

Research Focus: Utilized the genetically tractable *Drosophila* model to uncover fundamental pathways that regulate the *in vivo* behavior of adult stem cells.
Dissertation Title: Genetic and Environmental Regulation of Adult Stem Cell Division

2005 - 2008 *Teaching Assistant:* Department of Cellular Biology and the Department of Biological Sciences, University of Georgia

TEACHING & MENTORING

Mentorship of Postdoctoral Scholars:

2021 - 2023 Steven Gardner, PhD
2023 - Present Samantha Bock, PhD
2023 Anthony Breitenbach, PhD
2023- Present Megan Deeter, PhD

Mentorship of Graduate Students:

2022 - Present Abigail Bickle, PhD, Odum School of Ecology, UGA
2021 - Present Ethan Shealy, PhD, Interdisciplinary Toxicology Program, UGA
2021 - Present Elise Webb, MS, Odum School of Ecology, UGA
2020 - 2023 Laura Kojima, MS, CESD program, Odum School of Ecology, UGA
2020 - Present Chris Smaga, PhD, Odum School of Ecology, UGA
2020 - 2022 Josiah Johnson, MS, CESD program, Odum School of Ecology, UGA
2018 - 2022 Kristen Zemaitis, MS, Odum School of Ecology, UGA, Co-advised with Dr. Jeb Byers
2017 - 2022 Emily Bertucci, PhD, Odum School of Ecology, UGA
2017 - 2023 Samantha Bock, PhD, Odum School of Ecology, UGA
2016 - 2019 Josh Zajdel, MS, Odum School of Ecology, UGA Co-advised with Dr. Stacey Lance
2013 - 2019 Matthew Hale, PhD, Odum School of Ecology, UGA

Committee Service:

Current Gabriela Martins, Dept. of Poultry Sciences, UGA
Current Olivia Delgado, Dept. of Foods and Nutrition, UGA
2020 Cara Love, Doctoral, Odum School of Ecology, UGA
2021 Natalia Gelvez, PhD, Dept. of Biochemistry and Molecular Biology, UGA
2020 Jarad Cochran, MS, Dept. of Soil and Crop Sciences, UGA
2020 Marty Brown, MS, Warnell School of Forestry & Natural Resources, UGA
2020 Ashley LaVere, MS, Odum School of Ecology, UGA
2017 Alexis Temkin, PhD, Marine Biomedicine and Environmental Sciences Program, Medical University of South Carolina
2016 Jessica Tipton, MS, College of Charleston

Mentorship of Undergraduate Students:

2022 - Present Kira Buford, Benedict College, SC. Intern funded through NSF
2022 - Present Victoria Pagano, University of Georgia, GA. Intern funded through NSF
2019 - 2021 Junsoo Bae, Augusta University, GA. Intern funded through NSF
2019 - 2020 Jameel Moore, Benedict College, SC. Intern funded through NSF
2017 Collin Topolski, Embry Riddle Aeronautical University, FL. NSF REU Program
2013 Eric Benson, The Citadel, SC. MUSC Summer Undergraduate Research Program
2012 Matthew Hale, Maryville College, TN. MUSC Summer Undergraduate Research Program
2012 Aposia Singleton, Morris College, SC. NSF REU Program

Awards & Recognitions to mentored graduate and undergraduate students:

NSF GRFP (2021, Kojima), Raymond Huey Award for Best Student Poster at SICB (2021, Moore), Rebecca Reyburn Sharitz and Carl Byrne Hatfield Fellowship (2020, Bertucci), Mary Erlanger Graduate Fellowship (Bertucci, 2019), Georgia Museum of Natural History Joshua Laerm Academic Support Award (2019, Bock), NSF GRFP Honorable Mention (2018, Bertucci), IUCN Crocodile Specialist Group Student Research Assistance Scheme

(2019, Bock), UGA Graduate School Research Assistantship (2017-2022, Bock), Best Student Poster at IUCN's Crocodylian Specialist Group Meeting (2022, Kojima)

Teaching:

- 2019** **Co-Instructor**, ECOL 8140 (2 credit hr) — Professional Development in Ecological Careers, a course providing exposure to various careers in and outside of academia and guidance to graduate students preparing materials needed to apply for post-graduate opportunities.
- 2017 - 2023 (7x)** **Instructor**, ECOL 1000 (3 credit hr) — Ecological Basis for Environmental Issues, an introductory course for non-majors at the University of Georgia that aims to provide core ecological concepts and link them to modern problems in the environmental sciences
- 2019, 2021 (2x)** **Instructor**, ECOL 4430/6430 (4 credit hr) — *Ecological Developmental Biology & Ecotoxicology*, A split-level course designed to introduce concepts of phenotypic plasticity and the developmental origins of health and disease. Traditional lecture-based format culminating in a four-day workshop on lab and field techniques.
- 2018** **Instructor**, ECOL 8990 (2 credit hr) — *Advances in Ecological Research*, a seminar course focused on current problems in ecology and professional development offered for graduate students in residence at the Savannah River Ecology Laboratory.
- 2015 - 2016 (2x)** **Instructor**, MCBP 749 (1 credit hr) — *Advanced Topics in Environmental Biology*, a graduate seminar course at the Medical University of South Carolina focused on a critical dissection of current literature and identifying emerging problems in the field of Environmental Biology.
- 2010** **Co-Instructor** for Graduate Teaching Assistant Seminar at UGA
- 2005 - 2009** **Graduate Teaching Assistant**, University of Georgia:
Molecular Lab Techniques (3 Semesters)
Human Anatomy & Physiology (3 Semesters)
Cellular Biology (1 Semester)

Course Development:

- ECOL 4430/6430 Ecological Developmental Biology & Ecotoxicology
- FORS(ECOL) 8140 Professional Development in the Ecological Sciences
- ECOL 8990/FORS 8980 Advances in Ecological Research (SREL)

Guest Lectures:

- 2024** “Alligators inside out” — Swamp Ecology (BIOL 598), undergraduate course at the University of South Carolina-Aiken
- 2023** “Environmental Health Through and Ecological Lens” — Translational Science (CPTS501), graduate course at Emory University
- 2019 - 22 (5x)** “Environmental Developmental Biology: Causes and Consequences” — Developmental Biology, undergraduate course at UGA
- 2018** “Endocrine Disruptors and Emerging Contaminants” — Fundamentals of Ecotoxicology (FISH 8350), Graduate course at UGA
- 2018** “Alligators inside out” — Swamp Ecology (BIOL 598), undergraduate course at the University of South Carolina-Aiken
- 2014** “Environmental Epigenetics”— Genome Biology, graduate level course at the College of Charleston, SC.
- 2014** “The Biology of the Epigenome: a Primer” — Molecular Biology, undergraduate course at the College of Charleston, SC.

GRANTS & FELLOWSHIPS

- 2022 - 2023** “Assessing mechanisms of copper toxicity in aquatic organisms” (\$68,000) **National Nuclear Security Administration** (Co-PI with Dr. Olin Rhodes [PI])
- 2022 - 2024** “Integrating environment-by-epigenome interactions into a tractable model of epigenetic aging” (\$273,430) **NIH National Institute on Aging** R56AG078336-01 (PI)

- 2022 - 2024 “Non-lethal tools to estimate the ages and lifespans of Chondrichthyan fishes” (\$299,439; \$182,243 to UGA) **National Science Foundation** DEB 2232270 (Co-PI with Dr. Gavin Naylor, University of Florida)
- 2021 - 2024 “Initial characterization of per- and poly-fluoroalkyl substances on the Savannah River Site” (\$238,164) **Department of Energy** Cooperative Agreement (Co-PI with Dr Olin Rhodes [PI] and Dr. Xiaoyu Xu [Co-PI])
- 2021 - 2022 “Assessing mechanisms of copper toxicity in aquatic organisms” (\$68,000) **National Nuclear Security Administration** (Co-PI with Dr. Olin Rhodes [PI])
- 2021 - 2023 “Molecular level biodosimetry for national security: Proteomic, glycomic, epigenetic, and metabolic approaches for quantitative assessment of low dose radiation exposure” (\$146,250) **UGA Presidential Interdisciplinary Seed Grant Program** (Co-PI with Co-PIs Drs. Franklin Leach, Gene Rhodes, Michael Tiemeyer, and Lance Wells)
- 2020 - 2024 “Environmental and ecological determinants of epigenetic aging” (\$853,295) **National Science Foundation IOS** 2026210 (PI with Co-PI Dr. Kristen Navara, UGA)
- 2020 - 2022 “Sex ratios and frequency of sex reversal as indicators of population health in amphibian species inhabiting the Savannah River Site, South Carolina” (\$151,232) **Savannah River Nuclear Solutions**, Area Completion Projects (Co-PI with Dr. Stacey Lance and David Scott, UGA)
- 2019 - 2020 “Assessing effects of copper exposure in a fish model” (\$68,000) **National Nuclear Security Administration** (Co-PI with Dr. Olin Rhodes [PI])
- 2020 - 2022 “Public consumption risk and alligator mediated transport of contaminants: Assessing muscle contaminant levels and movement of alligators on and off the Savannah River Site” (\$157,396) **Savannah River Nuclear Solutions**, Area Completion Projects (Co-PI with Dr. Tracey Tuberville, UGA)
- 2019 - 2020 “Forest Health Metrics: DNA methylation age predictors in Loblolly pine” (\$19,098) **United States Department of Agriculture Forest Service** (PI)
- 2019 “Developing open-source materials for high-enrollment courses” (\$4,800) **Affordable Learning Georgia Program** (Co-PI with Drs. Jasmine Forde [PI] and Amanda Rugenski [Co-PI])
- 2018 - 2019 “H-02 Constructed wetland studies—Assessing effects of copper exposure in model fish and insect species” (\$60,000) **National Nuclear Security Administration** (Co-PI with Drs. Olin Rhodes [PI] and Guha Dharmarajan [Co-PI])
- 2018 - 2023 “Adaptive and disruptive epigenome-by-environment dynamics: molecular mechanisms to ecological impacts” (\$571,839) **National Science Foundation IOS** 1754903 (PI)
- 2017 - 2019 “Genetic variation and population structure in coastal and inland populations of *Alligator mississippiensis* in South Carolina” (\$74,020) **The Yawkey Foundation** (Co-PI with Dr. Stacey Lance)
- 2017 - 2018 “Assessing modern day health risks stemming from historical dioxin contamination” (\$12,200) **South Carolina Department of Health and Environmental Control** (Co-PI with Matthew Hale)
- 2016 - 2017 “Lipidomic profile and contaminants associated with pansteatitis in South Africa” (\$19,475) Center for Global Health, **Medical University of South Carolina** (Co-I with Dr. John Bowden)
- 2015 - 2017 “Ecotoxicology of the American alligator” (\$10,000) **Kiawah Conservancy** (Co-I with Drs. Louis Guillette and Thomas Rainwater)
- 2014 - 2015 “Multiyear mating dynamics and population genetics in a coastal population of *Alligator mississippiensis*” (\$15,000) **Yawkey Foundation** (co-PI with Drs. Louis Guillette, Thomas Rainwater, and Stacey Lance)
- 2009 - 2011 Predoctoral Fellowship, **The American Foundation for Aging Research**

PUBLICATIONS

Graduate students, postdoctoral researchers, and undergraduate students in the Parrott Lab are underlined.

Journal articles

2024

1. Kojima LV, Kohl M, Rainwater TR, **Parrott BB**, Tuberville T. Environmental contaminant bioaccumulation is associated with movement behavior in a long-lived apex predator. 2024. *Science of the Total Environment In Press*

2. Smaga CR, Bock SL, Johnson JM, Rainwater TR, Singh R, Deem V, Letter A, Brunell A, **Parrott BB**. The influence of incubation temperature on offspring traits varies across northern and southern populations of the American alligator (*Alligator mississippiensis*). **2024. *Ecology & Evolution In Press***
3. Bertucci-Richter EM, Shealy EP, **Parrott BB**. Age related disorder in DNA methylation patterns underlies epigenetic clock signals, but displays distinct responses to epigenetic rejuvenation events. **2024. *Aging In Press***
4. Cochran JP, Zhang L, **Parrott BB**, Seaman JC. Plasmid size determines adsorption to clay and breakthrough in a saturated sand column. **2024. *Heliyon* 10(9):e29679**

2023

5. Bertucci-Richter EM, **Parrott BB**. The rate of epigenetic drift scales with maximum lifespan across mammals. **2023. *Nature Communications* 14:7731**
6. Bock SL, Loera Y, Johnson JM, Smaga CR, Haskins DL, Tuberville TD, Singh R, Rainwater TR, Wilkinson PM, **Parrott BB**. Differential early-life survival contributes to the adaptive significance of temperature-dependent sex determination in a long-lived reptile. **2023. *Functional Ecology In Press***
7. Johnson JM, Bock SL, Smaga CR, **Parrott BB**. Maternal provisioning interacts with incubation temperature to affect hatchling mercury exposure in an oviparous reptile. **2023. *Biology Letters* 19:20230097**
8. Rogerson G, Bock SL, Loera Y, **Parrott BB**, Mulley J. Incubation temperature alters stripe formation and head colouration in American alligator hatchlings and is unaffected by E2-induced sex reversal. **2023. *Journal of Experimental Biology* 226:1-6**
9. Johnson JM, Bock SL, Smaga CR, Lambert MR, Rainwater TR, Wilkinson PM, **Parrott BB**. Relationships between maternally-transferred mercury and hatchling development, behavior, and survival in the American alligator (*Alligator mississippiensis*). **2023. *Science of the Total Environment* 870:162010**
10. Gardner S, Bertucci EM, Sutton R, Horcher A, Aubrey D, **Parrott BB**. Development of DNA methylation-based epigenetic age predictors in Loblolly pine (*Pinus taeda*). **2023. *Molecular Ecology Resources* 23(1):131-144**

2022

11. Kojima LV, Tuberville TD, **Parrott BB**. Integrating mercury concentrations in American alligators (*Alligator mississippiensis*) with hunter consumption surveys to estimate exposure risk. **2022. *Environmental Toxicology & Chemistry* 43(2):525-534**
12. Mason MW, **Parrott BB**. Acute copper toxicity displays a non-monotonic relationship with age across the medaka (*Oryzias latipes*) lifespan. **2022. *Environmental Toxicology & Chemistry* 41(12):2999-3006**
13. Bock SL, Smaga CR, McCoy JA, **Parrott BB**. Genome-wide DNA methylation patterns harbor signatures of hatchling sex and past incubation temperature in a species with environmental sex determination. **2022. *Molecular Ecology* 31(21):5487-5505**
14. Hale MD, Koal T, Hai Pham T, Bowden JA, **Parrott BB**. Transcriptional networks underlying a primary ovarian insufficiency disorder in alligators naturally exposed to EDCs. **2022. *Molecular and Cellular Endocrinology* 557:111751-111751**
15. Smaga CR, Bock SL, Johnson JM, **Parrott BB**. Sex determination and ovarian development in reptiles and amphibians: From genetic pathways to environmental influences. **2022. *Sexual Development*. 1-21**
doi.org/10.1159/000526009
16. Bailey A, Rainwater TR, Lowers RH, **Parrott BB**, Wilkinson PM, Bowden JA, Rice C. Quantifying circulating IgY antibody responses against select opportunistic bacterial pathogens and correlations with body condition

factors in wild American alligators, *Alligator mississippiensis*. 2022. *Biology* 11(2):269 DOI: [10.3390/biology11020269](https://doi.org/10.3390/biology11020269)

17. Mason MW, Bertucci EM, Leri FM, **Parrott BB**. Transient copper exposure during embryogenesis and temperature affects developmental rate, survival, and fin regeneration in Japanese medaka (*Oryzias latipes*). 2022. *Environmental Toxicology and Chemistry* 41:748-757 DOI: [10.1002/etc.5276](https://doi.org/10.1002/etc.5276)

2021

18. Bertucci EM, Mason MW, Rhodes OE, **Parrott BB**. Exposure to ionizing radiation disrupts normal epigenetic aging in Japanese medaka. 2021. *Aging* 13(19):22752-22771 DOI: [10.18632/aging.203624](https://doi.org/10.18632/aging.203624)
19. Bae J, Bertucci EM, Bock SL, Hale MD, Moore J, Wilkinson PM, Rainwater TR, Bowden JA, Koal T, PhamTuan H, **Parrott BB**. Intrinsic and extrinsic factors interact during development to influence telomere length in a long-lived reptile. 2021. *Molecular Ecology* 00:1-14 DOI: [10.1111/mec.16017](https://doi.org/10.1111/mec.16017)
20. Bock SL, Hale MD, Rainwater TR, Wilkinson PM, **Parrott BB**. Incubation temperature and maternal resource provisioning, but not contaminant exposure, shape hatchling phenotypes in a species with temperature-dependent sex determination. 2021. *The Biological Bulletin* 241:43-54
21. LaVere AA, Hamlin HJ, Lowers RH, **Parrott BB**, Ezenwa VO. Associations between testosterone and immune activity in alligators depend on bacteria species and temperature. 2021. *Functional Ecology* 35:1018-1027

2020

22. Botha H, Rainwater TR, Lowers RH, **Parrott BB**, Bowden JA, Guillette M, Guillette LJ. *Crocodylus niloticus* (Nile crocodile). Growth and movement. 2020. *Herpetological Review* 51(4):840-841
23. Hale MD, **Parrott BB**. Precocious estrogen signals underlie altered ovarian function in a model of environmental health. 2020. *Environmental Health Perspectives* 128(11):117003 [<https://doi.org/10.1289/EHP6627>]
24. Bock SL, Hale MD, Leri FM, Wilkinson PM, Rainwater TR, **Parrott BB**. Post-transcriptional mechanisms respond rapidly to ecologically relevant thermal fluctuations during temperature-dependent sex determination. 2020. *Integrative Organismal Biology* 2(1):033, [<https://doi.org/10.1093/iob/obaa033>]
25. Boylan SM, **Parrott BB**, Lowers RH, Platt SG, Mazzotti FJ, Rainwater TR. *Crocodylus moreletii* (Morelet's crocodile). Adult mortality. 2020. *Herpetological Review* 51(3):587-588
26. Rainwater TR, Griess J, Murphy TM, Boylan SM, **Parrott BB**, Kohno S, Rainwater KAE, Richards SM, Guillette M, Mills T, Platt SG, Wilkinson PM, Guillette LJ. Leucistic American alligator hatchlings in coastal South Carolina. 2020. *Southeastern Naturalist* 19(4):62-72
27. Bertucci EM, **Parrott BB**. Is CpG density the link between epigenetic aging and lifespan? 2020. *Trends in Genetics* 36(10): 725-727 [<https://doi.org/10.1016/j.tig.2020.06.003>]
28. Rhodes OE [and 52 others including **Parrott BB**]. Integration of ecosystem science into radioecology: a consensus perspective. 2020. *Science of the Total Environment* 740:140031 [<https://doi.org/10.1016/j.scitotenv.2020.140031>]
29. Bertucci EM, Mason MW, Camus A, Rhodes OE, **Parrott BB**. Chronic low dose irradiation alters the hepatic transcriptome, but not the global DNA methylome in medaka (*Oryzias latipes*). 2020. *Science of the Total Environment* 729:138680
30. Bock SL, Lowers RH, Rainwater TR, Stolen E, Drake JM, Wilkinson PM, Weiss S, Back B, Guillette Jr. LJ, **Parrott BB**. Ecological drivers of nest temperature variation in the American alligator: implications of future

environmental change for a species with temperature-dependent sex determination. 2020. *Proceedings of the Royal Society B* 287:20200210 [<http://dx.doi.org/10.1098/rspb.2020.0210>]

31. Rashid DJ, Bradley R, Bailleul AM, Surya K, Woodward HN, Wu P, Wu YH, Menke DB, Minchey SG, **Parrott BB**, **Bock SL**, Merzdorf C, Narotzky E, Burke N, Horner JR, Chapman SC. Distal spinal nerve development and divergence of avian groups. 2020. *Scientific Reports* 10:6304 [<https://doi.org/10.1038/s41598-020-63264-5>]
32. Malpe M, McSwain L, Ng C, Kudyba K, Nicholson J, Brady M, Choksi V, Hudson A, **Parrott BB**, Schulz C. G-protein signaling is required for increasing germline stem cell division frequency in response to mating in *Drosophila* males. 2020. *Scientific Reports* 10:3888 [<https://doi.org/10.1038/s41598-020-60807-8>]

2019

33. Zajdel JL, Lance SL, Rainwater TR, Wilkinson PM, Hale MD, **Parrott BB**. Mating dynamics and multiple paternity in a long-lived vertebrate. 2019. *Ecology and Evolution* 9: 10109-10121 [<https://doi.org/10.1002/ece3.5438>]
34. **Parrott BB**, Bertucci EM. Epigenetic aging clocks in ecology and evolution. 2019. *Trends in Ecology and Evolution* 34(9):767-770. [<https://doi.org/10.1016/j.tree.2019.06.008>]
35. Hale MD, Bertucci EM, Rainwater TR, Wilkinson PM, **Parrott BB**. The impact of maternally derived dioxins on embryonic development and hepatic AhR signaling in a long-lived apex predator. 2019. *Chemosphere* 229: 489-499. [<https://doi.org/10.1016/j.chemosphere.2019.04.187>]

2018

36. Galligan TM, Hale MD, McCoy JA, Bermudez DS, Guillette LJ Jr, **Parrott BB**. Assessing impacts of precocious steroid exposure on thyroid physiology and gene expression programs in the American alligator (*Alligator mississippiensis*). 2018. *General and Comparative Endocrinology* 271:61-72 [<https://doi.org/10.1016/j.ygcen.2018.11.002>]
37. Hale MD, McCoy JA, Doheny BM, Galligan TM, Guillette LJ Jr, **Parrott BB**. Embryonic estrogen exposure recapitulates persistent ovarian transcriptional programs in a model of environmental endocrine disruption. 2018. *Biology of Reproduction* 100:149-161 [doi.org/10.1093/biolre/i0y165]

2017

38. Hale MD, Galligan TM, Rainwater TR, Moore BC, Wilkinson PM, Guillette LJ Jr, and **Parrott BB**. The AhR signaling pathway in the American alligator links historic exposures to modern day effects on offspring development. 2017. *Environmental Pollution* 230: 1050-1061 [doi.org/10.1016/j.envpol.2017.07.065]
39. McCoy JA, Bangma J, Reiner JL, Schnorr J, Slowey MJ, O'Leary T, Guillette LJ Jr, and **Parrott BB**. Concentrations of perfluorinated contaminants in follicular fluid are negatively associated with ovarian sensitivity to gonadotropin stimulation in women undergoing treatment for infertility. 2017. *Science of the Total Environment* 605: 9-17 [doi.org/10.1016/j.scitotenv.2017.06.137]
40. Tipton JJ, Guillette LJ, Lovelace S, **Parrott BB**, Rainwater TR, Reiner JL. Analysis of PFAAs in American alligators: Potential dietary exposure of South Carolina hunters from recreationally harvested alligator meat. 2017. *Journal of Environmental Sciences* 61:24-30 [<https://doi.org/10.1016/j.jes.2017.05.045>]
41. Tipton JJ, Guillette LJ, Lovelace S, **Parrott BB**, Rainwater TR, Reiner JL. Concentrations of PFAAs in alligators harvested for consumption during South Carolina public hunts. 2017. *Journal of Environmental Sciences* 61:31-38 [<https://doi.org/10.1016/j.jes.2017.05.046>]

2016

42. McCoy JA, Hamlin HJ, Thayer L, Guillette LJ Jr, **Parrott BB**. The influence of thermal signals during embryonic development on intrasexual and sexually dimorphic gene expression and circulating steroid hormones in American alligator hatchlings (*Alligator mississippiensis*). **2016. *General and Comparative Endocrinology* 238: 47-54** [<http://dx.doi.org/10.1016/j.ygcn.2016.04.011>]
43. Guillette LJ Jr, **Parrott BB**, Nilsson E, Haque MM, Skinner MK. Epigenetic alterations in alligators from environmentally contaminated lakes. **2016. *General and Comparative Endocrinology* 238: 4-12** [<http://dx.doi.org/10.1016/j.ygcn.2016.04.012>]
44. Doheny BM, Kohno S, **Parrott BB**, Guillette LJ Jr. *In ovo* treatment with an estrogen receptor alpha selective agonist causes precocious development of the female reproductive tract of the American alligator (*Alligator mississippiensis*). **2016. *General and Comparative Endocrinology* 238: 96-104** [<http://dx.doi.org/10.1016/j.ygcn.2016.02.026>]
45. Yatsu R, Miyagawa S, Kohno S, **Parrott BB**, Yamaguchi K, Miyakawa H, Shigenobu S, Guillette LJ, Iguchi T. RNA-seq analysis of the gonadal transcriptome during *Alligator mississippiensis* temperature-dependent sex determination and differentiation. **2016. *BMC Genomics* 17:77** [[DOI: 10.1186/s12864-016-2396-9](https://doi.org/10.1186/s12864-016-2396-9)]
46. Nilsen FM*, **Parrott BB***, Bowden JA*, Kassim BL, Somerville SE, Bryan TA, Bryan CE, Lange TR, Delaney JP, Brunell AM, Long SE, Guillette LJ Jr. Global DNA methylation loss associated with mercury contamination and aging in the American alligator (*Alligator mississippiensis*). **2016. *Science of the Total Environment* 545-546: 389-397** [[doi:10.1016/j.scitotenv.2015.12.059](https://doi.org/10.1016/j.scitotenv.2015.12.059)] *Denotes equal contribution of authors

Prior to 2016

47. McCoy JA*, **Parrott BB***, Rainwater TR, Wilkinson PM, and Guillette LJ Jr. Incubation prior to the canonical thermosensitive period determines sex in the American alligator. **2015. *Reproduction* 150(4): 279-87** [<https://doi.org/10.1530/rep-15-0155>] *Denotes equal contribution of authors
48. Kohno S, **Parrott BB**, Yatsu R, Miyagawa S, Moore BC, Iguchi T, Guillette LJ, Jr. Gonadal Differentiation in Reptiles Exhibiting Environmental Sex Determination. **2014. *Sexual Development* 8: 208-226** [[DOI: 10.1159/000358892](https://doi.org/10.1159/000358892)]
49. **Parrott BB**, Bowden JA, Kohno S, Cloy-McCoy JA, Hale MD, Bangma JT, Rainwater TR, Wilkinson PM, Kucklick JR, Guillette LJ Jr. Influence of tissue, age, and environmental quality on DNA methylation in *Alligator mississippiensis*. **2014. *Reproduction* 147(4): 503-14.** [<https://doi.org/10.1530/rep-13-0498>]
50. **Parrott BB**, Kohno S, Cloy-McCoy JA, Guillette LJ Jr. Differential Incubation Temperatures Result in Dimorphic DNA Methylation Patterning of the *SOX9* and *Aromatase* Promoters in Gonads of Alligator (*Alligator mississippiensis*) Embryos. **2013. *Biology of Reproduction* 90(1):2.** [<https://doi.org/10.1095/biolreprod.113.111468>]
51. Hudson A, **Parrott BB**, Qian Y, Schulz, C. A Temporal Signature of Epidermal Growth Factor Signaling Regulates the Differentiation of Germline Cells in Testes of *Drosophila melanogaster*. **2013. *PLoS One* 8(8): e70678.** [<https://doi.org/10.1371/journal.pone.0070678>]
52. **Parrott BB**, Hudson A, Brady R, Schulz C. Control of Germline Stem Cell Division Frequency—A Novel, Developmentally Regulated Role for Epidermal Growth Factor Signaling. **2012. *PLoS One* 7(5): e36460.** [<https://doi.org/10.1371/journal.pone.0036460>]
53. **Parrott BB**, Chiang Y, Hudson A, Sarkar A, Guiche A, Schulz C. *Nucleoporin98-96* Function is Required for Transit Amplification Divisions in the Germ Line of *Drosophila melanogaster*. **2011. *PLoS One* 6(9): e25087.** [<https://doi.org/10.1371/journal.pone.0025087>]

54. Gubbels MJ, Lehman M, Muthalagi M, Jerome ME, Brooks CF, Szatanek T, Flynn J, **Parrott BB**, Radke J, Striepen B, White MW. Forward Genetic Analysis of the Apicomplexan Cell Division Cycle in *Toxoplasma gondii*. **2009**. *PLoS Pathogens* 4(2): e36. [<https://doi.org/10.1371/journal.ppat.0040036>]

Chapters in books

1. Hale MD, Cloy-McCoy JA, Doheny BM, and Parrott BB. Reproductive Biology of Crocodylians. 2018. In M. K. Skinner (Ed.), *Encyclopedia of Reproduction*. vol. 6, pp. 646–653. Academic Press: Elsevier. (doi.org/10.1016/B978-0-12-809633-8.20612-2)

PRESENTATIONS, POSTERS, WORKSHOPS & INVITED TALKS

Invited Seminars:

1. March 31, **2023**. Department of Biological Sciences, Mississippi State University, Starkville, MS
2. March 3, **2023**. Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC
3. September 29, **2022**. Department of Ecology, Evolution, & Organismal Biology, Kennesaw State University, Virtual
4. October 21, **2021**. School of Biological Sciences Seminar Series, Weigel Seminar- Graduate Student Organization invited speaker, Illinois State University, Normal, IL
5. April 20, **2021**. Eugene Odum School of Ecology Seminar Series, Athens, GA
6. November 20, **2020**. Aging Working Group. University of Georgia, Athens, GA
7. February 25, **2020**. Jekyll Island Authority Conservation and Georgia Sea Turtle Center Seminar Series, Jekyll Island, GA
8. January 24, **2020**. Department of Biology and Marine Biology Seminar Series, University of North Carolina—Wilmington, Wilmington, NC
9. January 14, **2020**. Department of Physiological Sciences Seminar Series, University of Florida, Gainesville, FL
10. August 28, **2019**. Interdisciplinary Conservation Seminar Series, University of Georgia, Athens, GA
11. April 24, **2019**. Department of Cellular Biology Seminar Series, University of Georgia. Athens, GA
12. March 29, **2019**. Department of Biology Seminar Series, University of South Carolina- Aiken. Aiken, SC
13. June 13, **2018**. NSF REU Seminar Series, Savannah River Ecology Laboratory. Aiken, SC
14. March 21, **2018**. Department of Biology Seminar Series, Tennessee Tech University. Cookeville, TN
15. December 2, **2016**. Sewanee: The University of the South. Sewanee, TN
16. November 4, **2013**. College of Charleston Department of Biology Seminar Series; Charleston, SC

Invited Conference Talks:

1. June 22, **2022**. Gordon Conference on Endocrine Disrupting Compounds, Newry, ME, USA
2. May 27, **2019**. North American Society for Comparative Endocrinology Conference, Gainesville, FL, USA
3. June 9, **2017**. 18th International Congress of Comparative Endocrinology; Lake Louise, Alberta, Canada
4. November 8, **2016**. Society for Environmental Toxicology and Chemistry; Orlando, FL, USA
5. January 23, **2014**. South Carolina Crocodylian Research Workshop; Hollings Marine Laboratory, Charleston, SC
6. October 8, **2010**. American Foundation for Aging Research and GlaxoSmithCline Bicentennial Symposium on the Biology of Aging; North Carolina Biotechnology Center, Research Triangle Park, NC, USA

Contributed Conference Talks:

Presenting author is underlined.

1. Bock SL, Lyons K, Yang L, Wyffels J, Naylor GJP, Parrott BB. 2024. Joint Meeting of Ichthyologists and Herpetologists. Pittsburgh, PA
2. Parrott BB, Bickle AB, Shealy EP, Smaga CR. **2024**. 27th Proceedings of the IUCN Crocodylian Specialist Group. Darwin, Australia

3. Smaga CR, Rainwater TR, Wilkinson P, Randeep S, Bock S, Parrott BB. **2024**. 27th Proceedings of the IUCN Crocodylian Specialist Group. Darwin, Australia
4. Bock SL, Lyons K, Yang L, Wyffles J, Naylor G, Parrott BB. **2024**. Society for Integrative and Comparative Biology. Seattle, WA
5. Shealy EP, Reedy A, Schwartz T, Cox R, Parrott BB. **2024**. Society for Integrative and Comparative Biology. Seattle, WA
6. Smaga CR, Bock SL, Breitenbach A, Parrott BB. **2024**. Society for Integrative and Comparative Biology. Seattle, WA
7. Parrott BB, Shealy EP, Bock SL, Smaga CR, Bickle AB. **2023**. 5th Palmetto Alligator Research and Management Symposium. Georgetown, SC
8. Smaga CR, Bock SL, Rainwater TR, Parrott BB. **2023**. 5th Palmetto Alligator Research and Management Symposium. Georgetown, SC
9. Shealy EP, Reedy AM, Schwartz TS, Cox RM, Parrott BB. **2023**. Southeastern Population Ecology and Evolutionary Genetics Annual Meeting. Pembroke, VA
10. Shealy EP, Parrott BB. **2023**. South Carolina Partners for Amphibian and Reptile Conservation Annual Meeting. Florence, SC
11. Bickle AB, Mason MW, Parrott BB. **2023**. Southeastern Population Ecology and Evolutionary Genetics Annual Meeting. Pembroke, VA
12. Pagano V, Parrott BB. **2023**. Center for Undergraduate Research Opportunities (CURO) Symposium. Athens, GA
13. Parrott BB, Bertucci EM. **2023**. Society of Integrative and Comparative Biology. Austin, TX
14. Bock SL, Loera Y, Johnson JM, Smaga CR, Bae J, Haskins DL, Tuberville T, Singh R, Rainwater TR, Wilkinson PM, Parrott BB. **2023**. Society of Integrative and Comparative Biology. Austin, TX
15. Smaga CR, Bock SL, Hale MD, Parrott BB. Society of Integrative and Comparative Biology. Austin, TX
16. Shealy EP, Parrott BB. **2022**. South Carolina Partners for Amphibian and Reptile Conservation Annual Meeting. Florence, SC
17. Johnson JM, Bock SL, Smaga CR, Parrott BB. **2022**. Joint Meeting of Ichthyologists and Herpetologists. Spokane, WA
18. Parrott BB. **2022**. IUCN Crocodylian Specialist Group Meeting. Chetumal, Mexico
19. Kojima LV, Parrott BB, Tuberville T. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC
20. Zemaitis K, Byers JE, Parrott BB. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC.
21. Johnson JM, Bock SL, Parrott BB. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC.
22. Bock SL, Johnson JM, Rainwater TR, Wilkinson PM, Parrott BB. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC.
23. Kojima LV, Tuberville T, Parrott BB. **2021**. Southeastern Partners in Reptile and Amphibian Conservation
24. Bertucci EM, Bock SL, Bae J, Wilkinson PM, Bowden JA, PhamTuan H, Moore J, Hale MD, Rainwater TR, Koal T, Parrott BB. **2021**. Society for Integrative and Comparative Biology Annual Meeting, Virtual
25. Smaga CR, Hale MD, Bock SL, Parrott BB. **2021**. Odum School of Ecology Graduate Student Symposium, Athens, GA
26. Kojima LV, Tuberville T, Parrot BB. **2020**. South Carolina Partners for Amphibian and Reptile Conservation, Virtual
27. Bock SL, Parrott BB. **2020**. Odum School of Ecology Graduate Student Symposium, Athens, GA
28. Bertucci EM, Parrott BB. **2020**. Odum School of Ecology Graduate Student Symposium, Athens, GA
29. Bock SL, Lowers RH, Rainwater TR, Hale MD, Leri FM, Parrott BB. **2020**. Society for Integrative and Comparative Biology Annual Meeting. Austin, TX
30. Bertucci EM, Parrott BB. **2020**. Society for Integrative and Comparative Biology Annual Meeting. Austin, TX
31. Hale MD, Parrott BB. **2019**. Palmetto Alligator Research and Management Symposium. Georgetown, SC
32. Bock SL, Lowers RH, Rainwater TR, Stolen E, Drake JM, Wilkinson PM, Weiss S, Guillette LJ, Parrott BB. **2019**. Palmetto Alligator Research and Management Symposium. Georgetown, SC

33. Bock SL, Lowers RH, Rainwater TR, Stolen E, Drake JM, Wilkinson PM, Weiss S, Guillette LJ, Parrott BB. **2019**. Odum School of Ecology Graduate Student Symposium. Athens, GA
34. Bertucci EM, Parrott BB. **2019**. Odum School of Ecology Graduate Student Symposium, Athens, GA
35. Bock SL, Lowers RH, Rainwater TR, Hale MD, Parrott BB. **2019**. Society for Integrative and Comparative Biology Annual Meeting. Tampa, FL
36. Hale MD, McCoy JA, Doheny BM, Galligan TM, Parrott BB. **2019**. Society for Integrative and Comparative Biology Annual Meeting. Tampa, FL
37. Bock SL, Parrott BB. **2018**. Odum School of Ecology Graduate Student Symposium. Athens, GA
38. Hale MD, Galligan T, Parrott BB. **2018**. Odum School of Ecology Graduate Student Symposium. Athens, GA
39. Topolski CR, Mason MW, Bertucci EM, Rhodes OE, Parrott BB. **2017**. Savannah River Ecology Laboratory NSF REU Symposium. Savannah River Ecology Laboratory, Aiken, SC
40. Hale MD*, Galligan T, Bangma J, Doheny B, Cloy-McCoy J, Nilsen F, Guillette LJ, Parrott BB. **2017**. Southeast Regional Society for Developmental Biology Meeting; Kennesaw State University, Kennesaw, GA *Was awarded best graduate student oral presentation.
41. Hale MD, Galligan T, Bangma J, Doheny B, Cloy-McCoy J, Nilsen F, Guillette LJ, Parrott BB. **2017**. University of Georgia Integrative Research and Ideas Symposium; Athens, GA
42. Parrott BB and Guillette LJ, Jr. **2016**. IUCN/SSC Crocodylian Specialist Group; Skukuza, South Africa
43. Lance SL, Rainwater TR, Wilkinson PM, Parrott BB. **2016**. IUCN/SSC Crocodylian Specialist Group; Skukuza, South Africa
44. Nilsen E, Kassim B, Rainwater TR, Wilkinson PM, Guillette M, Mader K, Carter C, Delaney P, Lowers R, Parrott B, McCoy J, Lange T, Brunell A, Long S, Guillette LJ. **2016**. Palmetto Alligator Research and Management Symposium, Clemson University Baruch Institute of Coastal Ecology and Forest Science, Georgetown, SC,
45. Hale MD, Galligan TM, Guillette LJ Jr., Parrott BB. **2016**. Palmetto Alligator Research and Management Symposium, Clemson University Baruch Institute of Coastal Ecology and Forest Science, Georgetown, SC
46. Lance S, Parrott B, O'Bryhim J, Rainwater T, Wilkinson P, Guillette LJ. **2016**. Palmetto Alligator Research and Management Symposium, Clemson University Baruch Institute of Coastal Ecology and Forest Science, Georgetown, SC
47. Hale MD, Parrott BB, Bowden JA, and Guillette, LJ, Jr. **2012**. Maryville College Natural Sciences Symposium; Maryville, TN
48. Parrott BB and Schulz C. **2010**. Cellular Biology Annual Retreat; Flinchem's Phoenix, Athens, GA
49. Parrott BB, Chiang Y, Hudson A, Sarkar A, Guiche A, Schulz C. **2009**. Southeastern Regional Society for Developmental Biology Annual Conference; University of Alabama at Birmingham, Birmingham, AL
50. Parrott BB and Shen P. **2007**. Drosophila Research Conference; Philadelphia Marriott, Philadelphia, PA
51. Parrott BB and Bailey JC. **2005**. Southeastern Ecology and Evolution Conference; University of Georgia, Athens, GA

Contributed Poster Presentations:

Presenting author is underlined.

1. Bickle AB, Parrott BB. **2024**. Society for Integrative and Comparative Biology. Seattle, WA
2. Kojima LV, Kohl M, Parrott BB, Tuberville TD. **2023**. Gordon Conference on Movement Ecology of Animals. Italy
3. Pagano V, Bock SL, Johnson JM, Parrott BB. **2023**. Odum School of Ecology Graduate Student Symposium. Athens, GA
4. Shealy EP, Parrott BB. **2023**. UGA Interdisciplinary Toxicology Program Workshop. Athens, GA
5. Bock SL, Smaga CR, Hale MD, Parrott BB. **2023**. Society of Integrative and Comparative Biology. Austin, TX
6. Buford-Rucker K, Smaga CR, Paitz R, Parrott BB. **2023**. Society of Integrative and Comparative Biology. Austin, TX
7. Kojima LV, Tuberville T, Parrott BB. **2022**. IUCN Crocodylian Specialist Group, Chetumal, Mexico.
8. Smaga CR, Parrott BB. **2022**. Aquatic Models of Human Disease, Woods Hole, MA.

9. Bock SL, Smaga CR, McCoy JA, Parrott BB. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC.
10. Smaga CR, Bock SL, Deem V, Brunnel A, Rainwater TR, Wilkinson PM, Parrott BB. **2022**. Palmetto Alligator Research and Management Symposium, Georgetown, SC.
11. Moore J*, Bertucci EM, Bock SL, Bae J, Parrott BB. **2021**. Society for Integrative and Comparative Biology, Virtual. *Awarded the DEE Best Student Poster Huey Award
12. Bae J, Bertucci EM, Moore JA, Bock SL, Rainwater TR, Hale MD, Parrott BB. **2020**. Society for Integrative and Comparative Biology Annual Meeting. Austin, TX
13. Bertucci EM, Parrott BB. **2019**. Nathan Shock Center of Excellence in the Basic Biology of Aging Symposium. Birmingham, AL
14. Bock SL, Lowers RH, Rainwater TR, Hale MD, Parrott BB. **2019**. North American Society for Comparative Endocrinology Conference. Gainesville, FL
15. Thompson W, Parrott BB, Lance SL. **2019**. Interdisciplinary Toxicology Program Annual Workshop. Athens, GA
16. Bertucci EM, Mason MW, Rhodes OE, Parrott BB. **2019**. Society for Integrative and Comparative Biology Annual Meeting. Tampa, FL
17. Wayne, K, Hale MD, Parrott BB, Moore BM. **2018**. IUCN/SSC Crocodylian Specialist Group Meeting. Santa Fe, Argentina
18. Hale MD and Parrott BB. **2018**. Eighth International Symposium on Vertebrate Sex Determination. Kona, HI
19. Wayne, K, Hale MD, Parrott BB, Moore BM. **2018**. Scholarship Sewanee 2018. Sewanee: The University of the South, Sewanee TN
20. Topolski CR, Mason MW, Bertucci EM, Rhodes OE, Parrott BB. **2017**. University of South Carolina Summer Research Symposium; University of South Carolina, Columbia, SC
21. Hale MD, McCoy JA, Parrott BB. **2017**. Society for Developmental Biology Conference; Minneapolis, MN
22. Hale MD, McCoy JA, Parrott BB. **2017**. 18th International Congress of Comparative Endocrinology; Lake Louise, Alberta, Canada
23. Zajdel JJ, Lance SL, Rainwater TR, Wilkinson PM, Parrott BB. **2017**. Society for Integrative and Comparative Biology Annual Conference; New Orleans, LA
24. Hale MD, McCoy JA, O'Connell N, Galligan T, Nilsen F, Bangma J, Guillette, L, Parrott BB. **2016**. Society for Environmental Toxicology and Chemistry; Orlando, FL
25. Hale MD, McCoy JA, O'Connell N, Galligan T, Nilsen F, Bangma J, Guillette L, Parrott BB. **2016**. Gordon Conference on Environmental Endocrine Disruptors; Newry, ME
26. Hale MD, McCoy JA, O'Connell N, Galligan T, Nilsen F, Bangma J, Guillette L, Parrott BB. **2016**. Southeastern Regional Meeting Society of Developmental Biology; Whitney Marine Laboratory, Flagler Beach, Florida
27. Nilsen FM, Parrott BB, Bowden JA, Rainwater TR, Guillette M, Wilkinson PM, Lange TR, Brunell AM, Long SE, Guillette LJ. **2015**. 36th annual meeting of the Society for Environmental Toxicology and Chemistry. Salt Lake City, UT
28. Parrott BB, Doheny B, Guillette LJ, Jr. **2015**. Epigenetics in Development, Aging, and Disease; University of North Carolina-Chapel Hill, Chapel Hill, NC
29. Hale MD, Parrott BB, Galligan TM, Bowden JA, Guillette LJ Jr. **2015**. Epigenetics in Development, Aging, and Disease; University of North Carolina-Chapel Hill, Chapel Hill, NC
30. Parrott BB, Doheny B, Guillette LJ, Jr. **2015**. Southeast Regional Meeting, Society for Developmental Biology; Clemson University, Clemson, SC *Best PostDoc Poster, Travel Award to national SDB meeting.
31. Cloy-McCoy JA, Parrott BB, Guillette LJ, Jr. **2014**. MUSC Biomedicine and Environmental Science Research Day; Charleston, SC
32. Hale MD, Parrott BB, Galligan TM, Guillette LJ. **2014**. MUSC Biomedicine and Environmental Science Research Day; Charleston, SC
33. Parrott BB, Kohno S, Cloy-McCoy JA, Guillette LJ, Jr. **2014**. Society for Integrative and Comparative Biology; Hilton Austin, Austin, TX
34. Cloy-McCoy JA, Parrott BB, Guillette LJ, Jr. **2014**. Society for Integrative and Comparative Biology; Hilton Austin, Austin, TX

35. Parrott BB, Hudson A, Schulz C. **2012**. Society for Integrative and Comparative Biology; Charleston Area Convention Center, Charleston SC
36. Parrott BB, Hudson A, Brady R, Schulz C. **2011**. Drosophila Research Conference; Town and Country Resort, San Diego, CA
37. Parrott BB and Schulz C. **2010**. Southeastern Regional Society for Developmental Biology Annual Conference; University of Georgia, Athens, GA