

# Sofia Carrera

scarrera@umich.edu

University of Michigan | Department of Psychology | Ann Arbor, MI 48109

## Education

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2016 - present	<b>PhD Candidate</b> , Biopsychology, University of Michigan Advisor: Jacinta Beehner Committee: Amy Lu, Ben Dantzer, Andrew Marshall, Eduardo Villamor <u>Dissertation</u> : “Early-life adversity: Maternal effects in a wild primate”
2018	<b>MS</b> , Psychology, University of Michigan
2015	<b>BS with distinction</b> , Ecology and Evolutionary Biology, Yale University Advisor: Richard Bribiescas <u>Thesis</u> : “Diurnal variation of testosterone in wild adult male owl monkeys of Formosa, Argentina”
2014	<b>Organization for Tropical Studies, Duke University</b> Study abroad program in South Africa – Field Biology

## Fellowships

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2016 - 2021	<b>NSF Graduate Research Fellowship Program (GRFP)</b>
2014	<b>NSF International Research Experience for Students (IRES)</b>
2013	<b>Yale University</b> , Thomas C. Barry Travel Fellowship

## Grants and Awards

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2020	<b>NSF DDRIG – Biological Anthropology</b> , Research Grant (\$23,646)
2019	<b>Leakey Foundation</b> , Research Grant (\$14,910)
2019	<b>University of Michigan</b> , Leonard Small Award (\$7,200)
2019	<b>University of Michigan – Psychology</b> , Pillsbury Graduate Research Award (\$1,000)
2019	<b>Animal Behavior Society</b> , Diversity Travel Award (\$145)
2018	<b>University of Michigan</b> , Rackham Professional Development Grant (\$400)
2018	<b>University of Michigan – African Studies Center</b> (\$2,000)
2017	<b>University of Michigan</b> , Rackham Graduate Student Research Grant (\$1,500)

## Field Experience

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2017 - present	<b>Simien Mountain Gelada Research Project, Ethiopia</b> – PIs: Jacinta Beehner & Thore Bergman PhD dissertation fieldwork on geladas
2015 - 2016	<b>Owl Monkey Project</b> – PI: Eduardo Fernandez-Duque Field research assistant for wild owl monkey behavioral endocrinology (Argentina) Research assistant for captive owl monkey olfactory communication and pair-bonding behavior (Bastrop, TX)
2014	<b>Organization for Tropical Studies, Kruger National Park, South Africa</b> NSF International Research Experience for Students (IRES) intern – Biodiversity analysis of small mammals in relation to elephant populations
2013	<b>Asociación Fauna Forever, Puerto Maldonado, Peru</b> – PI: Chris Kirby Head research intern for behavioral observations of eight wild neotropical primate species

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## Laboratory Experience

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- 2016 - present     **Core Assay Facility, University of Michigan** – PI: Jacinta Beehner  
Gelada female glucocorticoid analysis across pregnancy and lactation  
Validation of an EIA for glucocorticoid metabolites in gelada fecal samples
- 2018     **Endocrinology Laboratory, German Primate Center** – PI: Michael Heistermann  
Validation of an EIA for testosterone metabolites in gelada fecal samples
- 2013 - 2015     **Reproductive Ecology Laboratory, Yale University** – PIs: Richard Bribiescas & Claudia Valeggia  
BS thesis work analyzing wild owl monkey fecal testosterone samples
- 2014     **Veterinary Wildlife Services, Kruger National Park, South Africa**  
Research assistant validating a cortisol ELISA kit for African buffalo fecal samples
- 2013     **Hull Lab, Yale University** – PI: Pincelli Hull  
Head student researcher identifying foraminifera species in deep ocean sediments

## Peer-Reviewed Publications

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- 2020     **Carrera SC**, Sen S, Heistermann M, Lu A, & Beehner, JC. 2020. Low rank and primiparity increase fecal glucocorticoid metabolites across gestation in wild geladas. *General and Comparative Endocrinology* 293.  
<https://doi.org/10.1016/j.ygcen.2020.113494>
- 2019     Lu A, Petrullo L, **Carrera SC**, Feder J, Schneider-Crease I, & Snyder-Mackler N. 2019. Developmental responses to early life adversity: Evolutionary and mechanistic perspectives. *Evolutionary Anthropology* 28(5): 249-266.  
<https://doi.org/10.1002/evan.21791>

## Published Abstracts

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- 2019     **Carrera SC**, Lu A, & JC Beehner. In a non-seasonal primate, off-peak births require more time foraging during pregnancy. 56th Annual Conference of the Animal Behavior Society, Chicago, IL.
- 2018     **Carrera SC**, Lu A, & JC Beehner. Variation in time to weaning in wild geladas. 87th Annual Meeting of the American Association of Physical Anthropologists, Austin, TX.
- 2016     **Carrera SC**, Corley MK, Bribiescas RG, Valeggia C, & E Fernandez-Duque. Investigating how collection time affects fecal testosterone in a cathemeral species: *Aotus azarae*. Joint meeting of the International Primatological Society and the American Society of Primatologists, Symposium on Owl Monkeys, Chicago, IL.

## Science Communication and Engagement

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- 2019     **Scientist Spotlights – Southeast Michigan**  
Teach children how to use an ethogram for animal behavior research
- 2017 - 2019     **Simien Lodge Annual Conservation Classes, Ethiopia**  
Help teach local children about conservation and geladas
- 2019     **Nerd Nite – Ann Arbor District Library**  
Presented my dissertation research at a local bar

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- 2019 **Vermont Public Radio “But Why” podcast**  
Invited to answer a child’s question about monkeys
- 2018 **ComSciCon-MI**  
Participated in a 2-day workshop to improve oral and written science communication skills
- 2018 **Females Excelling More in Math, Research, and the Sciences, University of Michigan**  
Co-designed and co-led activities for young girls to learn about animal behavior
- 2016 **Huron Valley High School, Ann Arbor, MI**  
Presented a class on primate behavior and endocrinology research to high school students
- 2015 **Splash at Yale University, New Haven, CT**  
Developed and co-taught a class on animal behavior for high school students

## Teaching and Mentoring

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- Fall 2020 **Behavioral Endocrinology – Loyola Marymount University**  
Guest lecture: Glucocorticoids as a measure of early-life adversity
- Summer 2020 **Hormones and Behavior – University of Michigan**  
Guest lecture: Sex-biased investment: sons vs daughters
- Spring 2018 **Graduate Student Instructor (GSI): Introduction to Biopsychology – University of Michigan**  
Lead grader for the entire class; held discussion sections to introduce new material and led review sessions for exams
- Fall 2017 **GSI: Statistical Modeling and Data Visualization in R – University of Michigan**  
Designed and led lab sections to provide students with more information and practice using the R programming language; lead grader for all assignments; held problem-solving sessions
- 2017 - present **Undergraduate Research Opportunity Program – University of Michigan**  
Research mentor for undergraduate students working in the Core Assay Facility. Teach students laboratory skills, help them develop research projects, and assist them in statistical analyses, presentations, and manuscripts
- 2017 - present **Association for Women in Science – University of Michigan**  
In charge of leading discussions on various topics about being a woman in STEM

## Additional Presentations

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- 2015 **Yale Ecology and Evolutionary Biology Symposium, Yale University**  
Diurnal variation of testosterone in wild adult male owl monkeys of Formosa, Argentina
- 2015 **Paskus-Mellon Forum, Jonathan Edwards College, Yale University**  
Diurnal variation of testosterone in wild adult male owl monkeys of Formosa, Argentina

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- 2014      **NSF International Research Experience for Students (IRES) Symposium, South Africa**  
Drivers of small mammal communities in Kruger National Park, South Africa
- 2014      **Organization for Tropical Studies Symposium, South Africa**  
Understanding, preventing, and mitigating vervet - human conflict in Kruger National Park, South Africa

## Service

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- 2020 - present      **Biopsychology area DEI taskforce** – Student member
- 2020 – 2021      **Biopsychology Graduate Admissions Committee** – Student member
- 2019 - present      **Peer reviewer** – Conservation Physiology, Mammalian Biology
- 2018      **Biopsychology area 10-year review** – Student committee member

## Certificates

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- Dec 2020      **Data wrangling, analysis and AB testing with SQL** – UC Davis, Coursera
- Aug 2020      **SQL for data science** – UC Davis, Coursera
- Aug 2019      **STEM communication fundamentals** – RELATE  
10-week workshop to develop and practice verbal communication skills
- May 2019      **Science Communication Fellowship** – University of Michigan Museum of Natural History, Portal to the Public  
Participated in multiple workshops over the course of a month to design a science activity for children

## Skills

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R | R Markdown | SQL | Git | Adobe Photoshop  
Radioimmunoassay | Enzyme immunoassay validation