

# Anthony A. Snead

Department of Biology  
New York University  
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## EDUCATION

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### Ph.D. Biology

Fall 2018 – Summer 2023

University of Alabama, Tuscaloosa, AL

Dissertation: Environmental Responses Across Biological Scales: Abiotic Drivers of Species Range, Population Size, and Genetic Variation in the Mangrove Rivulus, *Kryptolebias Marmoratus*

Committee Members: Ryan L. Earley, Julia Cherry, William Ellis, Paige Ferguson, Jeff Lozier

GPA: 4.0

### B.S. Environmental Biology

Fall 2016 - Summer 2018

University of South Florida

GPA: 3.75

## APPOINTMENTS

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NSF Postdoctoral Research Fellow

Summer 2023 - Present

Department of Biology, New York University, New York, NY

## PUBLICATIONS

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### Peer-Reviewed - Forthcoming

X. **Snead AA**, Quackenbush CR, Trojahn S, McDonald A, Lins L, Cornelius C, Adams PE, Ma D, Haag E, Silvestre F, Kanamori A, Earley RL, Kelley JL (202X) Embryonic thermal environments drive plasticity in gene expression. *In revision*

X. **Snead AA**, Marson K, Earley RL (202X). Disentangling Associations between abiotic variables, biotic variables and species abundance in the intertidal. *In revision*

### Peer-Reviewed - Published

6. **Snead AA**, Tatarenkov A, Avise JC, Taylor DS, Turner BJ, Marson K, Earley RL (2023). Out to sea: Ocean currents and patterns of asymmetric gene flow in an intertidal fish species. *Frontiers in Genetics* 14 (doi: 10.3389/fgene.2023.1206543)

5. Clark RD, Fitz KS, Garcia E, Jaynes KE, Reid BN, Sawkins A, **Snead AA**, Whalen J, Pinsky ML (2023) The Practice and Promise of Temporal Genomics for Measuring Evolutionary Responses to Global Change. *Molecular Ecology Resources* (doi: 10.1111/1755-0998.13789).

4. **Snead AA** & Clark RD (2022). The Biological Hierarchy, Time, and Temporal ‘Omics in Evolutionary Biology: A Perspective. *Integrative & Comparative Biology* 62(6), 1872-1886 (doi: 10.1093/icb/icac146).

3. **Snead AA** & Alda F (2022). Time Series Sequences for Evolutionary Inferences. *Integrative & Comparative Biology* 62(6), 1771-1783 (doi: 10.1093/icb/icac138).

2. **Snead AA** & Earley RL (2022). Predicting the in-Between: Present and future habitat suitability of an intertidal euryhaline fish. *Ecological Informatics* 68:101523 (doi: 10.1016/j.ecoinf.2021.101523)

1. Davidson J, Summerfelt S, Espmark AMO, Mota V, Marancik D, Earley RL, **Snead AA**, Good C (2021). Effects of ozone on post-smolt Atlantic salmon (*Salmo salar*) performance, health, and maturation in freshwater recirculation aquaculture systems. *Aquaculture* 533:736208 (doi: 10.1016/j.aquaculture.2020.736208)

### ***Special Issues***

1. Organizer/Associate Editor, *Integrative & Comparative Biology*, 2022. Special issue on “Temporal Genomics.”

### ***Media Coverage***

1. Schmelzer H. 2022. Microevolution can guide conservation efforts. *NatureVolve* 11:26-29.  
\* *Interview & Popular Science Article Spotlight*

### ***General Publications***

1. Snead AA (2023) Networking and Establishing Successful Collaborations. Early Career Ecology Section. <https://www.esa.org/earlycareer/2023/06/16/networking-and-establishing-successful-collaborations/>

## **GRANTS AND FELLOWSHIPS**

(\$373,387.50 total)

### ***Accepted***

13. Ecological Society of America Conference Funding (Southeast Chapter) **\$500**  
*Portland: 2023*
12. National Science Foundation Postdoctoral Research Fellowship in Biology **\$280,000**  
*Salamanders in the City: An Integrative Investigation into Microevolutionary Change*
11. Ecological Society of America Conference Funding (Southeast Chapter) **\$400**  
*Montreal: 2022*
10. University of Alabama Graduate Travel Award **\$500**  
*Summer 2022*
9. University of Alabama Aquatic Biology Enhancement Assistantship **\$54,538**  
*2022-2023 Academic Year*
8. RCN for Evolution in Changing Seas 2020 Call for Working Groups **\$15,762.50**  
*Implications of Methodology on Temporal Genomic Inferences*  
(One of Three Project Leads out of 9 Collaborators)
7. RCN for Evolution in Changing Seas **\$500**  
*2020 Virtual Lab Meeting Training Program*
6. 25<sup>th</sup> Summer Institute in Statistical Genetics Scholarship **\$900**  
*Module 9, 14, & 17*
5. E.O. Wilson Biodiversity Fellowship Summer 2020 **\$6,944**  
*Population Genetic and Environmental DNA Sampling in the Florida Keys*
4. Bishop-Stackman Marine Science Endowed Scholarship **\$500**  
*Environmental DNA Sampling in the Florida Keys*
3. Office of Research and Economic Development Small Grant Program **\$5,844**  
*Validating a Non-Invasive Method for Estimating Abundance in Threatened or Cryptic Marine Fishes.*
2. Sigma Xi Grants In Aid of Research **\$1,000**  
*Escaping the Patch: The Role of Ocean Currents in Determining Population Connectivity in *Kryptolebias marmoratus*.*
1. The College Academy of Research, Scholarship, and Creative Activity Grant **\$5,999**  
*If You Can't See It, It Doesn't Exist. Or Does It? Validating a Technique to Estimate Abundance in a Vulnerable, Highly Enigmatic Marine Fish.*

## ***Declined***

1. Presidential Management Fellowship (PMF)  
*Class of 2023*

## **TALKS AND SEMINARS**

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### ***Organized***

- Temporal Genomics Lecture Series & Twitter Symposium (Virtual) **2021**  
Funded by RCN-ECS

### ***Invited***

- Responses to Environmental Change Across Biological Scales in an Intertidal Fish **2023**  
University of South Florida
- Stranded within the Intertidal: Species-specific Responses to Environmental Change **2022**  
Fresno State (Virtual; April 1<sup>st</sup>, 2022)
- Crossing Disciplines: An Integrative Approach to Evolutionary Ecology **2021**  
Saint Leo University (Virtual; February 9<sup>th</sup>, 2021)

## **CONFERENCE PRESENTATIONS**

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### ***Oral***

- Out to sea: Ocean currents and patterns of asymmetric gene flow in an intertidal fish species **2023**  
**Anthony A Snead**, Andrey Tatarenkov, John C Avise, D Scott Taylor, Bruce J Turner, Kristine Marson, Ryan L Earley  
Ecological Society of America (ESA) 2023, Portland, Oregon
- Plastic Gene Expression in Response to Embryonic Thermal Conditions **2023**  
**Anthony A. Snead**, Corey R. Quackenbush, Shawn Trojahn, Anna McDonald, Luana Lins, Chris Cornelius, Paula E Adams, Dengke Ma, Yuying Hsu, Eric Haag, Frédéric Silvestre, Akira Kanamori, Ryan L Earley, Joanna L. Kelley  
Society of Integrative and Comparative Biology 2023, Austin, Texas
- Life within the intertidal: Abiotic and biotic drivers of species abundance **2022**  
**Anthony A. Snead**, Kristine Marson, Ryan L. Earley  
CSEE & ESA 2022 Joint Meeting, Montreal, Canada
- Left behind: habitat suitability shifts of a euryhaline fish **2022**  
**Anthony A. Snead** & Ryan L. Earley  
FSBI Symposium (*3-minute Speed Talk & Poster*) - Virtual

### ***Poster***

- Temperature-induced canalization of gene expression in a genetically homogenized population **2023**  
**Anthony A. Snead**, Corey R. Quackenbush, Shawn Trojahn, Anna McDonald, Luana Lins, Chris Cornelius, Paula E Adams, Dengke Ma, Yuying Hsu, Eric Haag, Frédéric Silvestre, Akira Kanamori, Ryan L Earley, Joanna L. Kelley  
SMBE Satellite Meeting: Small Populations, Princeton, New Jersey
- Validating a non-invasive method for estimating abundance in threatened or cryptic marine fishes **2021**  
Ryan L. Earley & **Anthony A. Snead**  
University of Alabama Faculty Research Day, Tuscaloosa, Alabama

## **WORKSHOPS ATTENDED**

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- An Introduction to Mechanistic Niche Modeling with NichMapR and TrenchR **2023**  
**Ecological Society of America (ESA 2023)**
- Machine Learning and Big Data **2023**  
**Pittsburgh Supercomputing Center**

Container Camp 2023 <b>CyVerse</b>	2023
Spatial Phylogenetics Workshop <b>International Biogeography Society</b>	2022
The Statistics Wars and Their Casualties <b>Dr. Deborah Mayo, Dr. Roman Frigg, &amp; Dr. Margherita Harris</b>	2022
Explore & work with harmonized continental-scale biodiversity data from NEON and the US LTER <b>Ecological Society of America (ESA 2022)</b>	2022
Write a good title, give a better talk <b>Ecological Society of America (Early Career Ecologist Section)</b>	2022
Coral Health Index Workshop <b>Dr. Michael Sweet, Dr. Raquel Pixoto, &amp; Dr. Christian Voolstra</b>	2022
Workshop on Molecular Evolution <b>The Marine Biological Laboratory, University of Chicago</b>	2022
Statistical Methods Seminar Series <i>Zero Inflated GLM and GLMM</i> <i>Integrated Step-Selection Analysis</i> <i>Multi-Species (Species Interactions) Occupancy Modeling</i> <i>Nimble</i> <i>Hidden Markov Models in Ecology</i> <i>Integrated Species Distribution Models</i> <b>Ecological Forecasting Initiative &amp; ESA Statistical Ecology Section</b>	2022 - 2023
High-Performance Computing Cluster Workshop Series <i>Pytorch</i> <i>Miniconda</i> <b>University of Alabama</b>	2021
25 <sup>th</sup> Summer Institute in Statistical Genetics- Funded (\$900) <i>Module 9: Quantitative Genetics</i> <i>Module 14: Association mapping: GWAS and Sequencing Data</i> <i>Module 17: Computational Pipeline for WGS Data</i> <b>University of Washington</b>	2020
5 <sup>th</sup> edition Population Genomics <b>Physalia</b>	2020
Southeastern Computational School: eDNA and QIIME 2 Software Training <b>The University of Tennessee at Chattanooga</b>	2018

## TEACHING EXPERIENCE

### ***University of Alabama***

#### ***Instructor of Record***

**Fall 2018 – Summer 2022**

- Biology II Laboratory
- Biology II Laboratory for Non-majors
- Introduction to Principles of Biology

\*Instructor of Record indicates that the individual formatted, developed, and presented instructional material in compliance with department and course guidelines, while also being solely responsible for grading and course management.

#### ***Graduate Teaching Assistant***

**Spring 2021**

- Research Seminars in Biology
- Biological Sciences Seminar

## PROFESSIONAL MEMBERSHIPS

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New York Academy of Sciences	2023 - Present
Society for Molecular Biology & Evolution (SMBE)	2022 - Present
The Ecological Society of America (ESA)	2022 - Present
The International Biogeography Society	2022 - Present
The Society for Integrative and Comparative Biology (SICB)	2022 - Present
The Research Coordinate Network for Evolution in Changing Seas (RCN-ECS)	2020 - Present
The Society for the Study of Evolution (SSE)	2020 - Present
Sigma Xi	2020 - Present
The American Association for the Advancement of Science (AAAS)	2018 - 2022
The Fisheries Society of the British Isles (FSBI)	2018 - Present
University of Alabama Biology Graduate Student Association (UA BGSA)	2018 - 2023

## PROFESSIONAL SERVICE

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### ***Internal***

UA Biological Sciences Diversity, Equity, & Inclusion Committee Graduate Student Representative	Fall 2021 – Summer 2023
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### ***External***

eDNA Technology Readiness level Group Member	2023 - Present
Clear Direction Mentoring Mentorship Support Committee	2023 - Present
1000 Genomes ONT Sequencing Consortium Member	2022 - Present
RCN-ECS 2022 Reading Group - Temporal Data and Evolutionary Change Co-Organizer	Spring 2022

### ***Journals Reviewed for:***

*Ecological Processes* (11/21)  
*Molecular Phylogenetics and Evolution* (4/22)

### ***Conferences Reviewed for:***

*International Biogeography Society – Prague, Czechia* (2024)  
*Ecological Society of America – Portland* (2023)

## OUTREACH

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Clear Direction Mentoring <i>Mentor</i>	Fall 2023 - Present
Denver Metro Regional Science & Engineering Fair <i>Volunteer Judge</i>	Spring 2022
Meet a Bama Biologist <i>Scientific Volunteer</i>	Spring 2021 – Summer 2023
UA Undergraduate Research & Creative Activity Conference <i>Volunteer Judge</i>	Spring 2021, 2022
UA STEM Showcase <i>Volunteer Judge</i>	Spring 2021
Letters to a Pre-Scientist <i>Scientific Volunteer</i>	Fall 2020 - Present
UA SafeZone <i>Ally/Trainer</i>	Fall 2018 – Summer 2023

The University of Alabama's Night at the Museum  
*Volunteer Biology Instructor*

**Spring 2019**

Skype a Scientist  
*Scientific Volunteer*

**Spring 2018 - Present**

## **REFERENCES**

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Dr. Ryan Earley  
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The University of Alabama  
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