Affairs Division for Walt Disney World Co. since July 1997, with responsibility for all environmental compliance programs. He has also been an integral part of the Disney Cruise Line environmental compliance team since the line’s inception. Prior to this position, he was the manager of the Environmental Control Department. Before coming to Disney in July 1988, Armando was a staff engineer with Martin-Marietta in Orlando, where he handled hazardous waste and air pollution compliance. He previously spent eight years with the phosphate industry, dealing with all phases of environmental compliance. Armando has a degree in chemistry from the University of Florida.



Photo courtesy of www.floridasnaturalwonders.com



SPEAKER BIO'S

FPL Port Everglades Next Generation Clean Energy Center

Justin John Sobol, Manager Project Development

Justin Sobol is a manager of project development for Florida Power & Light Company (FPL), where his responsibilities include overseeing the development of fossil and renewable energy projects in the State of Florida. Mr. Sobol's current focus is on the development of future natural gas power plants and ensuring the successful construction of already approved projects such as the Port Everglades, Riviera Beach and the Cape Canaveral Energy Centers. Mr. Sobol holds a Bachelors and Master's degree in Ocean Engineering from Florida Atlantic University. Mr. Sobol joined Florida Power & Light in 2007. Prior to his position at FP&L he performed multiple jobs in the engineering and development fields.

NextEra Energy, Inc. is one of the nation's leading electricity-related services companies. Its subsidiaries include FPL, Florida's largest electric utility with nearly 4.5 million customer accounts, and NextEra Energy Resources, LLC, a fast-growing independent power producer with a presence in 26 states and Canada.



Sunshot Grant Partnership

Kay Sommers, LEED Green Associate, Broward County PPRAQD

Kay Sommers has worked for Broward County Environmental Protection & Growth Management in Ft. Lauderdale Florida since 1986 in a number of capacities. Ms. Sommers graduated from the University of Kentucky with a B.S. in Chemical Engineering in 1985. She has been a loyal fan of the Wildcat basketball team ever since.

In her position with Broward County, Ms. Sommers has served as the team leader for the Emerald Award Environmental Recognition Program from 2002-2013, and as the county co-company leader for the American Heart Association Heart Walk from 2004 to 2012. She is a Master Trainer for Process Mapping and a Level III Coach and Trainer for Facilitation for all county departments. She is also a LEED Green Associate.

Currently Kay serves as the Project Manager for the Go SOLAR Florida grant at Broward County Pollution Prevention, Remediation, and Air Quality Division Organize where she chairs multiple committees with cross jurisdictional participants and oversees a grant budget of \$2,275,776. She manages the Air Quality Technical Support Section which is responsible for calculating Greenhouse Gas Emissions Inventories for the Southeast Florida Regional Climate Compact, the Climate Change Task Force, and for Broward County Government Operations. The section also provides environmental education and programming through school and community events.



Biogas to Energy Plant—Private/Public Partnership

Vincent Morello, Project Manager, Broward County Water and Wastewater Services

Alonso G. Griborio, Ph.D., PE, Broward County and Chevron Energy Solutions

Dr. Griborio holds a Bachelor's Degree and a Master's Degree in Civil Engineering from Zulia University, Venezuela, and a Ph.D. in Engineering and Applied Sciences from The University of New Orleans. Dr. He has worked in wastewater treatment modeling and design for more than fifteen years with focus in process and optimization, and has several publications about these topics. Dr. Griborio joined Hazen and Sawyer in September 2006, and is a member of WEF, AWWA and IWA.



SPEAKER BIO'S

Jay Pakarinen P.E. Senior Project Manager, Ft Lauderdale Office OpTerra Energy Services

Mr. Pakarinen joined OpTerra Energy Services with 18+ years of experience in the HVAC industry, including engineering, analysis, and project management experience in the power distribution, utility load research, mechanical design, and energy performance industry. Mr. Pakarinen's work at OpTerra ES concerns the achievement of cost-effective and efficient use of energy at various facilities. These facilities include commercial and institutional facilities, public schools, hospitals, and universities. He is skilled in performing cost analyses, computer modeling, managing the bid process, and HVAC/lighting retrofit.

His current job duties include managing a team of performance contracting engineers experienced in performing building lighting, water and wastewater, building envelope, street lighting, and HVAC surveys; and then this information is used to prepare a detailed comprehensive report for the facility.

His past experience includes expertise in the areas of energy engineering, mechanical design, and project implementation. Special areas of expertise include energy analysis, building modeling, HVAC design, thermal systems design, and utility systems analysis. Projects that he has been involved with include Broward Water and Wastewater Waste to Energy Performance Contract, Miami Dade County Performance Contracting – Multiple Phases, City of Hialeah, Florida Department of Corrections – Multiple Phases, Broward County School Board, City of Jacksonville, State of Alabama Department of Agriculture, State of Georgia North Georgia Mountain Authority, North Carolina Central University, to name a few.

Adam Bogusch, P.E. BCEE Lead Process Engineer OpTerra Energy Services

Years of Experience with OpTerra ES: 5 years

Years of Experience Prior to OpTerra ES: 13 years

Education: University of Texas, Austin, TX – MS Environmental Health; Iowa State University, Ames, IA – BS Civil Engineering

License(s)/Registration(s): Professional Engineer: Texas, Kansas, Missouri, Iowa, Oklahoma

Professional Organizations: Board Certified Environmental Engineer (BCEE) – American Academy of Environmental Engineers, Water Environment Federation

Publications/Proceedings: Energy and Energy Audits for Treatment Plants, KDHE Operators Conference, 2011; Saving Energy at WWTPs, CA Chapter of APWA, 2011; Austin Water Utility's Hornsby Bend Biogas to Energy CHP Project, Texas WET, 2011

Mr. Bogusch has 18 years of experience designing and developing energy audits, engineering reports, contract documents, technical specifications, contractual and construction costs, and drawings for bid and construction of water, wastewater and environmental treatment projects. Throughout his career he has filled the roll of project manager, engineer, and developer. Responsibilities have included pre-design, project scheduling and scoping, team supervision, engineering design, inter-discipline coordination, construction document preparation, quality assurance, and resource management including the coordination and management of support engineering staff, technicians, sub-consultants and sub-contractors.

Mr. Bogusch has worked on projects for a variety of clients, including cities, utilities, private industries, and various government agencies. His current focus involves the concept development and implementation of energy conservation and renewable resource projects for both municipalities and private entities. These projects focus on major facilities infrastructure such as water and wastewater plants, landfills, and distribution systems but also include traditional CHP applications and unique solutions that utilize renewable resources.

He has obtained practical experience in a number of environmental treatment processes and exposure to a wide variety of technologies and equipment. In addition to being a wastewater process engineer he is also a trained BioWin and Plan-IT Stoat process modeler. He has made numerous presentations at various technical conferences and proceedings on a variety of topics including energy conservation and wastewater treatment.

PROJECT EXPERIENCE:

- 850 kW Cogeneration, City of Austin Hornsby Bend Biosolids Management, TX
- 1.99 MW Cogeneration and FOG Receiving Station, Broward North Regional Wastewater Treatment Plant, FL
- 12 MW CHP Feasibility, Texas State University
- Thermal Conversion of Biomass to Energy, Norco Waste to Energy Project, CA
- 6 mgd MBR, City of Wichita Mid-Continent Water Quality Reclamation Facility, KS
- Plant Upgrade, Becker Wastewater Treatment Plant, MN
- BNR and Capacity Upgrades, Sioux City Wastewater Treatment Plant, IA
- Process Upgrade Evaluations, Saint Joseph Wastewater Treatment Plant, MO
- MBBR Nitrification Process, Moorhead, MN



SPEAKER BIO'S

Everglades National Park, Hole in the Donut: Techniques for Addressing Invasive Exotic Plants

Jonathan Taylor, Restoration Program Manager, National Park Service

Over the last 13 years I have been with the National Park Service (NPS) at Everglades National Park and Dry Tortugas National Park, practicing natural area management and stewardship. The focus of my professional career with the NPS has been in invasive exotic plant management and wetland mitigation project management (the Hole-in-the-Donut). Prior to my NPS career, I was a research assistant at Florida International University in the Southeast Environmental Research Center evaluating nutrient water quality on the Everglades ecosystem. I have had very rewarding opportunities to work abroad. I taught science in Haiti for two years and I worked for 3 years in Gabon, Africa in the fisheries program for the United States Peace Corps. The emphasis of my academic training has been in botany and wetland plant ecology.

Our Florida Reefs Marine Planner and Survey

Brian K. Walker, Ph.D., Research Scientist, National Coral Reef Institute, Nova Southeastern University, Oceanographic Center

Dr. Walker is a research scientist at the Nova Southeastern University. His research centers on the spatial distribution of organisms, coral reef ecology and geology, reef fish ecology, and landscape/seascape ecology. Of recent particular interest is the effect of latitude and climate change along the northern Florida Reef Tract. He is active in shallow and deep water benthic habitat mapping, habitat impact assessment and restoration, GIS spatial analyses, optical remote-sensing, and hydrographic survey research, particularly LIDAR and sonar-based seafloor discrimination. His research has taken place in the tropical Atlantic and Caribbean including Florida, Mexico, the Bahamas, Puerto Rico, and the U.S. Virgin Islands. Dr. Walker has held many grants and contracts from various agencies, and he has authored numerous publications including technical reports, book chapters, and scientific peer-reviewed publications. His GIS and Spatial Ecology lab houses eight graduate students including three employees whose research spans map accuracy assessment, queen conch distributions, and long-term anchor impacts to coral reef communities.



Selected Relevant Pubs:

Walker B.K. and Gilliam D.S. (2013) "Determining the extent and characterizing coral reef habitats of the northern latitudes of the Florida Reef Tract (Martin County)." *PLoS ONE*, 8(11), e80439.

Reed, J.K., C. Messing, B. Walker, S. Brooke, T. Correa, M. Brouwer and T. Udouj. (2013) "Habitat characterization, distribution, and areal extent of deep-sea coral ecosystem habitat off Florida, southeastern United States." *Journal of Caribbean Science* 47, 13-30.

Walker B.K., Gilliam D.S., Dodge R. E. and J. Walczak. (2012) "Dredging and shipping impacts on southeast Florida coral reefs." Proceedings of the 12th International Coral Reef Symposium, 19A Human impacts on coral reefs: general session, Cairns, Australia, 9-13 July 2012.

Walker B.K., Larson E.A., Moulding A., and D.S. Gilliam. (2012) "Small-scale mapping and movement of shallow-water high-density staghorn coral (*Acropora cervicornis*) thickets." *Coral Reefs*, 31:885-894.

Walker B.K. (2012) Spatial Analyses of Benthic Habitats to Define Coral Reef Ecosystem Regions and Potential Biogeographic Boundaries along a Latitudinal Gradient. *PLoS ONE* 7:e30466.

Walker B.K., Jordan L.K.B., and Spieler R.S. (2009) Relationship of fish assemblages and topographic complexity on southeastern Florida coral reef habitats. *Journal of Coastal Research*, SI (53) 39-48.

Walker B.K., Riegl B.M., and R.E. Dodge. (2008) Mapping Coral Reef Habitats in Southeast Florida Using a Combined Technique Approach. *Journal of Coastal Research*, 24(5), 1138-1150.



SPEAKER BIO'S

Applying Surficial Geophysics to Geological, Geotechnical, HydroGeological, Environmental Investigations

Mike Wightman, P.G., President GeoView

Mr. Wightman's current responsibilities include management and technical oversight of all geophysical investigations conducted by GeoView Inc. He has managed and conducted geophysical investigations throughout the United States and the Caribbean Region. His responsibilities have included project management and budgeting, employee supervision and training, design and implementation of geophysical investigations, data evaluation, numerical and analytical modeling of geophysical data, and coordination and supervision of fieldwork. He has conducted and managed several thousand geophysical investigations to identify potential and actual sinkhole features. He has also performed hundreds contamination assessment investigations throughout Florida where his responsibilities included project management, geophysical investigations, design of groundwater monitoring systems, data evaluation, groundwater modeling, and report preparation.



While working on his M.S. degree in hydrogeology at the University of South Florida, he was involved as a principal investigator on several coastal and island aquifer research projects. In these projects, he used electromagnetics and direct current resistivity to map salt-water interfaces and developed considerable shipboard experience involving sediment analysis, vibracoring, refraction seismology, and mission planning. Results from his research have been presented at two international conferences, three Florida statewide conferences, and have appeared in several publications.

Unmanned Aerial System (UAS) Capabilities for Environmental Professionals

Michael Melendez, PE, Principal, Genesis Enterprises & Engineering Services, LLC.

Michael has 17 years of experience in the planning, engineering, delivery, and management of transportation and civil projects in Florida. Michael started his career with FDOT in 1997, became a roadway designer, and has worked in the private sector since 2003.



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