

# RYAN J. ECKERT

Coral reef ecology, mesophotic coral ecosystems, molecular ecology

## EDUCATION

- 2019  
|  
expected  
2024 • **Ph.D. Student in Integrative Biology**  
Florida Atlantic University  
Advisor: Dr. Joshua Voss  
Boca Raton, FL
- 2017  
|  
2019 • **M.Sc. in Biological Sciences**  
Florida Atlantic University  
Thesis: Population genetics and algal symbiont communities of the coral species *Montastraea cavernosa* on the Belize Barrier Reef  
Advisor: Dr. Joshua Voss  
Boca Raton, FL
- 2005  
|  
2009 • **B.Sc. in Biological Sciences**  
Florida State University  
Thesis: Associational resistance and susceptibility in *Solanum carolinense*  
Tallahassee, FL

## RESEARCH EXPERIENCE

- 2017  
|  
present • **Graduate Research Assistant**  
FAU, Harbor Branch Oceanographic Institute  
Voss Laboratory  
Ft. Pierce, FL
- 2009  
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2017 • **Research Specialist**  
NOAA's Flower Garden Banks NMS  
Science Division  
Galveston, TX
- 2007  
|  
2009 • **Research Assistant**  
Florida State University  
Underwood Laboratory  
Tallahassee, FL

## TEACHING EXPERIENCE

- 2017 • **Graduate Teaching Assistant**  
FAU Harbor Branch Oceanographic Institute  
Marine Biodiversity  
Ft. Pierce, FL
- 2013  
|  
2014 • **Guest Lecturer**  
Texas A&M University at Galveston  
Scientific Diving Field Survey Methods  
Galveston, TX
- 2010 • **Instructor**  
Galveston Independent School District  
21<sup>st</sup> Century ACE  
Galveston, TX



Ph.D. student specializing in coral reef ecology, mesophotic coral ecosystems, molecular ecology, and multivariate data analysis.

## CONTACT INFO

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[Ryan J Eckert](#)

[RyanEckert](#)

[CnidaRyan](#)

## SKILLS

Coral reef ecology  
Technical SCUBA diving  
750+ Scientific Dives  
350+ Days at Sea  
90+ research expeditions  
Multivariate data analysis  
NGS Library prep  
Bioinformatic analysis  
Github, Bash, R, Python



## STUDENTS MENTORED

- 2018 ● **Emily Chei**  
**Link fellowship intern**  
 Assessing population connectivity of the coral *Montastraea cavernosa* along the northern Florida Reef Tract  
 Currently a student at Cornell University
- 2017 ● **Ashley Reaume**  
**Link fellowship intern**  
 Optimized extraction and amplification of algal symbiont DNA from TRIzol preserved corals  
 Currently a graduate student at University of Central Florida



## REFEREED PUBLICATIONS

- 2019 ● **8. Populations of the coral species *Montastraea cavernosa* on the Belize Barrier Reef lack vertical connectivity**  
*Sci Rep* (2019). doi:[10.1038/s41598-019-43479-x](https://doi.org/10.1038/s41598-019-43479-x)  
**Eckert RJ**, Studivan MS, Voss JD
- 2019 ● **7. The Mesoamerican Reef**  
 In: Loya Y., Puglise K.A., Bridge T.C.L. (eds) *Mesophotic Coral Ecosystems of the World*. Springer International Publishing, Cham, pp 71–84.  
[doi:10.1007/978-3-319-92735-0\\_5](https://doi.org/10.1007/978-3-319-92735-0_5)  
 Gress E, Voss JD, **Eckert RJ**, Rowlands G, Andradi-Brown DA
- 2019 ● **6. Coral bleaching and recovery from 2016 to 2017 at East and West Flower Garden Banks, Gulf of Mexico**  
*Coral Reefs* (2019). doi:[10.1007/s00338-019-01788-7](https://doi.org/10.1007/s00338-019-01788-7)  
 Johnston MA, Hickerson EL, Nuttall MF, Blakeway RD, Sterne TK, **Eckert RJ**, Schmahl GP
- 2019 ● **5. Localized coral reef mortality event at East Flower Garden Bank, Gulf of Mexico**  
*Bull Mar Sci* (2019). doi:[10.5343/bms.2018.0057](https://doi.org/10.5343/bms.2018.0057)  
 Johnston MA, Nuttall MF, **Eckert RJ**, Blakeway RD, Sterne TK, Hickerson EL, Schmahl GP, Lee MT, MacMillan J, Embesi JA
- 2018 ● **4. Seasonal variability of carbonate chemistry and decadal changes in waters of a marine sanctuary in the Northwestern Gulf of Mexico**  
*Mar Chem* (2018). doi:[10.1016/j.marchem.2018.07.006](https://doi.org/10.1016/j.marchem.2018.07.006)  
 Hu X, Nuttall MF, Wang H, Yao H, Staryk CJ, McCutcheon MR, **Eckert RJ**, Embesi JA, Johnston MA, Hickerson EL, Schmahl GP, Manzello D, Enochs IC, DiMarco S, Barbero L
- 2016 ● **3. Persistence of coral assemblages at East and West Flower Garden Banks, Gulf of Mexico**  
*Coral Reefs* (2016). doi:[10.1007/s00338-016-1452-x](https://doi.org/10.1007/s00338-016-1452-x)  
 Johnston MA, Embesi JA, **Eckert RJ**, Nuttall MF, Hickerson EL, Schmahl GP

Citations: 91

h-index: 5

i10-index: 2

- 2016 ● **2. Rapid invasion of Indo-Pacific lionfishes *Pterois volitans* (Linnaeus, 1758) and *P. miles* (Bennett, 1828) in Flower Garden Banks National Marine Sanctuary, Gulf of Mexico, documented in multiple data sets**  
*BioInvasions Rec* (2016). doi:10.3391/bir.2016.5.2.09  
 Johnston MA, Nuttall MF, **Eckert RJ**, Embesi JA, Sterne TK, Hickerson EL, Schmahl GP
- 2014 ● **1. Lionfish (*Pterois volitans* [Linnaeus, 1758] and *P. miles* [Bennett, 1828]) records within mesophotic depth ranges on natural banks in the Northwestern Gulf of Mexico**  
*BioInvasions Rec* (2014). doi:10.3391/bir.2014.3.2.09  
 Nuttall MF, Johnston MA, **Eckert RJ**, Embesi JA, Hickerson EL, Schmahl GP



## MANUSCRIPTS IN PREPARATION

- **Population structure of the scleractinian coral, *Montastraea cavernosa*, in the Northern Florida Reef Tract**  
*Bull Mar Sci* (in review).  
 Dodge DL, Chei E, Beal J, **Eckert RJ**, Voss JD
- **Depth influences Symbiodiniaceae community variation among *Montastraea cavernosa* corals on the Belize Barrier Reef**  
*Front Microbiol* (submitted).  
**Eckert RJ**, Reaume AM, Sturm AB, Studivan MS, Voss JD



## PRESENTATIONS

- 2019 ● **Genetically distinct depth-stratified *Montastraea cavernosa* coral populations on the Belize Barrier Reef harbor relatively homogeneous Symbiodiniaceae communities**  
 48th Annual Benthic Ecology Meeting  St. John's, NL, Canada  
**Eckert RJ**, Reaume A, Voss JD  
 Oral presentation
- 2019 ● **Populations of the coral species *Montastraea cavernosa* lack vertical connectivity on the Belize Barrier Reef**  
 ASLO Aquatic Sciences Meeting  San Juan, PR.  
**Eckert RJ**, Studivan MS, Voss JD  
 Poster presentation
- 2018 ● **Affordable and ecologically relevant graduate research on the world's second largest barrier reef? You better Belize it!**  
 HBOI Science Seminar  Ft. Pierce, FL.  
**Eckert RJ** and Studivan MS  
 Oral presentation

- 2018 ● **Connected corals: population genetics of *Montastraea cavernosa* on the Belize Barrier Reef**  
 HBOI Ocean Discovery Center Marine Science Friday 📍 Ft. Pierce, FL.  
**Eckert RJ**  
**Oral presentation**
- 2018 ● **Breaking point: population genetics reveal a lack of vertical connectivity of *Montastraea cavernosa* on the Belize Barrier Reef**  
 47th Annual Benthic Ecology Meeting 📍 Corpus Christi, TX.  
**Eckert RJ, Studivan MS, Voss JD**  
**Oral presentation**
- 2013 ● **Ciguatera fish poisoning in the northwestern Gulf of Mexico.**  
 66th Gulf and Caribbean Fisheries Institute Conference 📍 Corpus Christi, TX  
**Eckert RJ, Loeffler C, Robertson A, Johnston MA, Hickerson EL, Schmahl GP**  
**Poster presentation**
- 2009 ● **Associational resistance and susceptibility in *Solanum carolinense***  
 Southeastern Ecology and Evolution Conference 📍 Gainesville, FL.  
**Eckert RJ, Kim T, Underwood N**  
**Poster presentation**

## 🏠 FUNDING

- 2019 | 2021 ● **FAU Presidential Fellowship**  
 \$10,000
- 2018 | 2019 ● **FAU GPSA Travel Awards**  
 \$1,600
- 2018 ● **FAU Thesis Award**  
 \$500
- 2018 ● **PADI Foundation Grant**  
 \$4,973
- 2009 ● **Bess H. Ward Honors Thesis Award**  
 \$1,000
- 2005 | 2009 ● **Florida Bright Futures Academic Scholarship**  
 \$14,850
- 2005 | 2009 ● **Florida State University Freshman Academic Scholarship**  
 \$8,000
- 2005 ● **Florida State University Freshman Advanced Placement Scholarship**  
 \$500



## AWARDS

2019  
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2021  
  
2006  
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2009  
  
2005

- **Florida Atlantic University Presidential Fellow**
- **Florida State University Dean's List**
- **Florida State University President's List**



## CERTIFICATIONS

- **AAUS Scientific Diver**  
190', Trimix
- **TDI Technical SCUBA Diver**  
Advanced Nitrox, Decompression Procedures, Trimix 200'
- **PADI Trimix Gas Blender**
- **DAN Oxygen delivery, First Aid, and CPR for scuba diving injuries**
- **USCG Licensed Merchant Mariner**  
100 GRT
- **USFWS Motorboat Operator Certification Course**
- **Sea-Bird Electronics technician**
- **NOAA Working SCUBA Diver**



## MEMBERSHIP AND SERVICE

2019  
  
  
2019  
  
  
2018

- **International Coral Reef Society**
- **HBOI Graduate Student Association**  
Secretary 📍 Ft. Pierce, FL
- **Association for the Studies of Limnology and Oceanography**






## SKILLS

- **Offshore field research cruise planning, logistics, and execution**
- **Coral sampling, benthic surveys, fish surveys, photography, navigation and mapping**

- DNA and RNA extraction, PCR, qPCR, Gel electrophoresis, NGS library preparation
- Data visualization, CPe, Primer7, Python, Bash, and R statistical software
- Bioinformatic and multivariate statistical analyses
- Technical SCUBA diving
- Operation, navigation, and handling of small boats
- Marlinspike, and mooring buoy construction/installation/maintenance
- Setup, operation, and maintenance of oceanographic equipment (Sea-Bird Electronics)
- Operation of Nitrox compressor systems and Trimix blending
- Adobe InDesign, Adobe Illustrator, and Adobe Photoshop

## REFERENCES

- **Dr. Joshua Voss**  
Ph.D. Advisor  Florida Atlantic University  
• +1 (772) 242-2538 • [jvoss2@fau.edu](mailto:jvoss2@fau.edu)
- **Dr. Adrienne Simoes-Correa**  
Assistant Professor  Rice University  
• +1 (713) 348-3054 • [ac53@rice.edu](mailto:ac53@rice.edu)
- **G.P. Schmahl**  
Superintendent  Flower Garden Banks National Marine Sanctuary  
• +1 (409) 621-5151 • [george.schmahl@noaa.gov](mailto:george.schmahl@noaa.gov)

*This curriculum vitae was made with the R package **pagedown**.*

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