**Ariel L. Steele, Ph.D.**

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**EDUCATION**

**Ph.D., Higher Education 2022**

Auburn University, Auburn, AL

**Dissertation:** Uncovering the Social Organization of Women PhD Students’ Experiences in Biology: An Institutional Ethnography

Advisor: Dr. Laura Parson

**M.S., Biological Sciences 2017**

Auburn University, Auburn, AL

**B.A., Biology**  **2015**

University of St. Thomas, St. Paul, MN

**PROFESSIONAL APPOINTMENTS**

**Postdoctoral Research Associate 2022**

University of Minnesota

Department of Biology Teaching and Learning

Minneapolis, MN

**Educational Researcher 2021-2022**

Applied Technologies Group, Inc

Air University, Maxwell Air Force Base, Montgomery, AL

**PUBLICATIONS**

**Refereed Journal Articles**

Tracy, C., Pruett, J., Driessen, E., Beatty, A., Klabacka, R., Lamb, T., Claudio-Ford, I., Smith, T., Botello, J., Brittain, C., Steele, A., Josefson, C., Ballen, C. (2022) Why students struggle in undergraduate biology: Sources and solutions. *CBE – Life Sciences Education,* *21*(3), ar48. <https://doi.org/10.1187/cbe.21-09-0289>

Parson, L., Steele, A., Tatum, Jr., K., Weise, J., & Allison, M. (2022). Identifying the competencies of an ethical leader in Air Force contexts. *Journal of Character and Leadership Development, 9*(1), 75-92.

Parson, L., Steele, A., & Wilkins, E. B. (2021). A gendered “ideal?” Discourses that characterize the ideal scientist. *International Journal of Gender, Science, and Technology, 13*(1), 64-85. <http://genderandset.open.ac.uk/index.php/genderandset/article/view/735>

Steele, A. L.,& Warner, D. A. (2020). Sex-specific effects of developmental temperature on morphology, growth, and survival of offspring in a lizard with temperature-dependent sex determination. *The Biological Journal of the Linnean Society, 130*(2), 320-335. <https://academic.oup.com/biolinnean/article/130/2/320/5815733?login=true>

Steele, A., Parson, L., & Wilkins, E. (2020). Coordinating transitions: Exploring the STEM institution from the standpoint of freshman and transfer undergraduate women. *The Journal for Science Education Research.*

Parson, L., & Steele, A. (2019). Higher education in crisis? An institutional ethnography of an international university in Hungary. *Journal for the Study of Postsecondary and Tertiary Education, 5*, 17-34. <https://doi.org/10.28945/4490>

Parson, L., & Steele, A. (2019). Institutional autonomy and academic freedom in Hungary: A historiography of Hungarian higher education. *Colleges & Universities*, *94*(4), 10-23. <https://www.aacrao.org/research-publications/quarterly-journals/college-university-journal/article/c-u-vol.-94-no.-4-fall-2019/institutional-autonomy-and-academic-freedom-in-hungary-a-historiography-of-hungarian-higher-education>

Steele, A. L., Wibbels, T., and Warner, D.A. (2018). Revisiting the first report of temperature-dependent sex determination in a vertebrate, the African redhead agama. *Journal of Zoology*. 306(2018), 16-22. doi:10.1111/jzo.12560 <https://zslpublications.onlinelibrary.wiley.com/doi/abs/10.1111/jzo.12560>

**Book Chapters**

Steele, A. L.(2021). Using the teaching and learning environment to promote equity and inclusion in introductory biology classrooms. *Book Chapter,* Teaching and Learning for Social Justice and Equity in Education: Content Areas. New York: NY: Palgrave

**Manuscripts in Submission**

Renbarger, R., Rehfeld, D., Saxon, T., & Steele, A. Representation has changed: The need to update graduate student development theory to reflect marginalized populations’ experiences in the PhD. (*Submitted to Opportunity Matters: Journal of Access and Opportunity in Education special issue*)

Steele, A. L., & Parson, L. STEM institutional discourses and the ideal graduate student. (*Submitted to Journal of Women and Gender in Higher Education*)

**Manuscripts in Preparation**

Steele, A. L., & Parson, L. “Trial by fire”: Neoliberal discourses that shaped the experiences of women PhD students in biology.

Driessen, E. P., Steele, A. L., Costello, R., Brewer, P., & Ballen, C. J. Career motivations and experiences of Biology Education Researchers

**CONFERENCE ACTIVITY/PRESENTATIONS**

Asterisk denotes presenter

**2022**

Steele, A.\*, & Parson, L. (2022). STEM institutional discourses and the ideal graduate student. [Paper presentation]. ASHE 2022 Annual Conference, Las Vegas, NV, United States

Steele, A.\*, & Parson, L. (2022). “Trial by fire”: neoliberal discourses that coordinated the experiences of women PhD students in biology. [Paper presentation]. ASHE 2022 Annual Conference, Las Vegas, NV, United States.

Steele, A. L.\*, & Parson, L. (2022). Reimaging Graduate Biology Education in the neoliberal university. [Poster presentation]. SABER 2022 Annual Conference, Minneapolis, MN, United States.

Driessen, E. P., Steele, A. L.\*, Costello, R.\*, Brewer, P., & Ballen, C. J. (2022). Career motivations and experiences of Biology Education Researchers. [Poster presentation]. SABER 2022 Annual Conference, Minneapolis, MN, United States.

Steele, A.\*, & Parson, L. (2022). “Graduate School is Really Freaking Hard:” Women’s experiences with socialization in a biology PhD program. [Paper presentation]. AERA 2022 Annual Conference, San Diego, CA, United States.

**2021**

Steele, A. (2021). Uncovering the socialization experiences of women PhD students in biology. [Roundtable presentation]. SABER 2021 Annual Conference, Minneapolis, MN, United States.

Steele, A.\*, & Parson, L. (2021). The impact of stereotype threat on women’s academic performance in STEM: A meta-analysis. [Paper presentation]. AERA 2021 Annual Conference, Orlando, FL, United States.

Parson, L.\*, & Steele, A. (2021). A Gendered “Ideal”? Discourses that characterize the ideal scientist. [Paper presentation]. AERA 2021 Annual Conference, Orlando, FL, United States.

Steele, A., (2021). The impact of the COVID-19 pandemic on women’s experiences in a biology PhD program. [Paper presentation]. X-DBER 2021, Lincoln, NE, United States.

Steele, A.\*, & Parson, L. (2021). Coordinating the transfer experiences of undergraduate women in STEM from 2-year colleges to 4-year institutions.[Paper presentation]. ISA 2021, Porto Alegre, Brazil.

**2020**

Steele, A. L.\*, & Parson, L. (2020). #metooSTEM: A critical discourse analysis of Twitter responses to sexism experienced by women graduate students in STEM. [Paper Presentation], ASHE 2020 Annual Conference, New Orleans, LA, United States.

**2019**

Parson, L.\*, & Steele, A. (2019). Higher education in crisis? An institutional ethnography of a higher education institution in Hungary. [Paper presentation].ASHE Annual Conference, November 2019, Portland, OR, USA.

Parson, L., Wilkins, E., Steele, A., & Armstrong, M. (2019). Coordinating transitions: Exploring the STEM institution from the standpoint of freshman and transfer undergraduate women. [Roundtable Presentation].AERA 2019 Annual Conference, Toronto, ON, Canada.

**2018**

Parson, L.\* & Steele, A. (2018). Institutional Autonomy and Academic Freedom in Hungary: A Historiography of Hungarian Higher Education**.** [Paper Presentation and Poster Presentation]. Society for Research into Higher Education (SRHE) Annual Meeting, December 2018, Newport, Wales.

**2017**

Steele, A.\*, and Warner, D. (2017) The Effect of Incubation Temperature on Sex and Growth in the African Redhead Agama *(Agama agama*). [Paper Presentation]. Joint Meeting of Ichthyology and Herpetology annual conference, July 2017, Austin, TX, USA.

Steele, A.\*, and Warner, D. (2017) The Effect of Incubation Temperature on Sex and Growth in the African Redhead Agama *(Agama agama*). [Paper Presentation]. Alabama Academy of Sciences conference, March 2017, Mobile, AL, USA.

Steele, A\*, Warner, D. (2017) The Effect of Incubation Temperature on Sex and Morphology in a Lizard. [Paper Presentation]. Society of Integrative and Comparative Biology conference, January 2017, New Orleans, LA, USA.

**2015**

Steele, A.\*, Sathe, E., Husak, J. (2015). Mechanisms of sex-specific growth patterns in six-lined racerunners. [Poster presentation]. Society of Integrative and Comparative Biology conference, January 2015, West Palm Beach, FL, USA

**TEACHING EXPERIENCE**

**Graduate Teaching Assistant**

***BIOL 1027 Lab – Honors Principles of Biology*** Fall 2021

Auburn University

***BIOL 1021 Lab – Principles of Biology*** Fall 2020, Summer 2021, Fall 2021

Auburn University

***BIOL 1031 Lab – Organismal Biology*** Spring 2017, Fall 2017, Spring 2021, Spring 2022

Auburn University

***BIOL 1011 Lab – Survey of Life*** Spring 2016, Spring 2018

Auburn University

***BIOL 1001 Lab – Introduction to Biology for Non-majors*** Fall 2015, Fall 2016

Auburn University

**Invited Course Facilitation**

Seminar in College Teaching, Auburn University Spring 2020

Guest lecture on Action Research in Higher Education

Biology Graduate Student Association Morning Talks, Auburn University Fall 2020

Guest lecture on using active learning strategies to promote social justice, equity,

and inclusion in undergraduate biology education

Introduction to Women’s Studies, Auburn University Spring 2021

Guest lecture on hegemonic masculinity

**Developed Courses**

Teaching and Learning for STEM Graduate Students and Faculty (Developed, not taught)

Introduction to Biology – Majors (Developed, not taught)

**RESEARCH EXPERIENCE**

**Graduate Research Assistant** 2018 - 2021

Auburn University

Department of Educational Foundations, Leadership, and Technology

*Research:* Assisted with student recruitment, data collection, and analysis; Wrote and presented findings as scholarly articles and presentations at national conferences; assisted with grant writing.

Advisor: Dr. Laura Parson

**Graduate Research Assistant** 2015 - 2017

Auburn University

Department of Biological Sciences

**Thesis:** The effect of incubation temperature on sex and morphology in the African redhead agama.

Characterized the pattern of temperature-dependent sex determination in the African redhead agama. Quantified the effect of fluctuating incubation temperatures on sex ratio and the effect of incubation temperature on morphology, growth, and sex-specific phenotypes.

Advisor: Dr. Daniel Warner

**Undergraduate Research Assistant** 2014 – 2015

University of St. Thomas

Department of Biology

Collaborative Inquiry Grant, Funded by Grants and Research Office

*Research:* Ontogeny of sexual size and shape dimorphism in six-lined racerunners.

Advisor: Dr. Jerry Husak

**NSF REU Research Fellow** 2014

Oklahoma State University

Biological and Psychological Basis of Human and Animal Behavior

Zoology Department, Funded by National Science Foundation

*Research:* Ran behavioral trials on conditioned place preference in female mice; maintained habitat for mice; designed experiment (proposal, literature review, etc.) to measure behavior between conspecific and heterospecific male territory invasion of two species of mice.

Advisor: Dr. Polly Campbell

**Undergraduate Research Assistant** 2013

Greenhouse Lab, Department of Biology, University of St. Thomas

Supervisor: Dr. Chester Wilson.

**HONORS & AWARDS**

Samia I. Spencer Creative Mentorship Award 2020

JoAnn Granberry Murrell Graduate Scholarship Award 2018

SICB Charlotte Magnum Student Support Program – Annual Meeting 2017

SICB Charlotte Magnum Student Support Program – Annual Meeting 2014

**GRANTS**

National Science Foundation, EHR: Core Level 1, Applied 2022

National Science Foundation Postdoctoral Research Fellowship in STEM Education (NSF PRF STEM Ed), Applied 2022, Unfunded

EPASS PWS Quality Enhancement and Improvement Accreditation Support: Contract project, funded by the U.S. Department of Defense (via US Air Force, Applied Technologies Group, Inc.). **$252,313.96**, FY 2018 to FY 2020. (Principal Investigator: Laura Parson; Co-investigator: Jessica Weise, Ariel Steele).

Department of Educational Foundations, Leadership and Technology Travel Grant, ($255) 2019

College of Education Graduate Travel Grant, ($500) 2019

Auburn University Graduate School Travel Grant, ($400) 2019

Graduate School Travel Grant, ($400) 2019

COSAM Travel Grant, Auburn University, ($500) 2017

Alabama Academy of Sciences Grant in Aid of Research, ($250) 2017

National Science Foundation GRFP, Applied, Unfunded 2015

Sigma Xi Grants in Aid of Research, Applied, $1000 requested, Unfunded 2015

SICB Grants in Aid of Research, Applied, $1000 requested, Unfunded 2015

Grants and Research Office Travel Grant, University of St. Thomas 2014

Collaborative Inquiry Grant, University of St. Thomas 2014

NSF-REU Oklahoma State University Fellowship 2014

**PROFESSIONAL SERVICE**

Journal of Engineering Education, Reviewer 2022

Society for the Advancement of Biology Education, Abstract Reviewer 2022

Association for the Study of Higher Education, Proposal Reviewer 2021

**NON-ACADEMIC WORK**

Graduate Writing Center Consultant 2016 – 2018

Miller Writing Center

Auburn University

Supervisor: Dr. James Truman

**PROFESSIONAL ASSOCIATIONS**

***Active Memberships***

Association for the Study of Higher Education (ASHE)

American Education Research Association (AERA)

Society for the Advancement of Biology Education (SABER)

EDU-STEM

***Past Memberships***

Society for Integrative and Comparative Biology (SICB)

Alabama Academy of Sciences (AAS)