

CURRICULUM VITAE

Cissy J. Ballen (*she/her/hers*)

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(a) Education

University of Sydney	Sydney, Australia	Evolutionary Biology	PhD, 2014
University of Minnesota	Twin Cities, MN	Wildlife Biology/Biological Sciences	BS, 2008

(b) Research & Professional Appointments

2023 – present	Associate Professor, Biology Education Research, Auburn University
2018 – 2023	Assistant Professor, Biology Education Research, Auburn University
2016 – 2018	Postdoctoral Associate, Biology Education Research, University of Minnesota
2014 – 2016	Postdoctoral Associate, Biology Education Research, Cornell University

(c) Grants & Fellowships

2024 – 2028 National Science Foundation, Improving Undergraduate STEM Education grant, Collaborative Research: Which elements of role model success stories are effective in improving equity and success in undergraduate STEM education? Principal Investigator, (\$ 1,498,950 USD total; \$ 942,952 to Auburn)

2023 – 2027 U.S. Department of Agriculture Specialty Crop Research Initiative, Principal Investigator (\$ 3,728,826 USD total; \$ 253,592 to Auburn)

2023 – 2025 Postdoc in my lab, Dr. Paula Adams, was awarded an NSF STEM Education Postdoctoral Research Fellowship, STEM Ed IPRF: Understanding Instructor and Student concepts of Race to Measure the Prevalence of Race Essentialism in Biology Education (\$ 283,447 USD total)

2023 – Research Council of Norway FORSKERMOBILITET International Mobility Grant, co-principal Investigator (\$ 71,000 NOK total)

2022 – Centre for Excellence in Biology Education, University of Bergen, Mobility Grant, Principal Investigator (\$ 70,000 NOK total)

2021 – 2024 National Science Foundation, Improving Undergraduate STEM Education grant: Fostering ideological awareness in the context of postsecondary biology through open-source course modules, Principal Investigator (\$ 299,950 USD total; includes subaward to South Alabama)

2021 – National Science Foundation Research Coordination Network iEMBER SPARC (Supported Preliminary Award for Research Collaboration) award (\$ 3,200 USD)

2020 – 2024 National Science Foundation, Improving Undergraduate STEM Education grant: Diversifying and Humanizing Scientist Role Models to Increase the Impact of Data Literacy Instruction on Student Interest and Retention in STEM, Principal Investigator (\$ 1,001,102 USD total; \$ 520,847 to Auburn)

2019 – 2024 National Science Foundation, Research Coordination Network grant: Equity and Diversity in STEM Research Collaboration Grant in Undergraduate Biology Education (RCN-UBE), co-Principal Investigator (\$ 499,090 USD total; \$ 122k to Auburn)

2017 – 2019 National Science Foundation, Research Coordination Network grant: Equity and Diversity in STEM Research Collaborative Network – Incubator Grant in Undergraduate Biology Education (RCN-UBE), co-Principal Investigator, (\$ 49,104 USD)

2015 – University Scholarship of Teaching and Learning Practitioners Fellowship, Cornell University (\$ 1,000 USD)

2015 – Foundation course online innovation module grant, Cornell University (\$ 7,500 USD)

2011 – University of Sydney Post Graduate Research Support Scheme (\$ 2,500 AUD)

2010-2014 – University of Sydney Biological Sciences Faculty Postgraduate Fellowship (\$ 168,000 AUD)

2004-2008 – College of Natural Resources High Ability Non-Resident Scholarship, University of Minnesota (\$ 34,000 USD)

(d) Submitted and Pending National Grants

2024 – 2027 National Science Foundation, Improving Undergraduate STEM Education grant, Collaborative Research: Measuring student perceptions of Socioculturally Relevant Lessons in undergraduate biology. Principal Investigator, (\$ 399,850 USD total; \$ 229,564 to Auburn)

2024 – 2025 National Science Foundation, RCN-UBE incubator: Biologist Role-model Integration for Science Education (BIO-RISE) Principal Investigator, (\$ 74,881 USD)

(e) Honors & Awards – PI Ballen and Lab

2023 – PhD student Emily Driessen was selected for the 2023 Auburn University Graduate School Distinguished Dissertation Award for excellence in scholarship and research.

2023 – Postdoc Dr. Paula Adams was selected for the 2023 cohort of SEC emerging scholars. This program's aim is to increase diverse perspectives present among faculty on Southeastern campuses.

2023 – Postdoc Dr. Robin Costello, PhD student Emily Driessen, and undergraduate Peyton Brewer were selected for the postdoc/graduate student/undergraduate Dean's Research Awards in the College of Science and Mathematics, Auburn University.

2022 – Ballen selected for the [Inclusive Excellence in STEM award](#), College of Sciences and Mathematics Office of Inclusion, Equity, and Diversity, Auburn University.

2021 – Postdoc Abby Beatty was selected for the Inclusive Excellence in STEM award through the College of Sciences and Mathematics Office of Inclusion, Equity, and Diversity, Auburn University (Ballen nominated).

2019 – Ballen selected for the Iris Moreno Totten Education Research Award, Geological Society of America-Geoscience Education Division Award (\$ 1,000 USD).

2009 – Ballen selected for the Outstanding Performance Award for Teaching Assistants in the College of Biological Sciences, University of Minnesota.

(f) Publications

69 peer-reviewed journal publications or textbook chapters, including education research articles in *PLoS Biology*, *Bioscience*, *CBE-Life Sciences Education*, *Proceedings B*, and *Psychological Science in the Public Interest*. My h-index is 22, i10 index is 38, and I have 2127 total citations. Currently 10 manuscripts under review/revision. [Google Scholar](#).

2024: Lamb, T., Driessen, E.P., Beatty, A.E., Youngblood R., Cotner, S., Creech, C., Drake, A. G., Fagbodun, S., Hobbs, K., Lane, K. A., Larson, E., Ballen, C. J. Equitable instructor assessment changes amid COVID-19 pandemic. *Journal of College Science Teaching* (in press).

2024: Costello, R. A., Driessen, E. P., Kjolvik, M. K., Schultheis, E. H., Youngblood, R. M., Zemenick, A. T., Weber, M.G., Ballen, C. J. (2024). More than a token photo: humanizing scientists enhances student engagement. *bioRxiv*, 2024-01.

2023: Salehi, S., Ballen, C. J., Laksov, K. B., Ismayilova, K., Poronnik, P., Ross, P. M., Tzioumis, V., Wieman, C. A Global Perspectives of the Impact of the COVID-19 Pandemic on Learning Science in Higher Education. *PLOS One* (In press).

2023: Arcila Hernández, L. M., Mittan-Moreau, C. S., Lamb, T., Holmes, K. D., McDonald, C. A., Zamudio, K. R., Ballen, C. J. A Half Century of Student Data Reveals the Professional Impacts of a Biology Field Course. *BioScience*, biac103.

2023: Costello, R., Salehi, S., Ballen, C. J., Burkholder, E. Pathways of opportunity in STEM: Comparative investigation of degree attainment across different demographic groups at a large research institution. *International Journal of STEM Education* 10(1), 1-18.

2023: Adams, P., Driessen, E. P., Granados, E., Ragland, P., Henning, J. A., Beatty, A. E., Ballen, C. J. Embracing the inclusion of societal concepts in science leads to better understandings of their impacts. *Frontiers in Education* 8: 1154609.

2023: Pokorny, A., Ballen, C.J., Drake, A., Driessen, E.P., Fagbodun, S., Gibbens, B., Henning, J.A., McCoy, S.J., Thompson, S.K., Willis, C., Lane, A.K. “Out of my control”: Science undergraduates report mental health concerns and inconsistent conditions when using remote proctoring software. *International Journal for Educational Integrity* (In press).

2023: Ewell, S.N., Driessen, E.P., Grogan, W., Johnston, Q., Ferdous, S., Mehari, Y., Peart, A., Seibenhener, M., Ballen, C. J. A Comparison of Study Behaviors and Metacognitive Evaluation Used by Biology Students. *CBE-Life Sciences Education* (In press).

2023: Costello, R., Beatty, A.E., Dunk, R.D., Ewell, S., Pruett, J., Ballen, C. J. Re-envisioning biology curricula to include ideological awareness. *Research in Science Education*: 1-14.

2023: Beatty, A.E., Henning, J., Driessen, E.P., Clark, A., Costello, R., Ewell, S., Klabacka, R., Lamb, T., Mulligan, K., Fagbodun, S., Ballen, C. J. Biology instructors see value in discussing controversial topics but fear personal and professional consequences. *CBE-Life Sciences Education* 22(3), ar28.

2022: Robnett, R., Ballen, C. J., Fagbodun, S., Lane, A. K., McCoy, S., Robinson, L., Weems, E., Cotner, S. Are synchronous chats a silver lining of emergency remote instruction? Text-based chatting is disproportionately favored by women in a non-majors introductory biology course. *PLOS ONE*, 17(10), e0273301.

- 2022: Driessen, E. P., Beatty, A. E., Ballen, C. J. Evaluating open-note exams: student perceptions and preparation methods in an undergraduate biology class. *PLoS ONE*, 17(8), e0273185.
- 2022: Tracy, C., Driessen, E.P., Beatty, A.E., Lamb, T., Pruett, J., Botello, J., Brittain, C., Claudio Ford, I., Josefson, C., Klabacka, R., Smith, T., Steele, A., Zhong, M., Bowling, S., Dixon, C., Ballen, C. J. Why students struggle in undergraduate biology: sources and solutions. *CBE-Life Sciences Education*, 21(3), ar48.
- 2022: Ewell, S., Josefson, C., Ballen, C. J. Why did students report lower test anxiety during the COVID-19 pandemic? *Journal of Microbiology Biology Education*, 23(1), e00282-21.
- 2022: Ewell, S., Cotner, S., Drake, A. G., Fagbodun, S., Google, A., Robinson, L., Soneral, P., Ballen, C. J. Eight recommendations to promote effective study habits for biology students enrolled in online courses. *Journal of Microbiology Biology Education*, 23(1), e00260-21.
- 2022: Beatty, A.E., Esco, A., Curtiss, A., Ballen, C.J. Students who prefer face-to-face tests outperform their online peers in organic chemistry. *Chemistry Education Research Practice* , 23(2), 464-474.
- 2021: Salehi, S., Berk, S.A., Brunelli, R., Cotner, S., Creech, C., Drake, A.G., Fagbodun, S., Hall, C., Hebert, S., James, A.C., Shuster, M., St. Juliana, J.R., Stovall, D.B., Whittington, R., Zhong, M., Ballen, C.J. Context matters: social psychological factors that underlie academic performance across seven institutions. *CBE-Life Sciences Education* 20(4), ar68.
- 2021: Salehi, S., Ballen, C. J., Trujillo, G., Wieman, C. Inclusive instructional practices: course design, implementation, and discourse. *Frontiers in Education*, 6, 395. [PDF](#)
- 2021: Beatty, A.E., Driessen, E.P., Gusler, T., Ewell, S., Grilliot, A., Ballen, C. J. Teaching the tough topics: Fostering ideological awareness through the inclusion of societally impactful topics in introductory biology. *CBE—Life Sciences Education*, 20(4), ar67. [PDF](#)
- 2021: Odom, S., Bosso, H., Bowling, S., Brownell, S., Cotner, S., Creech, C., Drake, A. G., Eddy, S., Fagbodun, S., Hebert, S., James, A. C., Just, J., Juliana, J. R., Shuster, M., Thompson, S. K., Whittington, R., Wills, B. D., Wilson, A. E., Zamudio, K. R., Zhong, M., Ballen, C. J. Meta-analysis of gender performance gaps in undergraduate natural science courses. *CBE-Life Sciences Education* 20:ar40.
- 2021: Ballen, C. J. Salehi, S. Mediation analysis in discipline-based education research using structural equation modeling: beyond “what works” to understand how it works, and for whom. *Journal of Microbiology Biology Education* 22(2): e00108-21.
- 2021: Lombardi, D., Shipley, T. F., Astronomy Team (Bailey, J. M, Bretones, P. S., Prather, E. E.), Biology Team (Ballen, C. J., Knight, J. K., Smith, M. K.), Chemistry Team (Stowe, R. L., Cooper, M. M.), Engineering Team (Prince, M.), Geography Team (Atit, K., Uttal, D. H.), Geoscience Team (LaDue, N. D., McNeal, P. M., Ryker, K., St. John, K., van der Hoeven Kraft, K. J.), Physics Team (Docktor, J. L.). The curious construct of active learning. *Psychological Science in the Public Interest*, 22(1), 8-43.
- 2021: Beatty, A. E., Ballen, C. J., Driessen, E. P., Schwartz, T. S., Graze, R. M. Addressing the unique qualities of upper-level biology CUREs through the integration of skill-building. *Integrative and Comparative Biology*, icab006.

- 2021: Simpson, D.Y., Beatty, A.E., Ballen, C.J. Teaching between the lines: Representation in science textbooks. *Trends in Ecology and Evolution*, 36(1), 4-8.
- 2020: Ballen, C. J. How a classroom failure improved my teaching. *The American Biology Teacher* 82 (9), 577.
- 2020: Salehi, S., Cotner, S., Ballen, C.J. Variation in incoming academic preparation: consequences for minority and first-generation students. *Frontiers in Education* 5, 552364.
- 2020: Driessen, E.P., Beatty, A.E., Stokes, A., Wood, S., Ballen, C.J. Learning principles of evolution during a crisis: an exploratory analysis of student barriers one week and one month into the COVID-19 pandemic. *Ecology and Evolution* 10(22), 12431-12436.
- 2020: Driessen, E.P., Knight, J., Smith, M., Ballen, C.J. Demystifying the Meaning of Active Learning in Post-Secondary Biology Education. *CBE-Life Sciences Education* 19(4), ar52.
- 2020: Thompson, S., Hebert, S., Berk, S., Brunelli, R., Creech, C., Drake, A. G., Fagbodun, S., Garcia Ojeda, M., Hall, C., Harshman, J., Lamb, T., Robnett, R., Shuster, M., Cotner, S., Ballen, C.J. 2020. A call for data-driven networks to address equity in the context of undergraduate biology. *CBE-Life Sciences Education* 19(4), mr2.
- 2020: Wood, S., Henning, J. A., Chen, L., McKibben, T., Smith, M. L., Weber, M., Zemenick, A., Ballen, C. J. A scientist like me: demographic analysis of biology textbooks reveals both progress and long-term lags. *Proceedings of the Royal Society B: Biological Sciences* 287(1929), 20200877.
- 2020: Aguillon, S. M.*, Siegmund, G.-F.*, Petipas, R., Drake, A. G., Cotner, S., Ballen, C. J. Gender differences in student participation in an active learning classroom. *CBE-Life Sciences Education* 19(2), ar12.
- 2020: Ballen, C.J. Enhancing Diversity in College Science with Active Learning. In J.J. Mintzes and E.M. Walter, Eds. *Active learning in college science: The case for evidence based practice*. Berlin: Springer Nature.
- 2019: Salehi, S., Cotner, S., Azarin, S. M., Carlson, E. E., Driessen, M., Ferry, V. E., Harcombe, W., McGaugh, S., Wassenberg, D., Yonas, A., Ballen, C. J. Gender performance gaps across different assessment methods and the underlying mechanisms: the case of incoming preparation and test anxiety. *Frontiers in Education* 4(107).
- 2019: Ballen, C.J., Aguillon, S.M., Awwad, A., Bjune, A.E., Challou, D., Drake, A.G., Driessen, M., Ellozy, A., Ferry, V.A., Goldberg, E.E., Harcombe, W., Jensen, S., Jørgensen, C., Koth, Z., McGaugh, S.E., Mitry, C., Mosher, B., Mostafa, H., Petipas, R.H., Soneral, P.A.G., Watters, S., Wassenberg, D., Weiss, S., Yonas, A., Zamudio, K.R., Cotner, S. Smaller classes promote equitable student participation in STEM. *Bioscience* 69(8), 669-680.
- 2019: Neill, C., Cotner, S., Driessen, M., Ballen, C.J. Structured learning environments are required to promote equitable participation. *Chemistry Education Research and Practice* 20(1), 197-203.
- 2019: Ballen, C.J. Holmegaard, H.T. With big data comes big responsibilities for science equity research. *Journal of Microbiology Biology Education* 20(1): 1-4.
- 2019: Henning, J.A., Ballen, C.J., Molina, S., Cotner, S. Hidden identities shape student perceptions of active learning environments. *Frontiers in Education*. 4(129).

- 2018: Ballen, C.J., Aguillon, S.M., Brunelli, R., Drake, A.G., Wassenburg, D., Weiss, S.L., Zamudio, K.R., Cotner, S. Do small classes reduce performance gaps in STEM? *Bioscience* 68(8):593–600.
- 2018: Ballen, C.J., Zamudio, K.R. Active learning reduces course content misconceptions and promotes self-efficacy in large classrooms. In Golding, J., K. Kern, and C. Rawn (Eds.), *Strategies for Teaching Large Classes Effectively in Higher Education*. Cognella Publishing.
- 2018: Mason, N.A., Brunner, R., Ballen, C.J., Lovett, I.J. Cognitive and social benefits among underrepresented first-year biology students in a field course: a qualitative case study of experiential learning in the Galápagos. *Frontiers: International Journal of Study Abroad*.
- 2018: Sullivan, L.L.*, Ballen, C.J.*, Cotner, S. Small group gender ratios in active learning courses impact performance and peer evaluations. *PLoS ONE* 13(4):e0195129. *Authors contributed equally to this work
- 2018: Ballen, C.J., Lee, D., Rakner, L., Cotner, S. Politics a ‘chilly’ environment for undergraduate women in Norway. *PS: Political Science Politics* 51(3):653-658.
- 2018: Ballen, C.J., Thompson, S.T., Blum, J.E., Newstrom, N.P., Cotner, S. Discovery and broad relevance may be insignificant components of course-based undergraduate research experiences for non-biology majors. *Journal of Microbiology Biology Education* 19(2):1-9.
- 2017: Ballen, C.J., Greene, H.W. Walking and talking the tree of life: Why and how to teach about biodiversity. *PLoS Biology*, 15(3), e2001630.
- 2017: Ballen, C.J., Mason, N.A. Longitudinal analysis of a diversity support program in biology: a national call for further assessment. *Bioscience* 67(4):367-373.
- 2017: Cotner, S., Ballen, C.J. Can Mixed Assessment Methods Make Biology Classes More Equitable? *PLoS ONE* 12(12):e0189610.
- 2017: Ballen, C.J., Wieman, C., Salehi, S., Searle, J., Zamudio, K.R. Enhancing diversity in undergraduate science: Self-efficacy drives performance gains with active learning. *CBE-Life Sciences Education* 16(4):ar56.
- 2017: Ballen, C.J.*, Salehi, S.*, Cotner, S. Exams disadvantage women in introductory biology. *PLoS ONE* 12(10):e0186419. *Authors contributed equally to this work
- 2017: Ballen, C.J., Blum, J., Brownell, S., Hebert, S., Hewlett, J., Klein, J., McDonald, E., Monti, D., Nold, S., Slemmons, K., Soneral, P., Cotner, S. A call to develop course-based undergraduate research experiences (CUREs) for nonmajor courses. *CBE-Life Sciences Education* 16(2): mr2.
- 2017: Ballen, C.J., Danielsen, M., Jørgensen, C., Grytnes, J. A., Cotner, S. Norway’s gender gap: classroom participation in introductory science. *Nordic Journal of STEM Education* 1(1):262-270.
- 2017: Cotner, S., Ballen, C.J., Jenó, L.M. Strategies to document active learning in biology. *Nordic Journal of STEM Education*. 1(1):36-42.
- 2017: Mcdiarmid, C.S., Friesen, C., Ballen, C.J., Olsson, M. Sexual coloration and sperm performance in the Australian painted dragon lizard, *Ctenophorus pictus*. *Journal of Evolutionary Biology* 30:1303-1312.
- 2016: Ballen, C.J., Andrews, R., Shine, R., Olsson, M. Multifactorial sex-determination in chameleons. *Journal of Herpetology* 50(4):548-551.

- 2015: Tobler, M., Ballen, C.J., Healey, M., Wilson, M., Olsson, M. Oxidant trade-offs in immunity: an experimental test in a lizard. *PLoS One* 10(5):e0126155.
- 2015: Ballen, C.J., Shine, R., Olsson, M. Developmental plasticity in an unusual animal: the effects of incubation temperature on behavior in chameleons. *Behaviour* 152 (10):1307-1324.
- 2014: Ballen, C.J., Shine, R., Olsson, M. Effects of early social isolation on the behaviour and performance of juvenile lizards, *Chamaeleo calyptratus*. *Animal Behaviour* 88:1-6.
- 2013: Olsson, M. M., Stuart-Fox, D., Ballen, C.J. Genetics and evolution of colour patterns in reptiles. *Seminars in Cell and Developmental Biology* 24:529-41.
- 2012: Ballen, C.J., Healey, M., Wilson, M., Tobler, M., Olsson, M. Predictors of telomere content in dragon lizards. *Naturwissenschaften* 99(8):661-664.
- 2012: Ballen, C.J., Healey, M., Wilson, M., Tobler, M., Wapstra, E. and Olsson, M. Net superoxide levels: steeper increase with activity in cooler female and hotter male lizards. *Journal of Experimental Biology* 215(5):731-735.
- 2011: Cotner, S., Ballen, C.J., Brooks, C. D., Moore, R. Instructor gender and student confidence in the sciences: a need for more role models? *Journal of College Science Teaching* 40(5):96-101.

Teaching publications

- 2024: Adams, P. E., Granados, E., Beatty, A. E., Ballen, C. J. (2024). Teaching at the intersection of science and society: An activity on healthcare disparities. *Biology Methods and Protocols*, bpad041.
- 2023: Ballen, C. J., Beatty, A. E., Granados, E. Evaluating Representation in Science through a Peer-Reviewed Research Study. *CourseSource* 10. <https://doi.org/10.24918/cs.2023.41>
- 2019: Ballen, C.J., Drake, A.G., and Zamudio, K.R. Forensic phylogenetics: implementing tree-thinking in a court of law. *CourseSource*. <https://doi.org/10.24918/cs.2019.16>.
- 2017: Ballen, C.J. and Newstrom, N. ‘Testing hypotheses about sexual violence among adolescents’, in Cotner, S. and Nelson, P. *Evolution and Biology of Sex: Laboratory Investigations*, 4E. Bluedoor: Minnesota.
- 2017: Ballen, C.J. ‘Reconstruction and using phylogenetic trees: Active learning module’, in Sadava, D.E, Hillis, D.M., Heller, H.C., Hacker, S. D., eds., *Life: The science of biology*. London, UK: Macmillan Learning.
- 2016: Ballen, C.J. ‘Introduction to population genetics: Active learning module’, in Sadava, D.E, Hillis, D.M., Heller, H.C., Hacker, S. D., eds., *Life: The science of biology*. London, UK: Macmillan Learning.
- 2016: Ballen, C.J. ‘Animal origins and diversity: Apply What You’ve Learned’, in Hillis, D.M., Sadava, D.E, Heller, H.C., Price, M.V., eds., *Principles of Life*, 2e. Sunderland, MA: Sinauer Associates.
- 2016: Ballen, C.J. ‘Protostome Diversity: Apply What You’ve Learned’, in Hillis, D.M., Sadava, D.E, Heller, H.C., Price, M.V., eds., *Principles of Life*, 2e. Sunderland, MA: Sinauer Associates.
- 2016: Ballen, C.J. ‘Deuterostome Diversity: Apply What You’ve Learned’, in Hillis, D.M., Sadava, D.E, Heller, H.C., Price, M.V., eds., *Principles of Life*, 2e. Sunderland, MA: Sinauer Associates.

Papers in review/revision

Ewell, S. N. Harvey, A., Clark, A., Maloney, M., Stevison, L., Ballen, C. J. Instructor recommendations for student learning strategies and metacognition: An analysis of undergraduate biology syllabi. (In review at *Journal of Research in Science Teaching*)

Costello, R.A., Hammarlund, S., Christiansen, E., Kiani, M.K., Glessmer, M., Cotner, S., Ballen, C.J. Students prefer assessment practices known to reduce the impact of test anxiety. (In review at *Scandinavian Journal of Educational Research*)

Driessen, E.P., Steele, A., Costello, R.A., Brewer, P., Ballen, C.J. Career Motivations and Experiences of Biology Education Researchers. (In revision at *CBE-Life Sciences Education*)

Driessen, E.P., Wilson, A.E., Hall, I., Brewer, P., Odom, S., Ramsey, S.B., Wood, S., Ballen, C.J. Group work and student performance in biology: A meta-analysis. (In revision at *Bioscience*)

Dunk, R.D., Malmquist, S.J., Prescott, K., Ewell, S.N., Henning, J.A., Ballen, C.J. How do students critically evaluate outdated language that relates to gender in biology? (In revision at *CBE-Life Sciences Education*)

Ball, E.M., Costello, R.A., Ballen, C.J., Graze, R.M., Burkholder, E.W. Challenging Misconceptions about Race in Undergraduate Genetics. (Invited submission, *CBE-Life Sciences Education*)

Caudle, D., Dunk, R., Ricketts, N., Godfrey, D., Beatty, A.E., Guffey-McCorrison, A., Ballen, C.J., Henning, J.A. Ideological awareness in practice: valuable perspectives from biology instructors. (Invited submission, *CBE-Life Sciences Education*)

Costello, R.A., Amin, R., Driessen E.P., Kjolvik, N.K., Schultheis, E.H., Youngblood, R.M., Zemenick, A.T., Weber, M.G., Ballen, C.J. Understanding student resistance to inclusive activities in undergraduate biology. (Invited submission, *CBE-Life Sciences Education*)

Costello, R.A., Ewell, S.N., Adams, P.E., Aranda, M.L., Curry, A., De Jesus, M., Dunk, R., Fluker, J., García-Ojeda, M.E., Gutzler, S.J., Habersham, L., Kjolvik, M., Mateen, M.A., Metzger, K.J., Mulligan, K.X., Owens, M.T., Pigg, R., Quillin, K., Rice, M.M., Sovi, S., Schultheis, E., Theobald, E., Tracey, E., Tripp, B., Weber, M.G., Yang, S., Zemenick, A., Ballen, C.J., Ovid, D. Beyond broadening representation: Highlighting counter-stereotypical scientists in undergraduate life science courses. (Invited submission, *CBE-Life Sciences Education*)

Youngblood, R.M., Costello, R.A., Driessen E.P., Kjolvik, N.K., Schultheis, E.H., Zemenick, A.T., Weber, M.G., Ballen, C.J. Scientists are humans too: Biology students relate more to scientists when they are humanized in course materials. (Invited submission, *CBE-Life Sciences Education*)

(g) Invited plenary-style talks and seminar presentations 2016-2024

2024 – College of Biological Science, *The University of Guelph*, Guelph, Canada.

2024 – Marine Science Institute, *University of Texas*, Austin, TX.

2023 – Department of Ecology and Evolutionary Biology, *University of Michigan*, Ann Arbor, MI.

2023 – Werth College of Science, Technology, and Mathematics, *Fort Hays State University*, Hays, KS.

2023 – Postdoctoral Association, *Johns Hopkins University*, Baltimore, MD.

2023 – Department of Plant Biology, *University of Georgia*, Athens, Georgia.

2023 – Plenary Speaker, *Undergraduate Biology Education Research, Gordon Research Conference*, Lewiston, ME.

2023 – Plenary Speaker, *Canadian Consortium of Science Equity Scholars*, Vancouver, Canada.

2023 – Department of Biology, *Illinois State University*, Normal, IL.

2023 – Department of STEM Education, *University of York*, York, United Kingdom.

2023 – National Institute on Scientific Teaching (NIST), *Virtual*.

2022 – Graduate School of Education, *University of Exeter*, Exeter, United Kingdom.

2022 – Invited presentation and panel discussion, *Evolution Conference*, iEvoBio Education Event. Cleveland, OH.

2022 – Invited panelist, *The Chronicle of Higher Education*. Next Steps for the Inclusive Classroom.

2022 – Department of Biology, *University of Wyoming*, Laramie, Wyoming.

2022 – Department of Biology Teaching and Learning, *University of Minnesota*, Twin Cities, Minnesota.

2021 – Department of Biology, *New Mexico State University*, Las Cruces, New Mexico.

2021 – Invited plenary presentation, *University of Sydney*, Biosciences Education Australia Network Forum.

2020 – Department of Biology, *Middlebury College*, Middlebury, Vermont.

2020 – Department of Biology, *University of South Alabama*, Mobile, Alabama.

2020 – Invited plenary presentation, *Equity and Diversity in Undergraduate STEM annual meeting*.

2020 – Invited to participate on panel, Diversity Promising Practices Conference. *Auburn University*.

2020 – Keynote presentation, Active learning symposium, Teaching and Learning Center. *Florida Gulf Coast University*, Fort Myers, FL.

2019 – Teaching and Learning Laboratory Series, *Massachusetts Institute of Technology*, Cambridge, MA

2019 – Discipline-Based Education Research Group, *Cornell University*, Ithaca, NY

2019 – Department of Biological Sciences, *Louisiana State University*, Baton Rouge, LA

2019 – ROSE seminar series, *University of Alabama-Birmingham*, Birmingham, AL

2019 – Plenary Speaker, *Annual meeting of the Northeastern region HHMI awardee institutions*, Dover, DE

2019 – Department of Biological Sciences, *University of Alabama*, Tuscaloosa, AL

2018 – Howard Hughes Medical Institute Series, *Brown University*, Providence, RI

2018 – Scientific Teaching Webinar, *Yale Summer Institutes on Scientific Teaching*

2018 – Department of Science Education, *University of Copenhagen*, Denmark

2018 – Department of Biological Sciences, *University of New Hampshire*, Durham, NH

2017 – Graduate school of Education, *Stanford University*, Stanford, CA

2017 – Yale Center for Teaching and Learning, *Yale University*, New Haven, CT

2017 – Biology Education Group, *Syracuse University*, Syracuse, NY

2017 – Public lecture, *University of Bergen*, Norway

2017 – Department of Physics, Chemistry and Biology (IFM), *University of Linköping*, Sweden

2016 – BioCEED Center for Teaching Excellence seminar, *University of Bergen*, Norway

2016 – The Practice of Inclusive Teaching in STEM Workshop, *Cornell University*, Ithaca, NY

2016 – Careers in Molecular Biosciences. *Cornell University*, Ithaca, NY

(h) Lab conference presentations 2016-2023. 64 peer-reviewed presentations with a trainee as a primary presenter at the following venues.

2023 – Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), Pheonix, AZ.

2023 – American Society for Cell Biology, Washington, DC. *Postdoc Dr. Sharday Ewell won an award for her presentation on help-seeking behavior among biology students.*

2023 – Society for Molecular Biology and Evolution, Ferrara, Italy.

2023 – Undergraduate Biology Education Research, Gordon Research Conference, Lewiston, ME.

2023 – Society for the Advancement of Biology Education Research. Minneapolis, MN. *Rachel Youngblood won the 2023 Undergraduate Poster Award.*

2022 – American Society for Cell Biology, Washington, DC.

2022 – Society for Integrative and Comparative Biology.

2022 – Annual Southeastern STEM Education Research Conference, Middle Tennessee State University.

2022 – American Educational Research Association, San Diego, CA.

2022 – Improving Undergraduate STEM Education (IUSE) Summit. Washington, D. C.

2022 – Western Regional Meeting of the American Chemical Society. Las Vegas, NV.

2022 – Society for the Advancement of Biology Education Research. Minneapolis, MN.

2022 – Equity and Diversity in Undergraduate STEM annual meeting. Minneapolis, MN.

2021 – Joint meeting of the American Society for Cell Biology (ASCB) and European Molecular Biology Organization (EMBO). Washington, DC.

2021 – Annual Southeastern STEM Education Research Conference, Middle Tennessee State University.

2021 – Society for Integrative and Comparative Biology Meeting.

2021 – Association for College and University Biology Educators (ACUBE). *MS Student Todd Lamb awarded Carlock Award for Excellence in Graduate Student Research in Biology Education.*

2021 – Society for the Advancement of Biology Education Research, Minneapolis, MN

2021 – Discipline-based Education Research Conference, University of Nebraska, Lincoln, NE.
 2021 – American Educational Research Association Annual Meeting. Virtual.
 2020 – Society for the Advancement of Biology Education Research, Minneapolis, MN (Virtual)
 2020 – Diversity Promising Practices Conference, Auburn, AL (invited seminar)
 2019 – International Society for the Scholarship of Teaching and Learning (ISSOTL), Atlanta, GA
 2019 – Auburn Research Faculty Symposium, Auburn, AL
 2019 – Conference for the Society for the Advancement of Biology Education Research, Minneapolis, MN
 2018 – Conference for the Society for the Advancement of Biology Education Research, Minneapolis, MN, USA

(i) Teaching experience

2020-23	Introduction to Discipline-Based Education Research	Auburn University
2019-23	Organismal Biology	Auburn University
2022	Current Topics in Biology Education Research	Auburn University
2018	Norwegian Centennial Chair Summer Institutes for Scientific Teaching	University of Oslo
2017	Systemic bias in STEM – Nature of Life Field Course	University of Minnesota
2016	Organismal Biology II Field Course	University of Bergen
2014-16	Evolutionary Biology and Biodiversity	Cornell University
2015	Evolutionary Biology and Marine Biodiversity Field Course	Cornell University

(j) Mentorship

Postdoctoral mentorship

Ryan Dunk	NSF Postdoctoral Researcher	2022-
Paula Adams	NSF Postdoctoral Fellow	2022-
Robin Costello	NSF Postdoctoral Researcher	2021-
Sharday Ewell	Postdoctoral Researcher	2021-2023
*Current position	Assistant professor at University of Mississippi	
Chloe Josefson	NSF Postdoctoral Fellow	2019-2023
*Current position	Assistant professor at North Carolina Central University	
Abby Beatty	NSF Postdoctoral Researcher	2021-2022
*Current position	Visiting assistant professor at St. Mary's College of Maryland	
Ash Zemenick	NSF Postdoctoral Researcher	2020-2021
*Current position	Postdoctoral researcher at Univ. of Michigan	
Sara Berk	Postdoctoral Researcher	2019-2020
*Current position	Undergraduate student mentor at Univ. of Washington	

Graduate mentorship

Maria De Jesus	PhD student, Auburn University	2023-
Emily Driessen	PhD student, Auburn University	2019-2023
*Current position	Postdoctoral researcher, University of Minnesota	
Todd Lamb	MS student, Auburn University	2019-2021
*Current position	Biology Instructor, Coastal Alabama Community College	
Sara Odom	MS student, Auburn University	2018-2020
*Current position	Science educator at Huntsville's Space and Rocket Center	

Undergraduate student mentorship

*I have mentored 36 undergraduates while at Auburn University. Current scholars include:

Bree Porter	Auburn University	2023-
Jordan Fluker	Auburn University	2022-
Langley Wilder	Auburn University	2023-
Peyton Brewer	Auburn University	2022-
Alayna Harvey	Auburn University	2022-

(k) Professional Society Memberships

European Science Education Research Association; International Society for the Scholarship of Teaching and Learning; Society for the Advancement of Biology Education Research; National Association for Research in Science Teaching National Association of Biology Teachers

(l) Professional Service 2016-2021

Journal Refereeing. Physical Review Physics Education Research, CBE-Life Sciences Education, International Journal for the Scholarship of Teaching and Learning, Biology Letters, CourseSource, PLoS Biology, PLoS ONE, Studies in Higher Education, Proceedings B

Panel Service. NSF Advancing Informal STEM Learning (AISL), NSF Building Capacity for STEM Education Research (BCSER), NSF Directorate on Education and Human Resources Faculty Early Career Development (CAREER); Improving Undergraduate STEM Education (IUSE)

(m) Press

Research has been covered in [BBC News](#), [Science Daily](#), [Inside Higher Ed](#), [Newsweek](#), [IFLScience](#), [The Times Higher Education](#), as well as highlighted in University news such as the [Cornell Chronicle](#) (2022, 2020), [Auburn's COSAM Daily](#), and [University of Minnesota's CBS Blogs](#).