

Kelli Zargiel Hunsucker, Ph.D.

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RESEARCH INTERESTS

Benthic Ecology ☐ Marine Education ☐ Diatoms ☐ Biofilms ☐ Biofouling ☐ Water Quality

EDUCATION

Florida Institute of Technology, Melbourne, FL

PhD, Biological Oceanography, 2013

Major Advisor: Dr. Geoffrey Swain

Dissertation Title: Investigations of diatom community structure on modern antifouling coatings

Florida Institute of Technology, Melbourne, FL

MS, Chemical Oceanography, 2007

Major Advisor: Dr John Windsor, Jr.

Thesis Title: A biochemical comparison of dissolved silica concentrations in different physical environments in the Indian River Lagoon, Florida

The Richard Stockton College of New Jersey, Pomona, NJ

BS, Oceanography, with a Marine Chemistry focus, 2005

Major Advisor: Dr. Gordan Grguric

Graduation with Distinction Project: Lateral and depth variability in major nutrients and alkalinity in the Mullica River-Great Bay estuary

RESEARCH EXPERIENCE

Florida Institute of Technology, Melbourne FL

Research Professional, 2013-Present

Center for Corrosion and Biofouling Control Laboratory

- Studies diatom ecology on modern ship hull coatings
- Test the performance of ship hull coatings for the Office of Naval Research, US institutions, and commercial organizations
- Perform routine collection, calibrations and maintenance on water quality instrumentation at several sites along the Indian River Lagoon, FL
- Test efficacy of ballast water treatment systems
- Design new experiments for both biofouling and benthic ecology
- Assist in the mentoring of undergraduate and graduate student research projects
- Assist in writing research grants for new and existing projects

Florida Institute of Technology, Melbourne FL

Research Assistant, January 2008-Decemeber 2013

Center for Corrosion and Biofouling Control Laboratory

- Studied diatom ecology on modern ship hull coatings
- Examined the affect of hydrodynamic conditions on biofilm formation
- Monitored water quality along the Indian River Lagoon
- Tested the performance of commercially available ship hull coatings for the Office of Naval Research
- Tested the performance of prototype ship hull coatings

St. John's River Water Management District, Palm Bay FL

Indian River Lagoon Intern October 2006-May 2007

- Weekly monitoring of salinity and water clarity at the St. Sebastian River
- Performed routine calibrations and maintenance on water quality instrumentation
- Participated in weekly seagrass monitoring along the Indian River Lagoon
- Participated in monthly water quality sampling along the Indian River Lagoon

The Richard Stockton College of New Jersey, Pomona NJ

Undergraduate Research Assistant, September 2002-May 2005

- Analyzed water samples for nutrient and ion concentrations and alkalinity
- Studied depth and tidal variability of several nutrients in local estuarine waters

Coastal Research Center, Pomona NJ

Field Assistant, Summer 2005

- Assisted with the collection of beach profiling data

TEACHING AND OUTREACH EXPERIENCE

Marine and Environmental Science Summer Camp, Melbourne, FL

Camp Director, January 2013-Present

- Responsible for organizing a week long summer camp for both day and overnight students ages 10-18
- Determine camp schedule, syllabus, and budget
- Design new marine science lessons
- Actively writing grants for new projects and scholarships
- Partnered with Indian River State College to provide 15 scholarships to educationally and economically deprived students for 2014 and 2015
- Maintains adoption of a Brevard County Spoil Island (BC 47) with the FL DEP

Indian River Lagoon Research Institute, Melbourne FL

Outreach Coordinator, Florida Insitutute of Technology, September 2013-Present

- Actively involved with a local Girl Scout Troop's 'Living Dock Project'
- Organizes and promotes IRL events for FIT students, staff, faculty, and alumni
- Maintains the IRLRI website, assisting with the Indian River Lagoon Calendar and local environmental events and festivals
- Actively applying for outreach grants
- Starting a marine debris and microplastic monitoring network in the Indian River Lagoon and associated tributaries
- Organizing and leading a 4-day teacher workshop starting in Summer 2015

Florida Insitutute of Technology, Melbourne, FL

Instructor, Marine and Estuarine Phytoplankton, Spring 2015

Instructor, Marine Field Projects Research Cruise, Summer 2014

Florida Eastern State College, Cocoa and Titusville, FL

- Substitute, Introduction to Oceanography, 2014-Present
- Adjunct Professor, Introduction to Oceanography, 2011-2013

Environmental Advisory Board, Melbourne Beach, FL

Committee Member, March 2011-Present

- Started the 'Popcorn Science Seminar Series' for the local Melbourne Beach Community
- Currently assisting the town and the Surfrider Foundation to implement a Voluntary Plastic Bag Reduction Resolution in the town of Melbourne Beach
- Assists with organizing local beach cleanups, native plantings, invasive removal projects, and other environmental projects in Melbourne Beach
- Writes environmental articles for the town newspaper

Florida Academy of Sciences, FL

Program Chair, March 2013-Present

- Responsible for promoting the Florida Academy of Sciences
- Compiles the annual call for abstracts
- Receives, accepts, and edits all abstracts for the annual meeting
- Assists in organizing the annual meeting
- Compiles all abstracts and annual meeting information into the Annual Program Book

Florida Institute of Technology, Melbourne, FL

Graduate Teaching Assistant, Introduction to Oceanography, 2007

Graduate Teaching Assistant, Marine Field Projects, Summers 2006 and 2007

Graduate Teaching Assistant, Atmospheric Pollution, 2006-2007

Graduate Teaching Assistant, Marine and Environmental Chemistry, 2005-2007

- Ran and maintained both Marine and Environmental Chemistry and Atmospheric Pollution laboratories
- Prepared water quality experiments and ran weekly field trips
- Helped run and organize beach profiling trips along Florida's east coast
- Mentored students on the design and collection of data for their summer projects
- Graded laboratory reports

The Richard Stockton College of New Jersey, Pomona, NJ

Undergraduate Teaching Assistant, Tropical Marine Biology, Summer 2005

Undergraduate Teaching Assistant, Methods in Oceanography, Spring 2005

- Assisted in leading field trips in the tropics, identifying marine and terrestrial flora and fauna
- Assisted with the preparation of lab experiments
- Graded weekly laboratory reports

Alliance for a Living Ocean, Beach Haven, NJ

Intern, Summer 2003 and 2004

- Collected local estuarine organisms for the 'Look and Learn Tank'
- Assisted with the explanation of organisms in the 'Look and Learn Tank'

HONORS AND AWARDS

Postdoctoral Fellow Travel Award

International Congress on Marine Corrosion and Fouling, Singapore 2014

Outstanding Graduate Student in Oceanography

Florida Institute of Technology, 2011-2012

Graduate Student Travel Award

International Congress on Marine Corrosion and Fouling, Seattle, WA 2012
International Congress on Marine Corrosion and Fouling, Newcastle, UK 2010

Outstanding Graduate Student Paper in Atmospheric and Oceanographic Sciences

Florida Academy of Sciences, 2008

The Gertrude E. Skelly Charitable Foundation Fellowship

Florida Institute of Technology, 2006

The Edward W. Snowdon and Lee Hill Snowdon Endowed Fellowship

Florida Institute of Technology, 2005

Graduation with Distinction

The Richard Stockton College of New Jersey, May 2005

Who's Who Among American Colleges and Universities

The Richard Stockton College of New Jersey, 2003-2004

PROFESSIONAL SOCIETIES

American Society of Testing and Materials (ASTM)

American Society of Microbiology (ASM)

Florida Academy of Sciences (FAS)

Florida Marine Science Educators Association (FMSEA)

International Society of Applied Phycology (ISAP)

Phycological Society of America (PSA)

Professional Association of Diving Instructors (PADI)

PEER REVIEWED PUBLICATIONS

Zargiel KA, Coogan JS, Swain GW. 2011. Diatom community structure on commercially available ship hull coatings. *Biofouling* 27(9): 955-965

Zargiel KA, Swain GW. 2014. Static vs dynamic settlement and adhesion of diatoms to ship hull coatings. *Biofouling* 30(1): 115-129

Thomé I, Bauer S, Vater S, **Zargiel K**, Finlay JA, Arpa-Sancet MP, Alles M, Callow JA, Callow ME, Swain G, Grunze M, Rosenhahn A. 2014. Conditioning of self assembled monolayers at two static immersion test sites along the east coast of Florida and its effect on early fouling development. *Biofouling* 30(8): 1011-1021

Hunsucker KZ, Koka A, Lund G, Swain G. 2014. Diatom community structure on in-service ship hulls. *Biofouling* 30(9): 1133-1140

Hunsucker KZ, Swain GW. 2014. In situ measurements of diatom adhesion to silicone ship hull coatings. (in prep)

Hunsucker KZ, Swain GW. 2014. Fouling diatom communities at a static immersion site along the east coast of Florida. (in prep)

Hunsucker KZ, Ralston EA, Sweat LH, Stephens AP, Johnson KB, Swain GW. 2014. The first record of the turtle barnacle, *Chelonibia testudinaria*, on an artificial surface mimicking a slow moving ocean vessel. (in prep)

SELECTED CONFERENCE PRESENTATIONS

50th International Congress for Marine Corrosion and Fouling, Singapore, 2014

Zargiel KA, Koka A, Lund G, Swain G. 2014. Diatom community structure on in-service ship hulls (presentation)

77th Florida Academy of Sciences, Miami, FL 2013

Zargiel KA, Swain G. Static and dynamic settlement and adhesion of diatom to ship hull coatings (presentation)

Indian River Lagoon Symposium, Fort Pierce, FL 2012

Zargiel KA, Lieberman K, Connelly P, Swain G, McDonald J. Seasonal changes in water quality and fouling communities at a static immersion site on the Indian River Lagoon, Florida (presentation)

49th International Congress of Marine Corrosion and Fouling, Seattle, WA 2012

Zargiel KA, Swain GW. 2014. Static vs. dynamic settlement and adhesion of diatoms to ship hull coatings.

Office of Naval Research: International Coatings Workshop, Las Vegas, NV 2011

Zargiel KA, Hausmann D, Swain G. A slimy problem: diatom settlement on antifouling coatings (poster)

33rd Annual Southeastern Phycological Colloquy, Miami, FL 2011

Zargiel KA, Coogan J, Swain G. Diatom community structure on commercially available ship hull coatings (presentation)

4th Congress of the International Society for Applied Phycology, Halifax, Canada 2011

Zargiel KA, McDonald J, Swain G. Long term trends in diatom fouling communities in relation to water quality in the Indian River Lagoon, Florida (presentation)

75th Florida Academy of Sciences, Melbourne, FL 2011

Zargiel KA, McDonald J, Swain G. Long term survey of water quality and diatom community structure at a static immersion test site in the Indian River Lagoon, Florida (poster)

15th International Congress on Marine Corrosion and Fouling, Newcastle, UK 2010

Zargiel KA and Swain G. Variation in diatom community structure on antifouling and fouling release coatings from three static immersion test sites in Florida (presentation)

39th Benthic Ecology Meeting, Wilmington, NC 2010

Zargiel KA, Coogan J, Swain G. Variation in Diatom Community Structure on Antifouling and Fouling Release Coatings from Three Static Immersion Test Sites in Florida (poster)

Office of Naval Research: Concepts and Strategies for Surface Engineering to Control Biofouling, St Petersburg, FL 2009

Zargiel KA, Coogan J, Swain G. Micro and Macrofouling Communities on Antifouling and Fouling Release Coatings from Three Static Immersion Test Sites in Florida (poster)

Office of Naval Research: Coatings Workshop, Portland, OR 2009

Zargiel KA, Connelly P, Kavanaugh C, Lee S, Tribou M, Swain G. Biofouling and water quality characteristics at the Florida Institute of Technology Static Immersion Test Site (poster)

73rd Florida Academy of Sciences, St Leo, FL 2009

Zargiel KA, Connelly P, Kavanaugh C, Lee S, Swain G. Biofouling at a static immersion test site in the Indian River Lagoon, Florida (presentation)

72nd Florida Academy of Sciences, Jacksonville, FL 2008

Zargiel KA, Johnson KB, Windsor JG. A biochemical comparison of dissolved silica concentrations in two regions of the Indian River Lagoon, Florida (presentation)

INVITED SEMINARS AND LECTURES

Dept. of Marine and Environmental Systems Weekly Seminar Series

A Slimy Problem: Diatom Settlement on Antifouling Coatings, May 2013

Florida Institute of Technology, Marine Phytoplankton Course

Guest Lecture, Diatoms: Who are they and why should we care? March 2011

Smithsonian Marine Station at Fort Pierce Seminar Series

A Slimy Problem: Diatom Settlement on Antifouling Coatings, May 2011

Dept of Marine and Environmental Systems Weekly Seminar Series

A biochemical comparison of dissolved silica concentrations in two regions of the Indian River Lagoon, Florida, December 2005

PROFESSIONAL ACTIVITIES

Section Chair, Florida Academy of Sciences, 2009-Present

Melbourne Beach Environmental Advisory Board, March 2011-Present

Judge, Florida Junior Academy of Sciences, 2010-Present

Manuscript reviewer: *Biofouling, Science and the Total Environment, Journal of Phycology, Chinese Journal of Oceanology and Limnology, Hydrobiologia, Diatom Research*

NOAA Phytoplankton Monitoring Network, Volunteer, 2008-2013

Florida Department of Environmental Protection, Volunteer, 2008-Present

Florida Tech Engineering Camp, Volunteer, July 2009, 2011

Marine and Environmental Science Camp, Volunteer, July 2011, 2012

Girl Scout Merit Badge, Oceanography, Volunteer, March 2011

Merit Badge University, Oceanography, Volunteer, spring 2007