

Sarah Ellen Krejci

Assistant Professor, Biology and Integrated Environmental Science

Joint Appointment, Department of Natural Sciences & Integrated Environmental Science

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HIGHLIGHTS

- Research: I examine the effects of anthropogenic impacts and natural disturbance, such as hurricanes and algal blooms, on the ecology and behavior of marine zooplankton, syngnathids, and seagrass
- Significant experience mentoring undergraduate research projects
- Significant teaching experience
- Online Certified Teacher and online course development
- Innovative course design and student-centered learning style
- Experienced and comfortable in course sizes ranging from 1-100+ students
- Multiple coordinator positions for course organization among sections

EDUCATION

- 2017 Bethune-Cookman University, Daytona Beach, FL. (postdoc; coastal ecology)
- 2012 Florida Institute of Technology, Melbourne, FL. Oceanography Ph.D.,
- 2007 Florida Institute of Technology, Melbourne, FL. Marine Biology MS
- 2004 Roger Williams University, Bristol, RI. Marine Biology BSc, Minor History

PROFESSIONAL POSITIONS

- 2017-current **Assistant Professor**, Biology and Integrated Environmental Science
Bethune-Cookman University, Daytona Beach, FL.
- 2013-2017 **Post-Doctoral Fellow**, Integrated Environmental Science
Bethune-Cookman University, Daytona Beach, FL.
- 2013-2017 **Adjunct Instructor**, Integrated Environmental Science
Bethune-Cookman University, Daytona Beach, FL.
- 2012-2013 **Benthic Ecology Consultant**, Florida Tech Consulting, Melbourne, FL.
- 2007-2012 Teaching Assistant, Department of Marine and Environmental Systems
Florida Institute of Technology, Melbourne, FL.
- 2009-2010 **Regulatory Science Intern**, St Johns River Water Management District
Palm Bay, FL
- 2004-2007 **Teaching Assistant**, Department of Biological Sciences
Florida Institute of Technology, Melbourne, FL.
- 2001-2004 **Research Assistant**, Center for Economic and Environmental Development
Roger Williams University, Bristol, RI.

PUBLICATIONS

1. R. Abate and S.E. Krejci. (2015) "Climate Change Impacts on Ocean and Coastal Law", Climate Change Impacts on Ocean and Coastal Law: U.S. and International Perspectives. *Oxford University Press*. 699 pg.

MANUSCRIPTS IN PREPARATION

1. **Sarah Krejci**, Kailey Richard, and Jehmia Williams. Hurricane Irma Impacts on zooplankton relative abundance and diversity in the Halifax River Lagoon. (Intended journal: Journal of Plankton Research)
2. **Sarah Krejci**, Johnson, Jonathan, and Alyssa Stubbs. Effects of superbloom on zooplankton density in the Indian River Lagoon, FL. (Intended journal: Journal of Plankton Research)
3. **Sarah Krejci**. Effect of seagrass density on population demographics and feeding ecology of the gulf pipefish, *Syngnathus scoveilli*, in the Indian River Lagoon, Indian River Lagoon Symposium. Ft. Pierce, FL. (Intended journal: Journal of Environmental Biology of Fishes)
4. **Sarah Krejci**. Influence of SAV on syngnathid habitat preference in the Indian River Lagoon, FL. (Intended journal: Journal of Environmental Biology of Fishes)

ONGOING RESEARCH PROJECTS

2018	Impacts of superbooms on metagenomics of zooplankton in the Indian River Lagoon, FL
2018	Determining recovery of zooplankton species after a superbloom event
2018	Water quality assessment of Tomoka Marsh Aquatic Preserve, FL
2018	Measuring the impacts of Open Education Resources on student performance in non-major Environmental Science courses
2016-2018	Maine Ornamental Aquaculture techniques

FUNDING

2018	C.U.R.E. Research Program, Mentor and Student Support-P.I.	\$6,500
2017	Faculty SEED Grant-P.I.	\$2,998
2016	EPA Federal Clean water Act Grant, Nonpoint Source funds 319h, Post-Doctoral Fellowship	\$ 840,672

TEACHING EXPERIENCE

- 2018 **Instructor, Marine Biology Lecture and Lab**, Bethune-Cookman University
- Selected book and wrote course syllabus for approval by Undergraduate Curriculum Committee
 - Developed all lecture and laboratory exercises
 - Developed course objectives and assessment method
 - Collaborated with Department of Environmental Protection Tomoka Marsh Aquatic Preserve for collaborative course projects

2016-2018 **Instructor, Principles of Biology I Lecture and Lab**, Bethune-Cookman University

- Developed all lectures, course exercises, and course schedule during transition to new text book
- Wrote online homework assignments for all chapters in Learning Management System
- Wrote, Co-wrote and/or edited all laboratory exercises
- Serve as coordinator of 6 laboratory sections and 5 faculty members

2016-2018 **Instructor, Research**, Bethune-Cookman University

- Mentor 1-2 students per semester on independent undergraduate research projects
- Course design includes: literature reading lessons, literature searches, proposal writing, experimental design, research, statistics, report writing, abstract submission, and presentations at scientific conferences

2017-2018 **Instructor, Introduction to Environmental Science**, Bethune-Cookman University

- Face to face and online instruction
- Developed all lectures and course exercises
- Serve as coordinator of 13 sections and 8 faculty members
- Wrote online homework assignments for all chapters in Learning Management System
- Coordinating a course redesign
- Selected as researcher for Open Education Resources, Affordable Learning Solutions Pilot Grant- identified OER to apply to course redesign, measuring student performance outcomes

2013-2017 **Instructor, Introduction to Biology**, Bethune-Cookman University

- Face to face and online instruction
- Developed all lectures, course exercises, and course schedule during transition to two new text books, added publisher software
- Wrote online homework assignments for all chapters in Learning Management System
- Served intermittently as coordinator of approximately 10 sections and 5 faculty members

2012 **Instructor, Mitigation and Restoration of Coastal Ecosystems**, Florida Institute of Technology

- Instruction of graduate and undergraduate students
- Supervised and organized student restoration projects in collaboration with the Department of Environmental Protection Aquatic Preserve Office
- Course designed by Dr. Elizabeth Irlandi-Hyatt

2009-2012 **Teaching Assistant, Marine Field Projects**, Florida Institute of Technology

- Served as P.I. for student fieldwork on offshore research vessels: R/V Thunderforce and R/V Weatherbird II

- Performed CTD casts, snorkeling, onboard water quality data collection, sea state observations, offshore plankton tows, side scan sonar
 - Assisted with buoy deployment, remotely operated and autonomous vehicle deployment, weather balloon deployment and data analysis
 - Mentored students on experimental design
- 2008-2012 **Teaching Assistant, Biological Oceanography Lab**, Florida Institute of Technology
- Wrote, co-wrote and/or edited all laboratory exercises
- 2007-2012 **Teaching Assistant, Introduction to Oceanography**, Florida Institute of Technology
- Pontoon captain; Performed weekly water quality analysis of local water on pontoon boat
 - Instructed students on Indian River Lagoon ecology and water quality trends, field equipment usage, plankton tows, and data graphing in excel
- 2004-2007 **Teaching Assistant, Molluscan Aquaculture Lab**, Florida Institute of Technology
- Wrote and conducted all laboratory exercises
- 2004-2007 **Teaching Assistant, Crustacean Aquaculture Lab**, Florida Institute of Technology
- Wrote and conducted all laboratory exercises

STUDENT SUPERVISION

- 2018 Sara Nelmes, Committee member
M.S. Environmental Science, Bethune-Cookman University, *Determining below ground biomass of seagrass in superbloom impact areas of the Indian River Lagoon, FL*
- 2014 Joe White, Committee member
M.S. Environmental Science, Bethune-Cookman University, *Testing seagrass restoration techniques for use in the Indian River Lagoon, FL*

PROFESSIONAL SERVICE

REU Faculty Mentor, Bethune-Cookman University
Reviewer for Journal of Environmental Biology of Fishes and Journal of the World Aquaculture Society
General Education Committee Member
Supervisor of Aquatic Research Laboratory, Bethune-Cookman University, secured funding for and developed space; train and supervise students in laboratory and field research methods; coordinate space use with multiple professors
Facebook Coordinator for Cuplet Fern Chapter of Florida Native Plant Society
Beta Reader novel “The Oyster Thief” by Sonia Farqui
Seahorse care consultant, Marine Discovery Center, New Smyrna Beach , FL

RECENT PROFESSIONAL DEVELOPMENT

Certified Online Instructor, training in Quality Matters

Attended Online Learning Consortium at Gaylord Opryland Resort & Convention Center, Nashville TN April 18-20th, 2018

Organized and trained colleagues to use Learning Management System, Summer 2018

PRESENTATIONS

Invited presentations

- 2018 **S.E. Krejci.** Climate change impacts on marine and coastal environments. FAMU college of Law. Orlando, FL
- 2018 **S.E. Krejci.** Meet the Plankton Workshop. City Island Library, Daytona Beach, FL.
- 2018 **S.E. Krejci.** Climate change impacts on marine and coastal environments. Community Unitarian Universalist Church. New Smyrna Beach, FL.
- 2014 **S.E. Krejci,** Seahorse research in the Indian River Lagoon. Presentation. Marine Discovery Center. New Smyrna Beach, FL. Nov. 2014.

Conferences

TiGara Smith, **Sarah Krejci,** and Jimmy Jones. 2018. Modeling the effects of salinity on copepod populations. Summer Undergraduate Capstone conference. August 6-9th Mathematical Biosciences Institute. Ohio State University. Columbus, OH

- Fully funded trip award to TiGara Smith

Kailey Richard, Jehmia Williams, and **Sarah Krejci.** 2018. Hurricane Irma Impacts on zooplankton relative abundance and diversity in the Halifax River Lagoon. Shore Symposium. December 1st Brannon Civic Center, New Smyrna Beach, Florida

- 1st place student presentation award, Kailey Richard

Jehmia Williams, Kailey Richard, and **Sarah Krejci.** 2018. Hurricane Irma Impacts on zooplankton relative abundance and diversity in the Halifax River Lagoon. Florida Academy of Sciences March 9-10, 2018. Barry University, Miami Shores, FL

- Honorable mention for student presentation, Jehmia Williams

Krejci, S. (2013). Effect of seagrass density on population demographics and feeding ecology of the gulf pipefish, *Syngnathus scoveilli*, in the Indian River Lagoon, Indian River Lagoon Symposium. Ft. Pierce, FL.

Krejci, S. (2012). Influence of SAV on syngnathid habitat preference in the Indian River Lagoon, FL. Syngnathid Symposium. Chicago, IL

Krejci, S. (2012). Influence of SAV on syngnathid habitat preference in the Indian River Lagoon, FL. Florida Academy of Sciences. March 16-17. University of South Florida, Tampa

- Outstanding Student Award, Oral Presentation Atmospheric Oceanic Sciences

Krejci, S., J. Lin and R. Turingan (2012) Variations in feeding kinematics of Western Atlantic Seahorses. Syngnathid Symposium. Chicago, IL

Jones, S., J. Lin and R. Turingan (2007) Intraspecific variations in feeding kinematics of the Lined Seahorse, *Hippocampus erectus*. Marine Ornamentals '07, San Antonio, TX

Jones, S., J. Lin and R. Turingan (2007) Effects of diet on the survival and growth of juvenile Lined Seahorse, *Hippocampus erectus*. Marine Ornamentals '07, San Antonio, TX

Jones, S., J. Lin and R. Turingan (2006) Using high speed video to determine gape size of juveniles of *Hippocampus erectus*, the Lined Seahorse. World Aquaculture Society, Las Vegas NV

Jones, S., J. Lin and R. Turingan (2005) Using high speed video to determine gape size of juveniles of *Hippocampus erectus*, the Lined Seahorse. Florida Academy of Sciences, Melbourne, FL

Jones, S., V. Hean, R. Bonaiuto,, K. Vermeulen, H. Pomery, and B. Bourque (2004) The effect of temperature on gestation, brood size, juvenile size, and survival on the Lined Seahorse, *Hippocampus erectus*. Marine Ornamentals '04, Honolulu, HI

Jones, S., V. Hean, R. Bonaiuto,, K. Vermeulen, H. Pomery, and B. Bourque (2004) The effect of temperature on juvenile growth and survival on the Lined Seahorse, *Hippocampus erectus*. Marine Ornamentals '04, Honolulu, HI

Hean, V., R. Bonaiuto, K. Vermeulen, **Jones, S.**, H. Pomery, and B. Bourque (2004) The effect of greenwater culture on larval survival of the Peppermint shrimp, *Lysmata wurdmanni*. Marine Ornamentals '04, Honolulu, HI

SUMMARY OF COLLABORATIONS (in the past 3 years)

Marc Virgilio & Irene Arpayoglou	Indian River Aquatic Preserves	Department of Environmental Protection, FL
Robbie Melton	Professor	Tennessee State University
Annie Otto	Tomoka Marsh Aquatic Preserves	Department of Environmental Protection, FL
John Bell	Professor	Michigan State University
Kelli Hunsucker	Professor	Florida Institute of Technology
Randy Abate	Professor	Monmouth University, New Jersey
Dan Underwood	Seahorse Source, Inc.	Ft. Pierce, FL
Richard Paperno	Fish and Wildlife Research Institute	Florida Fish and Wildlife Conservation Commission
Lauren Hall	St. Johns Water Management District	Palm Bay, FL
Bradford Bourque	Roger Williams University	Bristol, RI
Chad Truxall	Marine Discovery Center	New Smyrna Beach, FL
Annie Roddenberry	Florida Wildlife Conservation Commission	New Smyrna Beach, FL
Amy Fenwick	Brevard Zoo	Melbourne, FL

OTHER QUALIFICATIONS

Certified Online Instructor

PADI Open Water Diver

Computer programming: Matlab