

Abby Beatty

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Education

- 2016-2021 **Auburn University** (Auburn, AL)
Ph.D., Functional Genomics under Tonia S. Schwartz
Cellular and Molecular Biology Research Fellow
Preparing Future Faculty Participant
- 2012-2016 **California University of Pennsylvania** (California, PA)
B.S., Biological Sciences: Pre-Medicine, Chemistry Minor, Psychology Minor
University Honors Program Graduate

Publications

- 2021 **Beatty, AE**, E Driessen, MJ Ballen, TS Schwartz, R Graze. 2021. Addressing the unique qualities of upper-level biology CUREs through the integration of skill-building, *Integrative and Comparative Biology*.
<https://doi.org/10.1093/icb/icab006>
- 2021 **Beatty, AE**. 2021. Preparing Inclusive and Adaptable Study Guides through Peer Collaboration in the Technological Era. *CourseSource*.
<https://doi.org/10.24918/cs.2021.14>
- 2020 Simpson, D*, **AE Beatty***, C Ballen. 2020. *In press*. Teaching Between the Lines: Representation in science textbooks. *Trends in Ecology and Evolution*.
<https://doi.org/10.1016/j.tree.2020.10.010>. *Co-first Authors
- 2020 **Beatty, AE**, TS Schwartz. 2020. Gene expression of the IGF hormones and IGF binding proteins across time and tissues in a model reptile. *Physiological Genomics*. <https://doi.org/10.1152/physiolgenomics.00059.2020>
- 2020 Driessen, E, **AE Beatty**, A Stokes, S Wood, MJ Ballen. 2020. Learning during a crisis: an exploratory analysis of student barriers one week and one month into the COVID-19 pandemic. *Ecology and Evolution*.
<https://doi.org/10.1002/ece3.6741>
- 2018 Hood, WR, Y Zhang, H Taylor, NR Park, **AE Beatty**, RJ Weaver, & AN Kavazis. 2018. Prior reproduction alters how mitochondria respond to an oxidative event. *Journal of Experimental Biology*. <https://doi.org/10.1242/jeb.195545>
- In review Marks J, **AE Beatty**, TS Schwartz, S Lailvaux. *In review*. Effect of Diet Restriction of insulin-like growth factor expression. *Journal of Experimental Biology*.

In review	Beatty, AE , D Mote, TS Schwartz. <i>In revision following a positive review</i> . Tails of Reproduction: Regenerative and reproductive co-investment leads to subsequent increased offspring size. <i>Journal of Experimental Zoology</i> .
In review	Beatty AE , E Driessen, T Gusler, S Ewell, MJ Ballen. Teaching the Tough Topics: Fostering ideological awareness through the inclusion of societally impactful topics in postsecondary biology. <i>CBE-Life Science Education</i> .
In preparation	Beatty AE , A Rubin, WR Hood, H Wada, B Heidinger, TS Schwartz. We need to talk, about IGF2. Planned submission 4/2021 to <i>Functional Ecology</i> .
In preparation	Tracy C, E Driessen, AE Beatty , J Pruett, T Lamb. Student Struggle in Biological Science: Sources and Solutions. Planned submission 6/2021 to <i>CBE-Life Sciences Education</i> .

Non-refereed Articles

2016	Beatty, AE , C Hanna. 2016. Mortality and Behavioral Effects of Herbicides Glyphosate and 2, 4-D on mealworms <i>T. molitor</i> . Unpublished Undergraduate Honors Thesis.
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Presentations

2021	Beatty, AE* & MJ Ballen. 2021. Having the Hard Conversations: Teaching ideological awareness in the biology classroom. (COVID- virtual).
2020	Beatty, AE* , MJ Ballen, EP Driessen, RM Graze, and TS Schwartz. 2020. A delicate balance of structure and independence: Skill-building in an upper-division CURE. Society of Integrative and Comparative Biology. (Washington D.C.).
2019	Zhong, M*, AE Beatty , R Graze, C Ballen. 2019. A framework of guided CURE in the introductory-level biology. CURE Workshop Presentation.
2019	Beatty, AE* , TS Schwartz. 2019. Model Matters: Gene expression of top regulators of the Insulin and Insulin-like Signaling Network in reptiles. Gordon Research Conference. Poster Presentation. (Ventura, CA).
2019	Beatty, AE* , TS Schwartz. 2019. We need to talk... about IGF2: A cross-species analysis of IGF1 and IGF2 expression in amniotes. Southeastern Ecology and Evolution Conference. Oral Presentation. (Auburn, AL).
2015	Beatty, AE* . 2015. The effects of herbicides on the mortality and behavior of the mealworm beetle <i>Tenebrio molitor</i> . National Colligate Honors Council Conference. Poster Presentation. (Chicago, IL).

Invited Symposia Speaker

- 2021 **Beatty, AE**, E Driessen, C Ballen, TS Schwartz, R Graze. 2021. Skill-building in a molecular biology CURE: A delicate balance of structure and student independence. Society for Integrative and Comparative Biology. Invited Oral Presentation for “Biology Beyond the Classroom: Experiential Learning through Authentic Research, Design & Community Engagement” (Washington, DC).

Published Abstracts

- 2020 **Beatty, AE***, TS Schwartz. 2020. We need to talk... about IGF2: A cross-species comparison of IGF1 and IGF2 expression in amniotes. Society for Integrative and Comparative Biology. Oral Presentation. (Austin, TX).
- 2020 Coutts, VM*, **AE Beatty**, TS Schwartz, C Cooper, L Hurley, S Griffith, H Wada. 2020. Changes in Gene Expression in Response to Ambient Temperature Fluctuations in the Zebra Finch. Society for Integrative and Comparative Biology. Poster Presentation. (Austin, TX).
- 2020 Marks JR*, **AE Beatty**, MV Sorlin, TS Schwartz, SP Lailvaux. 2020. Effects of Diet Restriction on Insulin-like Growth Factor 1 and 2 Expression in Female Green Anoles (*Anolis carolinensis*). Society for Integrative and Comparative Biology. Oral Presentation. (Austin, TX).
- 2019 **Beatty, AE***, TS Schwartz. 2019. Quantifying Gene Expression of top regulators of the Insulin and Insulin like Signaling Network in the Brown Anole Across Tissues and Developmental Stages. Society for Integrative and Comparative Biology. Oral Presentation. (Tampa, FL).
- 2018 **Beatty, AE***, D Mote, TS Schwartz. 2018. Trade-offs in reproduction and regeneration in Anolis lizards. American Physiological Society. Poster Presentation. (New Orleans, LA).
- 2018 **Beatty, AE***, H Marshall, R Graze, TS Schwartz. 2018. Integrating research in the classroom: Causal effects of IGF1 and IGF2 on growth in brown anole. Society for Integrative and Comparative Biology. Poster Presentation. (San Francisco, CA).
- 2018 Clark, A.*, **AE Beatty**, TS Schwartz. 2018. Exploration of the Insulin/Insulin-like Signaling pathway in non-model organisms via primary cell culture experiments. Society for Integrative and Comparative Biology. Poster Presentation. (San Francisco, CA).

*Presenting Author

Graduate Student Training

2021	Jenna Pruett: PhD Student at Auburn University, Advisor Daniel Warner
2019-2020	Jamie Marks: PhD Student at University of New Orleans, Advisor Simon Lailvaux
2019	Tori Coutts: PhD Student at Auburn University, Advisor Haruka Wada
2018	Alex Rubin: PhD Student at Auburn University, Advisor Haruka Wada

Undergraduate Training for Independent Research

2020-Present	Jay Herrin: Junior, Applying to Medical School
2020-Present	Alexis Lindsey Sophomore, Plans to Apply to PhD Programs in Eco & Evo
2019	Devon Taylor: Senior at Auburn University, Current Medical School Student
2018-2019	David Mote: Junior & Senior at Auburn University, Current Nursing Student
2018	Shawn Yates: Senior at Auburn University, Current PhD Student
2018	Jarrold Naler: Junior at Auburn University, Applying to Medical School
2018	Noah Cross: Senior at Auburn University, Applying to Medical School
2017-2018	Hannah Choe: Junior & Senior at Auburn University, Current Medical Student

Teaching Experience

	Auburn University Montgomery
2021-current	Adjunct Lecturer: Cells, Molecules, Life Laboratory
2021-current	Adjunct Lecturer: Introductory Biology Laboratory
2020-current	Adjunct Lecturer: Introductory Biology
2020	Adjunct Lecturer: Dual Enrollment Introductory Biology
	Auburn University Main Campus
2020	Instructor on Record: Organismal Biology
2020	Guest Lecturer: Science and Society, Racism and Identity
2018	Guest Lecturer: Anatomy and Physiology
2018	Graduate Teaching Assistant: Genomic Biology
2017	Course-Based Undergraduate Research Experience Course Development
2017	Graduate Teaching Assistant: Recombinant DNA Technologies
2016-2017	Graduate Teaching Assistant: Anatomy and Physiology
	California University of PA
2012-2016	Educator, Upward Bound
2014-2016	Undergraduate Teaching Assistant: General Chemistry

Grants, Awards and Fellowships

2021	Kenneth Ottis Distinguished Graduate Fellowship
2021	iEMBER Inclusive Teaching and Research Project Idea Award
2020	Inclusive Excellence in STEM Student Award
2019	SEEC Best Doctoral Student Presentation (Auburn University)
2019	Honorable Mention for Frank Strum Fellowship (Auburn University)
2019	Graduate Research and Travel Grant (Auburn University)

2019	Gordon Research Travel Award (Gordon Research Conference)
2017-2019	Charlotte Magnum Fellowship (Society for Integrative & Comparative Bio)
2018-2019	COSAM Travel Grant (Auburn University)
2016	Cellular & Molecular Bio Graduate Research Fellow (Auburn University)
2012-2016	Presidential Fellowship (California University of PA)
2015	NCHC Best Presentation Award (National Collegiate Honors Council)
2015	Commonwealth of Pennsylvania University Biologists Presentation Award
2015	Strike-A-Spark Presentation Award (California University of PA)
2014	Rutledge Internship Award (California University of PA)

Select Outreach and Service

2020-Present	COSAM Graduate Student DEI Discussion Group , Founder of a graduate student committee committed to fostering DEI in the classroom.
2020-Present	DBS-DEI Committees , Graduate Student representative to the Department DEI committee, Member of the “DEI in the Classroom” committee, Member of the “DEI Inclusions Activities” committee
2017-Present	COSAM Outreach , Program Volunteer and Presenter Programs Participated in: EmpowHer, Jr. Mad Scientist, Spring into Science, Science Olympiad Designer Genes, BEST Robotics, Destination STEM, GUTS programming, BioBlitz
2017-2020	Operation Smile Graduate Advisor , Auburn University
2019	Harvest Discovery Experience , AO Discover Volunteer and Presenter Host reptile show for k-12 to fundraise for the AO Discover Children’s Hands-on Science Center
2017-2019	Fresh Air Family , Volunteer and Program Developer
2012-2016	Upward Bound , Office Summer Program Coordinator

Related Professional Experience

2019-Present	Biological Sciences Graduate Student Association , Auburn University Vice President
2016-Present	Independent Educator , University Tutor Tutor students ranging from Middle School to PhD level
2017	BioBrunch Coordinator , Auburn University
2014-2016	Beta Beta Beta Honors Society , California University of PA Vice President

Society Memberships

2020-Present	Sigma Xi
2020-Present	American Physiological Society
2020-Present	The Society for Experimental Biology
2017-Present	Society for Integrative and Comparative Biology
2015-Present	Graduate Women in Science
2015-Present	Commonwealth of Pennsylvania University Biologists
2014-Present	Beta Beta Beta Biology Honors Society
2014-Present	Women in Science
2012-2016	California University Honors Program

Peer Review Journals

CourseSource
CBE-Life Sciences Education
PLOSone
Integrative Organismal Biology

References

Tonia Schwartz	Research Advisor, Auburn University Tss0019@auburn.edu 334-844-1555
Cissy Ballen	Research Mentor and Collaborator, Auburn University Mjb0100@auburn.edu 607-279-2625
Kimberly Mulligan	Assistant Dean for Inclusion, Equity, and Diversity Kxm0001@auburn.edu 334-844-4642
Scott Santos	Department Chair and Adjunct Supervisor, Auburn University Santos@auburn.edu 334-844-7410