

# Colin M. Brand

Bakar Computational Health Sciences Institute | Department of Epidemiology and Biostatistics  
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## EDUCATION

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- 2021      **Ph.D.**, Anthropology, University of Oregon, Eugene, OR, USA
- 2015      **M.S.**, Anthropology, University of Oregon, Eugene, OR, USA
- 2014      **B.A.**, Anthropology with Departmental Honors, Botany, Environmental Science,  
Zoology, Miami University, Oxford, OH, USA
- 2013      **Junior Visiting Fellow**, Division of Biological Anthropology, University of  
Cambridge, Cambridge, UK

## APPOINTMENTS

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- 2021-Present    Postdoctoral Scholar, Bakar Computational Health Sciences Institute, Department  
of Epidemiology and Biostatistics, University of California San Francisco, San  
Francisco, CA, USA

## RESEARCH INTERESTS

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Adaptation, admixture, behavior, biological anthropology, captive animal management, conservation, conservation genomics, demography, ecology, evolutionary anthropology, evolutionary genomics, introgression, molecular anthropology, population genetics, sexual selection, social structure.

## PREPRINTS

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*Preprints only listed here until acceptance in a peer-reviewed journal.*

14. **Brand CM**, White FJ, Ting N, Webster TH. 2020. Soft sweeps predominate recent positive selection in bonobos (*Pan paniscus*) and chimpanzees (*Pan troglodytes*). *bioRxiv*. 2020.12.14.422788

## PEER-REVIEWED PUBLICATIONS

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13. Hickmott AJ, Waller MT, Wakefield ML, Malone N, **Brand CM**, White FJ. In press. A test of foraging models using dietary diversity indices for the Lomako Forest bonobos. *Folia Primatologica*.
12. Edes AN, **Brand CM**. In press. Age, sex, and inflammatory markers predict chronic conditions, cardiac disease, and mortality among captive western lowland gorillas (*Gorilla gorilla gorilla*). *Primates*.
11. White FJ, **Brand CM**, Hickmott AJ, Minton IR. 2020. Sex differences in bonobo (*Pan paniscus*) terrestriality: implications for human evolution. *Journal of Anthropological Sciences*. 98: 5-14.
10. Gartland KN, **Brand CM**, Ulibarri LR, White FJ. 2020. Variation in adult male-juvenile affiliative behavior in Japanese macaques (*Macaca fuscata*). *Folia Primatologica*. 91: 610-621.
9. **Brand CM**, Johnson MB, Parker LD, Maldonado JE, Korte L, Vanthomme H, Alonso A, Ruiz-Lopez MJ, Wells CP, Ting N. 2020. Abundance, density, and social structure of African forest elephants (*Loxodonta cyclotis*) in a human-modified landscape in southwestern Gabon. *PLoS ONE*. 15: e0231832.
8. **Brand CM**, Marchant LF. 2019. Social hair plucking is a grooming convention in a group of captive bonobos (*Pan paniscus*). *Primates*. 60: 487-491.
7. Wakefield ML, Hickmott AJ, **Brand CM**, Takaoka IY, Meador LM, Waller MT, White FJ. 2019. New observations of meat eating and sharing in wild bonobos (*Pan paniscus*) at Iyema, Lomako Forest Reserve, Democratic Republic of Congo. *Folia Primatologica*. 90: 179-189.
6. Boose KJ, White FJ, **Brand CM**, Meinelt A, Snodgrass JJ. 2018. Infant handling in bonobos (*Pan paniscus*): exploring functional hypotheses and the relationship to oxytocin. *Physiology and Behavior*. 193: 154-166.
5. **Brand CM**, Marchant LF. 2018. Prevalence and characteristics of hair plucking in captive bonobos (*Pan paniscus*) in North American zoos. *American Journal of Primatology*. 80: e22751.
4. **Brand CM**, Marchant LF, Boose KJ, Rood TM, White FJ, Meinelt A. 2017. Laterality of grooming and tool use in a group of captive bonobos (*Pan paniscus*). *Folia Primatologica*. 88: 210-222.
3. **Brand CM**, Boose KJ, Squires EC, Marchant LF, White FJ, Meinelt A, Snodgrass JJ. 2016. Hair plucking, stress, and urinary cortisol among captive bonobos (*Pan paniscus*). *Zoo Biology*. 35: 415-422.

2. **Brand CM**, White FJ, Wakefield ML, Waller MT, Ruiz-Lopez MJ, Ting N. 2016. Initiation of genetic demographic monitoring of bonobos (*Pan paniscus*) at Iyema, Lomako Forest, DRC. *Primate Conservation*. 30: 103-111.
1. **Brand CM**, Marchant LF. 2015. Hair plucking in captive bonobos (*Pan paniscus*). *Applied Animal Behaviour Science*. 171: 192-196.

## TEACHING

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### University of Oregon (Instructor of Record)

ANTH 173	Evolution of Human Sexuality	2016
ANTH 220	Introduction to Nutritional Anthropology	2020
ANTH 362	Human Biological Variation	2021
ANTH 369	Human Growth and Development	2021
ANTH 463/563	Primate Behavior	2017
ANTH 470/570	Statistics for Biological Anthropologists	2021

### University of Oregon (Graduate Teaching Fellow)

ANTH 145	Principles of Archaeology	2018
ANTH 170	Introduction to Human Origins	2015
ANTH 171	Introduction to Monkeys and Apes	2014-2015
ANTH 173	Evolution of Human Sexuality	2015-2020
ANTH 175	Evolutionary Medicine	2019
ANTH 470/570	Statistics for Biological Anthropologists	2018

### Miami University (Undergraduate Associate)

ATH 175	Peoples of the World	2013-2014
ATH 255	Foundations of Biological Anthropology	2013-2014
ATH 355	Fossil Evidence for Human Evolution	2013
ATH/BIO 395	Primate Behavior and Biology	2013-2014

## RESEARCH GRANTS

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- 2017      **Young Explorer's Grant, National Geographic Society (\$5000).** "Adult male-infant interactions among wild bonobos."
- 2016      **International Research Award, University of Oregon Global Studies Institute (\$1000).** "Adult male-infant interactions among wild bonobos."
- 2013      **Dean's Scholar Award, Miami University College of Arts and Science (\$750).** "Grooming in captive bonobos (*Pan paniscus*)."

- 2013 **Rebecca Jeanne Andrew Memorial Award, Miami University Department of Anthropology** (\$500). “Hair plucking in captive bonobos (*Pan paniscus*).”
- 2012 **Rebecca Jeanne Andrew Memorial Award, Miami University Department of Anthropology** (\$750). “Hair plucking in captive bonobos (*Pan paniscus*).”

#### **PUBLISHED ABSTRACTS/CONFERENCE PRESENTATIONS**

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- 2021 **Brand CM**, White FJ, Ting N, Webster TH. Ancient positive selection in bonobos (*Pan paniscus*) and chimpanzees (*Pan troglodytes*). *American Journal of Physical Anthropology*. 174 (S71): 13.
- 2020 Hickmott AJ, Loudon JE, Christie DM, **Brand CM**, Wakefield ML, Waller MT, White FJ, Ting N. Gut microbiota and fecal stable isotopic values for bonobos (*Pan paniscus*) of the Lomako Forest, Democratic Republic of Congo. *American Journal of Physical Anthropology*. 171 (S69): 119-120.
- 2020 Gartland KN, Hickmott AJ, **Brand CM**, Ulibarri LR, Coleman K, White FJ. Adult male-juvenile relationships in semi free-ranging Japanese macaques (*Macaca fuscata*). *American Journal of Primatology*. 82 (S1): 36.
- 2020 **Brand CM**, Webster TH, White FJ, Ting N. Recent selective sweeps in bonobos (*Pan paniscus*): A machine learning approach. *American Journal of Physical Anthropology*. 171 (S69): 34.
- 2019 Hickmott AJ, Wakefield ML, Waller MT, **Brand CM**, White FJ. Bonobo (*Pan paniscus*) dietary diversity: testing fallback food models. *American Journal of Physical Anthropology*. 168 (S68): 102-203.
- 2019 Hickmott AJ, Christie DM, **Brand CM**, Wakefield ML, Waller MT, White FJ, Ting N. Gut microbial diversity of bonobos (*Pan paniscus*) from Lomako Forst, Democratic Republic of Congo (DRC). *American Journal of Primatology*. 81 (S1): 38-39.
- 2019 **Brand CM**, Marchant LF. Social hair plucking in captive bonobos (*Pan paniscus*) is unrelated to dominance and kinship. *American Journal of Primatology*. 81 (S1): 31.
- 2018 **Brand CM**, Hickmott AJ, Boose KJ, White FJ. Ecological correlates of social behavior in bonobos (*Pan paniscus*). *American Journal of Primatology*. 80 (S1): 59-60.
- 2018 Wakefield ML, Hickmott AJ, Takaoka IY, **Brand CM**, Waller MT, White FJ. New observations of meat eating and sharing in wild bonobos (*Pan paniscus*) at Iyema, Lomako Forest Reserve, DRC. *American Journal of Physical Anthropology*. 165 (S66): 292.

- 2018 **Brand CM**, White FJ, Thompson Handler N, Hickmott AJ, Boose KJ. Adaptive functions of GG rubbing among female bonobos (*Pan paniscus*) at Lomako, DRC. *American Journal of Physical Anthropology*. 165 (S66): 35.
- 2018 Bloom MF, **Brand CM**, Oliver CM, Keith-Lucas T, White FJ. Linearity and stability in Ring-Tailed Lemur (*Lemur catta*) dominance hierarchies. *American Journal of Physical Anthropology*. 165 (S66): 31.
- 2017 Marchant LF, **Brand CM**. Nearly naked apes: A survey of hair plucking among captive bonobos (*Pan paniscus*). *American Journal of Physical Anthropology*. 162 (S64): 275.
- 2017 Hickmott AJ, **Brand CM**, Boose KJ, White FJ. Spatial organization in female bonobos (*Pan paniscus*) reflects social cohesion. *American Journal of Physical Anthropology*. 162 (S64): 216.
- 2017 Gotuaco LE, Brock IJ, **Brand CM**, Streicher US, Ulibarri LR. A survey of crossing structures among captive primates. *American Journal of Physical Anthropology*. 162 (S64): 199.
- 2017 Brock IJ, Gotuaco LE, **Brand CM**, Streicher US, Ulibarri LR. Crossing structure design and effectiveness for primate conservation. *American Journal of Physical Anthropology*. 162 (S64): 130.
- 2017 **Brand CM**, Hickmott AJ, Boose KJ, White FJ. Rank differences in male bonobo (*Pan paniscus*) reproductive strategies. *American Journal of Physical Anthropology*. 162 (S64): 128.
- 2016 Gotuaco LE, **Brand CM**, Oliveira CG, Ortiz K, Keith-Lucas T, White FJ. Intersexual affiliation in a troop of Ring-Tailed Lemurs (*Lemur catta*). *American Journal of Physical Anthropology*. 159 (S62): 158.
- 2016 **Brand CM**, White FJ, Ruiz-Lopez MJ, Waller MT, Wakefield ML, Ting N. A genetic survey of the bonobos (*Pan paniscus*) at the Iyema field site, DRC. *American Journal of Physical Anthropology*. 159 (S62): 101-102.
- 2015 Gotuaco LE, **Brand CM**, Oliveira CG, Ortiz K, Keith-Lucas T, White FJ. Comparison of measures of inter-individual affiliation among Ring-Tailed Lemurs (*Lemur catta*). *American Journal of Primatology*. 77 (S1): 51.
- 2015 **Brand CM**, White FJ, Waller MT, Ruiz-Lopez MJ, Wakefield ML, Ting N. Development of non-invasive genetic studies of the bonobos (*Pan paniscus*) at the Iyema field site of the Lomako Forest, DRC. *American Journal of Primatology*. 77 (S1): 61.

- 2015 **Brand CM**, Marchant LF, Boose KJ, Rood TM, White FJ, Meinelt A. Laterality of grooming and tool use in a group of captive bonobos (*Pan paniscus*). *American Journal of Primatology*. 77 (S1): 54-55.
- 2015 Findley MK, Marchant LF, **Brand CM**. Hair plucking and grooming behavior in two groups of captive bonobos (*Pan paniscus*). *American Journal of Physical Anthropology*. 156 (S60): 133.
- 2014 **Brand CM**, Boose KJ, Midttveit EC, Marchant LF, White FJ. Hair plucking and cortisol levels in a captive group of bonobos (*Pan paniscus*): Evidence of a female-biased stress induced behavior. *American Journal of Physical Anthropology*. 153 (S58): 84.
- 2013 **Brand CM**, Marchant LF. Hair plucking in captive bonobos (*Pan paniscus*). *American Journal of Physical Anthropology*. 150 (S56): 87.

## OTHER CONFERENCE PRESENTATIONS

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- 2018 White FJ, Waller MT, **Brand CM**, Hickmott AJ, Wakefield ML. Ranging and social structure in the Lomako bonobos (*Pan paniscus*). International Society of Primatologists. Nairobi, Kenya. Podium.
- 2018 Hickmott AJ, Waller MT, Wakefield ML, **Brand CM**, Boose KJ, White FJ. Temporal and geographic variation in bonobo dietary diversity using different methods. International Society of Primatologists. Nairobi, Kenya. Poster.
- 2016 **Brand CM**, White FJ, Waller MT, Wakefield ML, Ruiz-Lopez MJ, Ting N. Genetic estimation of bonobo (*Pan paniscus*) community size at Iyema, DRC. Joint Congress of the International Primatological Society and the American Society of Primatologists. Navy Pier. Chicago, IL. Poster.
- 2013 **Brand CM**, Marchant LF. Hair plucking in captive bonobos (*Pan paniscus*). Primate Society of Great Britain. University of Lincoln. Lincoln, UK. Podium.
- 2012 **Brand CM**, Marchant LF. Hair plucking in captive bonobos (*Pan paniscus*). Midwest Primate Interest Group. Northern Illinois University. DeKalb, IL. Podium.

## INVITED TALKS/WORKSHOPS

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- 2019 Ways to assess: Links between behavior, welfare, and physiological measures. Pre-ASP Workshop: Identifying and Treating Abnormal Behaviors in Non-human Primates. Madison, WI.

- 2019 An introduction to information theory and multimodel inference. Smithsonian Conservation Biology Institute. Front Royal, VA.
- 2019 The evolutionary genomics of bonobos (and chimpanzees). University of Oregon Anthropology Club. Eugene, OR.
- 2018 Self-domestication and the evolution of bonobo (*Pan paniscus*) behavior. Miami University Primatology Club. Oxford, OH.
- 2018 Research activism and conservation biology. Department of Anthropology, University of Oregon. Eugene, OR.
- 2017 Food patch quality reflects social bonds in wild bonobos (*Pan paniscus*). University of Oregon Board of Trustees. Eugene, OR.
- 2017 Abundance, demography, and sociality of bonobos (*Pan paniscus*) at Iyema, DRC. Miami University Primatology Club. Oxford, OH.
- 2017 Ecological correlates of social behavior in wild bonobos (*Pan paniscus*). University of Oregon Alumni Association. Eugene, OR.
- 2017 The breadth of biological anthropology. University of Oregon Anthropology Club. Eugene, OR.
- 2016 Apes as models for human evolution. Exploring Human Origins Panel, Cottage Grove Public Library. Cottage Grove, OR.

## OTHER PRESENTATIONS

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- 2019 **Brand CM**, Hickmott AJ, White FJ. Sex differences in bonobo (*Pan paniscus*) locomotion and terrestriality. Graduate Student Research Forum. University of Oregon. Eugene, OR. Poster.
- 2018 **Brand CM**, Johnson M, Wells CW, Ruiz-Lopez MJ, Korte L, Ting N. The collapse of social structure in African forest elephants (*Loxodonta cyclotis*) living in a human dominated landscape. Graduate Student Research Forum. University of Oregon. Eugene, OR. Podium.
- 2017 **Brand CM**, White FJ, Hickmott AJ, Boose KJ, Thompson Handler N. Ecological correlates of social behavior in wild bonobos (*Pan paniscus*). Graduate Student Research Forum. University of Oregon. Eugene, OR. Poster.

- 2016 **Brand CM**, Marchant LF, Boose KJ, Rood TM, White FJ, Meinelt A. Laterality of grooming and tool use in a group of captive bonobos (*Pan paniscus*). Graduate Student Research Forum. University of Oregon. Eugene, OR. Poster.
- 2015 **Brand CM**, Ruiz-Lopez MJ, White FJ, Waller MT, Wakefield ML, Ting N. Microsatellite marker development for wild bonobo (*Pan paniscus*) fecal samples. Graduate Student Research Forum. University of Oregon. Eugene, OR. Poster.
- 2014 **Brand CM**, Marchant LF. Grooming distributions in a group of captive bonobos (*Pan paniscus*). Undergraduate Research Forum. Miami University. Oxford, OH. Poster.
- 2013 **Brand CM**, Marchant LF. Hair plucking in captive bonobos (*Pan paniscus*). Undergraduate Research Forum, Miami University. Oxford, OH. Poster.
- 2012 **Brand CM**. Socio-sexual behavior in captive bonobos (*Pan paniscus*). Undergraduate Research Forum. Miami University. Oxford, OH. Poster.

## AWARDS AND HONORS

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- 2021 Outstanding Student Employee, University of Oregon
- 2018 Risa Palm Graduate Fellowship, University of Oregon
- 2016 Malcom McFee Award, Anthropology, University of Oregon
- 2014 Senior Service Leadership Award, Miami University
- 2014 Senior Service Award, Anthropology, Miami University
- 2014 Best Paper in Archaeology Award, Anthropology, Miami University
- 2014 Employee Service Leadership Award, Miami University
- 2014 President's Distinguished Service Award, Miami University
- 2013 Provost's Student Academic Achievement Award, Miami University
- 2012 Employee Service Leadership Award, Miami University

## UNDERGRADUATE MENTOR EXPERIENCE

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### University of Oregon

*\*Student presented research at one or more national conferences*

- 2020 - present \*Liam Stone: Social costs of reproduction in ring-tailed lemurs.
- 2020 - present \*Riley Male: Social costs of reproduction in ring-tailed lemurs.
- 2018 - 2019 Erick Wonderly: Niche differentiation in three sympatric lemur species.



- 2018 - 2019 Kendall Soriano: Accuracy and precision of primate manual 2D:4D measurements, *Received the Museum of Natural and Cultural History's Best Poster Award at the 2019 UO Undergraduate Research Symposium.*
- 2018 - 2019 Sarah Brown: Accuracy and precision of primate manual 2D:4D measurements, *Received the Museum of Natural and Cultural History's Best Poster Award at the 2019 UO Undergraduate Research Symposium.*
- 2017 - 2018 Nora Sawyer: Linearity and stability of dominance hierarchies in ruffed lemurs.
- 2017 - 2019 Troi Feinberg: Abundance, diet, and habitat use of duikers at Lomako, DRC.
- 2017 - 2019 \*Mariah Bloom: Linearity and stability of dominance hierarchies in ring-tailed lemurs; Cost alleviation associated with dating apps.
- 2016 - 2018 \*India Brock: Review of artificial crossing structures among wild primates; Linearity and stability of dominance hierarchies in ruffed lemurs.
- 2014 - 2017 \*Leslie Gotuaco: Survey of captive primate artificial crossing structures; Affiliative behavior in ring-tailed lemurs.

## **TRAVEL AWARDS**

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- 2021 William S. Pollitzer Student Travel Award, American Association of Physical Anthropologists.
- 2020 Health Education Award (\$250), Anthropology, University of Oregon.
- 2017 Pauline Wollenberg Juda Memorial Endowment Fund Award (\$250), Anthropology, University of Oregon.
- 2014 Undergraduate Presentation Award (\$200), Office for the Advancement of Scholarship and Research, Miami University.
- 2013 Cambridge Junior Visiting Fellows Fund (\$500), College of Arts and Science, Miami University.
- 2012 Undergraduate Presentation Award (\$200), Office for the Advancement of Scholarship and Research, Miami University.

## TECHNOLOGY GRANTS

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2013            Technology Upgrade for Anthropology Classroom (\$14,372), College of Arts and Science, Miami University, co-written with MA Peterson & AN Friend.

## SERVICE

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### Department of Anthropology, University of Oregon

2018 - 2020    Association of Anthropology Graduate Students, Co-Director

### University of Oregon

2017 - 2019    Graduate School Student Advisory Board, Ex-Officio Member

2016 - 2019    Graduate Student Association, President

2016 - 2019    Senate Committee on Courses, Graduate Student Representative

### External

2018 - 2019    National Association of Graduate-Professional Students, Western Regional Conference Chair

2017 - 2019    American Society of Primatologists Student Committee, Co-Chair

2017            American Association of Physical Anthropologists Meeting Primate Cognition and Ecology Poster Session, Chair

2016 - 2017    American Society of Primatologists Student Committee, Member

2016 - 2019    American Association of Physical Anthropologists Undergraduate Research Symposium Undergraduate Mentor

2015            American Association of Physical Anthropologists Undergraduate Research Symposium Abstract Reviewer

### Grant Reviewer

National Geographic Society (7)

### Manuscript Reviewer

American Journal of Primatology, Ecological Modelling, Folia Primatologica, Royal Science Open Science, Zoo Biology (2)

## SCIENCE OUTREACH

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- 2021 Science Streams
- Live 1.5 hr Q&A on Twitch. Discussed primatology and field work.
- 2020 - 2021 Letters to a Pre-Scientist
- Exchanged four electronic letters on STEM, STEM careers, and higher education with a primary school aged student.
- 2020 - 2021 Skype a Scientist
- Eight classrooms to date. Presented a brief overview on the scientific method, anthropology, primatology, and similarities/differences within and between bonobos and chimpanzees, followed by a question and answer session. Classrooms have ranged from primary to secondary school.
- 2018 - 2019 UO Science Open House, University of Oregon
- Two annual events to date. Engaged with young children, primary school aged and younger, at two stations. One station encouraged participants to interact with human/non-human primate skeletal casts accompanied by brief presentation of the materials. Participants built a bracelet with different color beads and string at the other station while learning about DNA, complementary base pairs, and sequence similarity between species.
- 2016 - 2019 Meet a Scientist Day, Eugene Science Factory Children's Museum
- Four annual events to date. Engaged with young children, primary school aged and younger, at two stations. One station encouraged participants to interact with human/non-human primate skeletal casts accompanied by brief presentation of the materials. Participants built a bracelet with different color beads and string at the other station while learning about DNA, complementary base pairs, and sequence similarity between species.
- 2016 - 2021 SPICE Camp Forensics in the Forest Activity, University of Oregon
- Nine twice annual events to date. Developed by the UO Molecular Anthropology Group for a science themed summer camp for middle-school aged girls. Our 2.5 hour activity introduced the scientific method, anthropology, and biological anthropology via a workbook with activities that highlight methods used in bioarchaeology, forensic anthropology, primatology, osteology, and genomics. For example, students conducted transects, determined MNI from bone casts, and loaded/ran agarose gels.
- 2016 Introduction to Biological Anthropology, Cottage Grove High School (OR)
- Set up and staffed multiple stations for groups of students to rotate through and learn about various subfield within biology anthropology including osteology and behavior.
- 2015-2018 Primate Osteology and Behavioral Ecology Lab Tour

- Six tours to date. Groups ranged from primary school students to seniors. We introduced our primate and non-primate skeletal collection, highlighted methods used to process new specimens and maintain old ones, and discussed our primate behavior and ecology databases.

## **PROFESSIONAL MEMBERSHIPS**

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American Association of Biological Anthropologists - Student Member

International Primatological Society - Student Member

Society for Molecular Biology and Evolution - Student Member

Date: September 15, 2021