

# Kenneth L. Chiou

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## EDUCATION

- 2017 **Ph.D.**, Anthropology, Washington University.  
2012 **M.A.**, Anthropology, Washington University.  
2010 **B.A. with Honors**, Anthropology, New York University.

## ACADEMIC APPOINTMENTS

- 2024- **Assistant Professor**, Department of Biology, University of Alabama at Birmingham.  
2020-2024 **Postdoctoral Research Scholar**, Center for Evolution and Medicine and School of Life Sciences, Arizona State University.  
2017-2020 **Postdoctoral Research Associate**, Departments of Psychology and Pathology, University of Washington.

## PUBLICATIONS

\* = equal first-author contributions, † = equal senior-author contributions

### Peer-reviewed publications

- In press Watowich, M.M., Costa, C.E., **Chiou, K.L.**, Goldman, E.A., Petersen, R.M., Patterson, S., Montague, M.J., Cayo Biobank Research Unit, Horvath, J.E., Sterner, K.N., Martinez, M.I., Platt, M.L., Brent, L.J.N., Higham, J.P., Lea, A.J.†, Snyder-Mackler, N.† Immune gene regulation is associated with age and environmental adversity in a nonhuman primate. *Molecular Ecology*.
- In press Watowich, M.M., **Chiou, K.L.**, Graves, B., Montague, M.J., Brent, L.J.N., Higham, J.P., Horvath, J.E., Lu, A., Martinez, M.I., Platt, M.L., Schneider-Crease, I.A., Lea, A.J., Snyder-Mackler, N. Best practices for genotype imputation from low-coverage sequencing data in natural populations. *Molecular Ecology Resources*. Online ahead of print at <https://doi.org/10.1111/1755-0998.13854>.
- 2024 DeCasien, A.R.\*, **Chiou, K.L.\***, Testard, C., Mercer, A., Negrón-Del Valle, J.E., Bauman Surratt, S.E., González, O., Stock, M.K., Ruiz-Lambides, A.V., Martínez, M.I., Cayo Biobank Research Unit, Antón, S.C., Walker, C.S., Sallet, J., Wilson, M.A., Brent, L.J.N., Montague, M.J., Sherwood, C.C., Platt, M.L., Higham, J.P.†, Snyder-Mackler, N.† Evolutionary and biomedical implications of sex differences in the primate brain transcriptome. *Cell Genomics* 4, 100589.
- 2024 Frye, B.M.\*, Negrey, J.D.\*, Johnson, C.S.C., Kim, J., Barcus, R.A., Lockhart, S.N., Whitlow, C.T., Sutphen, C., **Chiou, K.L.**, Snyder-Mackler, N., Montine, T.J., Craft, S., Shively, C.A.†, Register, T.C.† Mediterranean diet protects against a neuroinflammatory cortical transcriptome: associations with brain volumetrics, peripheral inflammation, social isolation and anxiety in nonhuman primates (*Macaca fascicularis*). *Brain, Behavior, and Immunity* 119, 681-692.

- 2024 Jarvey, J.C., Low, B.S., Azanaw Haile, A., **Chiou, K.L.**, Snyder-Mackler, N., Lu, A., Bergman, T.J., Beehner, J.C., Schneider-Crease, I.A. Aggression rates increase around seasonally exploited resources in a primarily grass-eating primate. *Behavioral Ecology* 35, arad079.
- 2023 Newman, L.E.\* , Testard, C.\* , DeCasien, A.R., **Chiou, K.L.**, Watowich, M.M., Janiak, M.C., Pavez-Fox, M.A., Sanchez-Rosado, M.R., Cooper, E.B., Costa, C.E., Petersen, R.M., Montague, M.J., Platt, M.L.†, Brent, L.J.N.†, Snyder-Mackler, N.†, Higham, J.P.† The biology of aging in a social world: insights from free-ranging rhesus macaques. *Neuroscience and Biobehavioral Reviews* 154, 105424.
- 2023 **Chiou, K.L.\***, Huang, X.\* , Bohlen, M.O., Tremblay, S., DeCasien, A.R., O'Day, D.R., Spurrell, C.H., Gogate, A.A., Zintel, T.M., Cayo Biobank Research Unit, Andrews, M.G., Martínez, M.I., Starita, L.M., Montague, M.J., Platt, M.L.†, Shendure, J.†, Snyder-Mackler, N.† A single-cell multi-omic atlas spanning the adult rhesus macaque brain. *Science Advances* 9, eadh1914.
- 2023 DeLacey, P.M., Sen, S., Schneider-Crease, I.A., **Chiou, K.L.**, Lemma, A., Ayele, F., Lu, A., Bergman, T.J., Beehner, J.C., Snyder-Mackler, N. Vascularization underlies differences in sexually selected skin coloration in a wild primate. *Molecular Ecology* 32, 4401-4411.
- 2023 Prater, K.E.\* , Green, K.J.\* , Mamde, S., Sun, W., Cochoit, A., Smith, C.L., **Chiou, K.L.**, Heath, L., Rose, S.E., Wiley, J., Keene, C.D., Kwon, R.Y., Snyder-Mackler, N., Blue, E.E., Logson, B., Young, J.E., Shojaie, A., Garden, G.A., Jayadev, S. Human microglia show unique transcriptional changes in Alzheimer's disease. *Nature Aging* 3, 894–907.
- 2023 Sørensen, E.F.\* , Harris, R.A.\* , Zhang, L.\* , Raveendran, M.\* , Kuderna, L., Walker, J.A., Storer, J.M., Kuhlwil, M., Fontserè, C., Seshadri, L., Bergey, C.M., Burrell, A.S., Bergman, J., Phillips-Conroy, J.E., Shiferaw, F., **Chiou, K.L.**, Chuma, I.S., Keyyu, J.D., Fischer, J., Gingras, M.C., Salvi, S., Doddapaneni, H., Schierup, M.H., Batzer, M.A., Jolly, C.J., Knauf, S., Zinner, D., Farh, K.K.-H., Marques-Bonet, T., Munch, K., Roos, C., Rogers, J. Genome-wide coancestry reveals details of ancient and recent male-driven reticulation in baboons. *Science*, 380, eabn8153.
- 2022 DeLacey, P.M.\* , Perlman, R.F.\* , Sen, S., Schneider-Crease, I., **Chiou, K.L.**, Lemma, A., Ayele, F., Higham, J.P., Lu, A., Snyder-Mackler, N., Beehner, J.C., Bergman, T.J. Assessing male gelada chest patches: color measurement and physiological mechanisms. *Mammalian Biology*, 102, 751-763.
- 2022 Schneider-Crease, I.A., **Chiou, K.L.**, Moya, I.L., Lemma, A., Ayele, F., Azanaw Haile, A., Kebede, F., Abebe, B., Bergman, T.J., Beehner, J.C., Lu, A., Lund, M.C., Custer, J.M., Kraberger, S., Snyder-Mackler, N., Varsani, A. A novel statovirus identified in fecal samples from wild geladas in the Ethiopian highlands. *Archives of Virology*, 167, 2709-2713.
- 2022 **Chiou, K.L.\***, DeCasien, A.R.\* , Rees, K.P., Testard, C., Spurrell, C.H., Gogate, A.A., Pliner, H.A., Tremblay, S., Mercer, A., Whalen, C.J., Negrón-Del Valle, J.E., Janiak, M.C., Bauman Surratt, S.E., González, O., Compo, N.R., Stock, M.K., Ruiz-Lambides, A.V., Martínez, M.I., Cayo Biobank Research Unit, Wilson, M.A., Melin, A.D., Antón, S.C., Walker, C.S., Sallet, J., Newbern, J.M., Starita, L.M., Shendure, J., Higham, J.P., Brent, L.J.N., Montague, M.J., Platt, M.L., Snyder-Mackler, N. Multiregion transcriptomic profiling of the primate brain reveals signatures of aging and the social environment. *Nature Neuroscience*, 25, 1714-1723.
- 2022 Schneider-Crease, I.A.\* , Weyher, A.H.\* , Mubemba, B., Kamilar, J.M., Petersdorf, M., **Chiou, K.L.** Stronger maternal social bonds and higher rank are associated with accelerated infant maturation in Kinda baboons. *Animal Behaviour*, 189, 47-57.

- 2022 **Chiou, K.L.**, Janiak, M.C., Schneider-Crease, I.A., Sen, S., Ayele, F., Chuma, I.S., Knauf, S., Lemma, A., Signore, A.V., D'Ippolito, A.M., Abebe, B., Azanaw Haile, A., Kebede, F., Fashing, P.J., Nguyen, N., McCann, C., Houck, M.L., Wall, J.D., Burrell, A.S., Bergey, C.M., Rogers, J., Phillips-Conroy, J.E., Jolly, C.J., Melin, A.D., Storz, J.F., Lu, A., Beehner, J.C., Bergman, T.J., Snyder-Mackler, N. Genomic signatures of high-altitude adaptation and chromosomal polymorphism in geladas. *Nature Ecology & Evolution*, 6, 630-643.
- 2022 Testard, C., Brent, L.J.N., Andersson, J., **Chiou, K.L.**, Negron-Del Valle, J.E., DeCasien, A.R., Acevedo-Ithier, A., Stock, M.K., Antón, S.C., Gonzalez, O., Walker, C.S., Foxley, S., Compo, N.R., Bauman, S., Ruiz-Lambides, A.V., Martinez, M.I., Skene, J.H.P., Horvath, J.E., Cayo Biobank Research Unit, Higham, J.P., Miller, K., Snyder-Mackler, N., Montague, M.J., Platt, M.L.<sup>†</sup>, Sallet, J.<sup>†</sup> Social connections predict brain structure in a multidimensional free-ranging primate society. *Science Advances*, 8, abl5794.
- 2022 Watowich, M., **Chiou, K.L.**, Montague, M.J., Simons, N.D., Horvath, J.E., Ruiz-Lambides, A.V., Martínez, M.I., Higham, J.P., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N. Natural disaster and immunological aging in a nonhuman primate. *Proceedings of the National Academy of Sciences of the United States of America*, 119, e2121663119.
- 2021 **Chiou, K.L.**, Bergey, C.M., Burrell, A.S., Disotell, T.R., Rogers, J., Jolly, C.J., Phillips-Conroy, J. Genome-wide ancestry and introgression in a Zambian baboon hybrid zone. *Molecular Ecology*, 30, 1907-1920.
- 2021 **Chiou, K.L.**, Blair, M.E. Modeling niches and mapping distributions: progress and promise of ecological niche models for primate research. In F.L. Dolins, C.A. Shaffer, L.M. Porter, J.R. Hickey, N.P. Nibbelink (Eds.), *Spatial Analysis in Field Primatology: Applying GIS at Varying Scales* (pp. 315-348), Cambridge, UK: Cambridge University Press.
- 2020 **Chiou, K.L.**, Montague, M.J., Goldman, E.A., Watowich, M.M., Sams, S.N., Song, J., Horvath, J.E., Sterner, K.N., Ruiz-Lambides, A.V., Martínez, M.I., Higham, J.P., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N. Rhesus macaques as a tractable physiological model of human ageing. *Philosophical Transactions of the Royal Society B*, 375, 20190612.
- 2020 Schneider-Crease, I., **Chiou, K.L.**, Snyder-Mackler, N., Bergman, T.J., Beehner, J.C., Lu, A. Beyond infant death: the hidden costs of male immigration in geladas. *Animal Behaviour*, 159, 89-95.
- 2018 Melin, A.D., Webb, S.E., Williamson, R.E., **Chiou, K.L.** Data collection in field primatology: a renewed look at measuring foraging behaviour. In U. Kalbitzer, K.M. Jack (Eds.), *Primate Life Histories, Sex Roles, and Adaptability: Essays in Honor of Linda Fedigan* (pp. 161-192). *Developments in Primatology: Progress and Prospects*. New York, NY: Springer.
- 2018 Tsukayama, P., Boolchandani, M., Patel, S., Pehrsson, E.C., Gibson, M.K., **Chiou, K.L.**, Jolly, C.J., Rogers, J., Phillips-Conroy, J.E., Dantas, G. Characterization of wild and captive baboon gut microbiota and their antibiotic resistomes. *mSystems*, 3, e00016-18.
- 2018 **Chiou, K.L.\***, Bergey, C.M.\* Methylation-based enrichment facilitates low-cost, noninvasive genomic scale sequencing of populations from feces. *Scientific Reports*, 8, 1975.

- 2017 Melin, A.D., **Chiou, K.L.**, Walco, E.R., Bergstrom, M.L., Kawamura, S., Fedigan, L.M. Trichromacy increases fruit feeding rates of wild capuchins (*Cebus capucinus imitator*). *Proceedings of the National Academy of Sciences of the United States of America*, 114, 10402-10407.
- 2017 Lima, M.G.M., Buckner, J.C., Silva-Júnior, J.d.S.e., Aleixo, A., Martins, A.B., Boubli, J.P., Link, A., Farias, I.P., da Silva, M.N., Röhe, F., Queiroz, H., **Chiou, K.L.**, Di Fiore, A., Alfaro, M.E., Lynch Alfaro, J.W. Capuchin monkey biogeography: understanding *Sapajus* Pleistocene range expansion and the current sympatry between *Cebus* and *Sapajus*. *Journal of Biogeography*, 44, 810-820.
- 2012 Lynch Alfaro, J.W., Boubli, J.P., Olson, L.E., Di Fiore, A., Wilson, B., Gutiérrez-Espeleta, G.A., **Chiou, K.L.**, Schulte, M., Neitzel, S., Ross, V., Schwochow, D., Nguyen, M.T.T., Farias, I., Janson, C.H., Alfaro, M.E. Explosive Pleistocene range expansion leads to widespread Amazonian sympatry between robust and gracile capuchin monkeys. *Journal of Biogeography*, 39, 272-288.
- 2011 **Chiou, K.L.**, Pozzi, L., Lynch Alfaro, J.W., Di Fiore, A. Pleistocene diversification of living squirrel monkeys (*Saimiri* spp.) inferred from complete mitochondrial genome sequences. *Molecular Phylogenetics and Evolution*, 59, 736-745.

### Manuscripts in review

- In review Schneider-Crease, I.A., Moya, I.L., **Chiou, K.L.**, Baniel, A., Azanaw Haile, A., Kebede, F., Abebe, B., Lu, A., Bergman, T.J., Snyder-Mackler, N., Varsani, A. Intestivirid acquisition increases across infancy in a wild primate population.
- In review Weyher, A.H., Katinta, M., Mubemba, B., Petersdorf, M., Kamilar, J.M., Schneider-Crease, I.A.<sup>†</sup>, **Chiou, K.L.**<sup>†</sup> A friendlier “kinda” social system: male Kinda baboons invest in long-term social bonds with females.
- In review Crist, R.C., Chehimi, S.N., Montague, M.J., Snyder-Mackler, N., Bohlen, M.O., **Chiou, K.L.**, Zintel, T.M., Cayo Biobank Research Unit, Platt, M.L., Silvestri, G., Hayes, M.R., Kolson, D.L., Reiner, B.C. SIV infection induces alterations in gene expression and loss of interneurons in rhesus macaque frontal cortex during early systemic infection.
- In review Goldman, E.A., **Chiou, K.L.**, Watowich, M.M., Mercer, A., Sams, S.N., Horvath, J.E., Anderson, J.A., Cayo Biobank Research Unit, Tung, J., Higham, J.P., Brent, L.J.N., Martínez, M.I., Montague, M.J., Platt, M.L., Sterner, K.N.<sup>†</sup>, Snyder-Mackler, N.<sup>†</sup> A generalizable epigenetic clock captures aging in two nonhuman primates. Available at <https://doi.org/10.1101/2022.11.01.514719>.
- In review **Chiou, K.L.**, Bergey, C.M., Burrell, A.S., Disotell, T.R., Rogers, J., Jolly, C.J., Phillips-Conroy, J. Genomic signatures of extreme body size divergence in baboons. Available at <https://doi.org/10.1101/578740>.

### GRANTS AND AWARDS

- 2024-present **Pathway to Independence Award (R00), National Institutes of Health** (Fellow). R00AG075241. \$747,000.
- 2018-present **Biological Anthropology Grant, National Science Foundation** (Co-PI, with Noah Snyder-Mackler). “Functional genomics of high-altitude adaptation in a nonhuman primate model.” \$394,352.
- 2022-2024 **Pathway to Independence Award (K99), National Institutes of Health** (Fellow). K99AG075241. \$246,705.

- 2021-2023 **Primate Research Fund, The Leakey Foundation** (Awardee, with India Schneider-Crease). "The Kasanka Baboon Project." \$50,000.
- 2017-2020 **NIH T32 Genetic Approaches to Aging Training Grant, University of Washington** (Fellow).
- 2016-2017 **Dissertation Fellowship, Washington University** (Fellow).
- 2016 **NGS Discovery Project Grand Prize, NGX Bio** (Winner, with Christina Bergey). "Whole-genome sequencing from noninvasive samples." \$5,000.
- 2014-2016 **General Research Grant, The Leakey Foundation** (PI). "Population genomics of a baboon hybrid zone in Zambia." \$13,270.
- 2013-2016 **Building Community and Capacity for Data-Intensive Research (BCC-SBE/EHR), National Science Foundation** (Co-PI, with Anthony Di Fiore, Tom Igoe, and Jane Phillips-Conroy). "Ethoinformatics: developing data services and a standard 'ethogram' for behavioral research." \$121,909 (\$474,512 multi-institutional total).
- 2013-2016 **Doctoral Dissertation Improvement Grant, National Science Foundation** (Co-PI). "Population genomics of a baboon hybrid zone in Zambia." \$24,138.
- 2013 **Summer Research Award, Washington University** (Awardee). "Baboon hybridization at the crossroads of behavior, ecology, and evolution." \$4,700.
- 2012 **Summer Research Award, Washington University** (Awardee). "Species-specific signaling and recognition in a baboon contact zone." \$5,300.
- 2011 **Graduate Research Travel Award, National Science Foundation** (Awardee). Travel award to participate in summer research with the Kafue National Park Baboon Research Project in Chunga, Kafue National Park, Zambia. \$1,000.
- 2010-2015 **Graduate Research Fellowship, National Science Foundation** (Fellow). \$202,000
- 2010 **Conference Grant, New York University** (Awardee). Travel grant for 79<sup>th</sup> annual meeting of the American Association of Physical Anthropologists, Albuquerque, NM. \$450.
- 2009 **Young Explorers Grant, National Geographic Society** (PI). "Fecal analysis of ovarian sex steroid hormones of lowland woolly monkeys (*Lagothrix poeppigii*) in Yasuní National Park, Ecuador." \$2,702.
- 2009 **Collegiate Research Scholar Grant, New York University** (PI). "Fecal analysis of ovarian profiles." \$2,000.
- 2008 **Barnet and Phyllis Liberman Research Scholar Grant, New York University** (PI). "Phylogeny and phylogeography of Central and South American squirrel monkeys." \$1,900.
- 2008 **College of Arts & Science Parents Research Scholar Grant, New York University** (PI). "Strategies for survival: an analysis of behavioral defense mechanisms among sympatric primate populations in Costa Rica." \$2,000.

## INVITED TALKS

- 2024 Evolutionary and environmental dimensions of primate aging and health. Anthropology Colloquia, University of New Mexico.
- 2023 Multi-region transcriptomic signatures of brain aging in healthy macaques. Brain Aging and Alzheimer's Interest (BRAAIN) group, Wake Forest School of Medicine.
- 2022 Multi-region transcriptomic profiling of brain aging in healthy macaques. ASU-Banner Neurodegenerative Disease Research Conference, Arizona State University.

- 2020 Insights into aging and age-related disease from the rhesus macaque brain transcriptome. CEMinar. Center for Evolution and Medicine, Arizona State University.
- 2018 Population genomics reveals signatures of selection and extreme introgression in a natural baboon hybrid zone. Biological Anthropology Seminar Series. Department of Anthropology, University of Washington.

## CONFERENCE PAPERS AND PUBLISHED ABSTRACTS

\* = presenter (if not lead author)

- 2024 Scott, B.R., Ayele, F., Lemma, A., Beehner, J.C., Schneider-Crease, I.A., Lu, A., Bergman, T.J., **Chiou, K.L.**, Snyder-Mackler, N. Population history and chromosomal speciation in gelada monkeys. Annual meeting of the Society for Molecular Biology and Evolution. Puerto Vallarta, Mexico.
- 2023 Shively, C.A., Negrey, J.D., Frye, B.M., Johnson, C.S.C., Kim, J., Barcus, R.A., Lockhart, S.N., Whitlow, C.T., **Chiou, K.L.**, Snyder-Mackler, N., Montine, T., Craft, S., Register, T.C. Mediterranean diet protects against neuroinflammation and degeneration in female nonhuman primates. *Alzheimer's & Dementia*, 19(Suppl. 10), e081770.
- 2023 **Chiou, K.L.**, Huang, X., Bohlen, M.O., Tremblay, S., O'Day, D.R., Spurrell, C.H., Gogate, A.A., Zintel, T.M., DeCasien, A.R., Cayo Biobank Research Unit, Andrews, M.G., Martínez, M.I., Starita, L.M., Montague, M.J., Platt, M.L., Shendure, J., Snyder-Mackler, N. A transcriptomic and epigenomic atlas of cell types across the macaque brain. *American Journal of Biological Anthropology*, 180(Suppl. 75), 30-31.
- 2023 Newman, L.E., Watowich, M.M., Sanchez-Rosado, M.R., DeCasien, A.R., **Chiou, K.L.**, Martínez, M.I., Cayo Biobank Research Unit, Montague, M.J., Platt, M.L., Brent, L.J.N., Higham, J.P., Snyder-Mackler, N. Conserved and distinct signatures of transcriptional aging across tissues in rhesus macaques. *American Journal of Biological Anthropology*, 180(Suppl. 75), 127.
- 2023 Schneider-Crease, I.A., Weyher, A.H., Mubemba, B., Kamilar, J.M., Petersdorf, M., **Chiou, K.L.** Stronger maternal social bonds and higher rank are associated with accelerated infant maturation in Kinda baboons. *American Journal of Biological Anthropology*, 180(Suppl. 75), 157-158.
- 2022 **Chiou, K.L.**, Zintel, T.M., Bohlen, M.O., Spurrell, C.H., Gogate, A.A., O'Day, D.R., Pliner, H.A., Martinez, M.I., Brent, L.J.N., Higham, J.P., Starita, L.M., Montague, M.J., Platt, M.L., Shendure, J., Snyder-Mackler, N. A comprehensive single-cell transcriptional and epigenomic atlas of the adult rhesus macaque brain. Cold Spring Harbor Laboratory Biology of Genomes Meeting. Laurel Hollow, New York.
- 2022 Watowich, M.M., Goldman, E.A., **Chiou, K.L.**, Montague, M.J., Ruiz-Lambides, A.V., Martínez, M.I., Horvath, J.E., Brent, L.J.N., Higham, J.P., Sterner, K.N., Lea, A.J., Platt, M.L., Snyder-Mackler, N. Natural disaster is associated with differential DNA methylation in immune cells of rhesus macaques. Cold Spring Harbor Laboratory Biology of Genomes Meeting. Laurel Hollow, New York.
- 2022 Janiak, M.C., DeCasien, A.R., **Chiou, K.L.**, Villamil, C.I., Stock, M.K., Trujillo, A.E., DePasquale, A., Orkin, J.D., Ruiz-Lambides, A.V., Negrón-Del Valle, J.E., Testard, C., Bauman Surratt, S.E., Gonzalez, O., Cayo Biobank Research Unit, Martínez, M.I., Walker, C.S., Sallet, J., Dominguez-Bello, M.G., Montague, M.J., Antón, S.C., Melin, A.D., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N., Higham, J.P. Gut microbial diversity predicts brain immune gene regulation in a model nonhuman primate. *American Journal of Biological Anthropology*, 177(Suppl. 73), 89.

- 2022 Dugan, G.R., Zintel, T.M., **Chiou, K.L.**, Spurrell, C.H., Gogate, A.A., Starita, L.M., O'Day, D.R., Pliner, H.A., Bauman, S.E., Compo, N.R., Martinez, M.I., Brent, L.J.N., Walker, C.S., Gonzalez, O., Stylli, J., DeCasien, A.R., Bohlen, M.O., Higham, J.P., Montague, M.J., Platt, M.L., Shendure, J., Snyder-Mackler, N. Characterizing neurons in schizophrenia-associated regions of the rhesus macaque brain. *American Journal of Biological Anthropology*, 177(Suppl. 73), 50-51.
- 2022 **Chiou, K.L.**, Janiak, M.C., Melin, A.D., Beehner, J.C., Bergman, T.J., Lu, A., Snyder-Mackler, N. Adaptations to high altitude in the gelada genome. Joint meeting of the International Primatological Society and the Sociedad Latinoamericana de Primatología. Quito, Ecuador.
- 2021 Prater, K.E., Green, K.J., **Chiou, K.L.**, Smith, C.L., Sun, W., Shojaie, A., Heath, L., Rose, S., Keene, C.D., Logsdon, B., Snyder-Mackler, N., Blue, E.E., Young, J.E., Garden, G.A., Jayadev, S. Microglia subtype transcriptomes differ between Alzheimer Disease and control human postmortem brain samples. *Alzheimer's & Dementia*, 17(Suppl. 2), e058474.
- 2021 Zintel, T.M.\*, **Chiou, K.L.\***, Bohlen, M.O., Spurrell, C.H., Gogate, A.A., O'Day, D.R., Dugan, G., Pliner, H.A., Bauman, S.E., DeCasien, A.R., Gonzalez, O., Martinez, M.I., Brent, L.J.N., Higham, J.P., Starita, L.M., Montague, M.J., Platt, M.L., Shendure, J., Snyder-Mackler, N. A comprehensive single-cell atlas of the adult rhesus macaque brain. National Cooperative Reprogrammed Cell Research Groups (NCRCRG) & Convergent Neuroscience (CN) Meeting. Virtual due to COVID-19.
- 2021 **Chiou, K.L.**, DeCasien, A.R., Testard, C., Spurrell, C.H., Gogate, A.A., Pliner, H.A., Mercer, A., Negrón-Del Valle, J.E., Janiak, M.C., Bauman Surratt, S.E., González, O., Compo, N.R., Stock, M.K., Ruiz-Lambides, A.V., Martínez, M.I., Melin, A.D., Antón, S.C., Walker, C.S., Sallet, J., Starita, L.M., Shendure, J., Higham, J.P., Brent, L.J.N., Montague, M.J., Platt, M.L., Snyder-Mackler, N. Links to disease and the social environment in the aging brain transcriptome. Annual meeting of the Society for Neuroscience. Chicago, Illinois.
- 2021 Watowich, M.M., **Chiou, K.L.**, Montague, M.J., Simons, N.D., Ruiz-Lambides, A.V., Martínez, M.I., Horvath, J.E., Higham, J.P., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N. Natural disaster accelerates the pace of immunological aging in a nonhuman primate. Animal Behavior Society Annual Meeting. Virtual due to COVID-19.
- 2021 Watowich, M.M., **Chiou, K.L.**, Montague, M.J., Martínez, M.I., Higham, J.P., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N. Experiencing a natural disaster accelerates aging of the immune system. *Innovation in Aging*, 5(Suppl. 1), 675.
- 2021 Zintel, T.M., **Chiou, K.L.**, Spurrell, C.H., Gogate, A.A., Starita, L.M., O'Day, D.R., Pliner, H.A., Bauman, S.E., Compo, N.R., Martinez, M.I., Brent, L.J.N., Gonzalez, O., Bohlen, M.O., Montague, M.J., Higham, J.P., Platt, M.L., Shendure, J., Snyder-Mackler, N. A comprehensive single-cell atlas of the adult rhesus macaque brain. BRAIN Initiative Investigators Meeting. Virtual due to COVID-19.
- 2021 **Chiou, K.L.**, DeCasien, A.R., Montague, M.J., Bauman, S.E., Compo, N.R., González, O., Pliner, H.A., Spurrell, C.H., Starita, L.M., Brent, L.J.N., Higham, J.P., Martinez, M.I., Shendure, J., Platt, M.L., Snyder-Mackler, N. Region- and cell-specific transcriptional signatures of aging across the rhesus macaque brain. BRAIN Initiative Investigators Meeting. Virtual due to COVID-19.

- 2021 Zintel, T.M., **Chiou, K.L.**, Spurrell, C.H., Gogate, A.A., Starita, L.M., O'Day, D.R., Pliner, H.A., Bauman, S.E., Compo, N.R., Martinez, M.I., Brent, L.J.N., Gonzalez, O., Bohlen, M.O., Montague, M.J., Higham, J.P., Platt, M.L., Shendure, J., Snyder-Mackler, N. A comprehensive single-cell atlas of the adult rhesus macaque brain. Cold Spring Harbor Laboratory Biology of Genomes Meeting. Virtual due to COVID-19.
- 2021 **Chiou, K.L.**, Janiak, M.C., Melin, A.D., Lu, A., Beehner, J.C., Bergman, T.J., Snyder-Mackler, N. Adaptations to high altitude in the gelada genome. Cold Spring Harbor Laboratory Biology of Genomes Meeting. Virtual due to COVID-19.
- 2021 DeCasien, A.R., **Chiou, K.L.**, Montague, M.J., Sherwood, C.C., Platt, M.L., Martinez, M.I., Bauman, S.E., González, O., Snyder-Mackler, N., Higham, J.P. Patterns of sex-biased gene expression in rhesus macaque brains are similar to those observed in human brains. *American Journal of Physical Anthropology*, 174(Suppl. 71), 25.
- 2020 Watowich, M.M., **Chiou, K.L.**, Montague, M.J., Ruiz-Lambides, A.V., Martínez, M.I., Horvath, J.E., Higham, J.P., Brent, L.J.N., Platt, M.L., Snyder-Mackler, N. Natural disaster accelerates age-associated immune system dysregulation. Cold Spring Harbor Laboratory Mechanisms of Aging Meeting. Virtual due to COVID-19.
- 2020 Snyder-Mackler, N., **Chiou, K.L.**, Janiak, M.C., Melin, A.D., Beehner, J.C., Bergman, T.J., Lu, A. High altitude adaptations in gelada monkeys (*Theropithecus gelada*). *American Journal of Physical Anthropology*, 171(Suppl. 69), 269.
- 2020 Goldman, E.A., **Chiou, K.L.**, Montague, M.J., Mercer, A., Sams, S., Martinez, M.I., Horvath, J.E., Brent, L.J.N., Platt, M.L., Sterner, K.N., Snyder-Mackler, N. Investigating age-related variation in the methylome of rhesus macaques. *American Journal of Physical Anthropology*, 171(Suppl. 69), 103.
- 2020 DeCasien, A.R., **Chiou, K.L.**, Montague, M.J., Sherwood, C.C., Platt, M.L., Martinez, M.I., Bauman, S.E., González, O., Snyder-Mackler, N., Higham, J.P. Sex-biased gene expression in the rhesus macaque brain. *American Journal of Physical Anthropology*, 171(Suppl. 69), 67.
- 2020 **Chiou, K.L.**, DeCasien, A.R., Montague, M.J., Bauman, S.E., Compo, N.R., González, O., Pliner, H.A., Spurrell, C.H., Starita, L.M., Brent, L.J.N., Higham, J.P., Martinez, M.I., Shendure, J., Platt, M.L., Snyder-Mackler, N. The rhesus macaque brain cell census reveals heterogeneity in aging across cell types. *American Journal of Physical Anthropology*, 171(Suppl. 69), 50-51.
- 2019 **Chiou, K.L.**, Janiak, M.C., Melin, A.D., Beehner, J.C., Bergman, T.J., Lu, A., Snyder-Mackler, N. Adaptations to high altitude in the gelada monkey genome. Non-human primates – novel insights into evolution and medicine meeting, Arizona State University, Tempe, Arizona.
- 2019 Janiak, M.C., **Chiou, K.L.**, Lu, A., Bergman, T.J., Beehner, J.C., Snyder-Mackler, N., Melin, A. Digestive and sensory adaptations for the grass-eating niche: insights from the gelada (*Theropithecus gelada*) genome. *American Journal of Physical Anthropology*, 168(Suppl. 68), 113.
- 2019 Goldman, E.A., **Chiou, K.L.**, Brent, L.J.N., Montague, M.J., Platt, M.L., Horvath, J.E., Sams, S., Sterner, K.N., Snyder-Mackler, N. An epigenetic measure of biological aging in rhesus macaques. *American Journal of Physical Anthropology*, 168(Suppl. 68), 88.
- 2019 **Chiou, K.L.**, DeCasien, A.R., Montague, M.J., Sherwood, C.C., Platt, M.L., Higham, J.P., Snyder-Mackler, N. Transcriptional signatures of the aging nonhuman primate brain. *American Journal of Physical Anthropology*, 168(Suppl. 68), 41.



- 2019 **Chiou, K.L.** (discussant). Visualizing plants: productive ways to present archaeobotanical data (C.A. Hastorf, chair). Annual meeting of the Society for American Archaeology. Albuquerque, New Mexico.
- 2018 **Chiou, K.L.**, DeCasien, A.R., Martinez, M., Ruiz-Lambides, A., Montague, M.J., Sherwood, C.C., Platt, M.L., Brent, L.J.N., Higham, J.P., Snyder-Mackler, N.\* Social environmental influences on the aging brain and immune system in rhesus macaques on Cayo Santiago. Annual meeting of the Latin American Association of Biological Anthropology (La Asociación Latinoamericana de Antropología Biológica). Mayagüez, Puerto Rico.
- 2018 Snyder-Mackler, N., **Chiou, K.L.** Genomic signatures of high-altitude adaptation in gelada monkeys (*Theropithecus gelada*). Annual meeting of the Society for Molecular Biology and Evolution. Yokohama, Japan.
- 2018 **Chiou, K.L.**, DeCasien, A.R., Montague, M.J., Sherwood, C.C., Platt, M.L., Snyder-Mackler, N. Single-cell transcriptional signatures of the aging nonhuman primate brain. Annual meeting of the Society for Molecular Biology and Evolution. Yokohama, Japan.
- 2018 **Chiou, K.L.**, Bergey, C.M., Disotell, T.R., Rogers, J., Jolly, C.J., Phillips-Conroy, J. Genome-wide signatures of differential introgression in a Zambian baboon hybrid zone. *American Journal of Physical Anthropology*, 165(Suppl. 66), 48.
- 2017 Melin, A.D., **Chiou, K.L.**, Walco, E.R., Kawamura, S., Fedigan, L.M. Red-green colour vision increases fruit intake rates of wild capuchins (*Cebus capucinus imitator*). Annual meeting of the Canadian Association for Physical Anthropology. Edmonton, Alberta.
- 2016 **Chiou, K.L.**, Bergey, C.M. An inexpensive methylation-based enrichment method enables genomic-scale population-level genotyping of animals from their feces. Joint meeting of the International Primatological Society and the American Society of Primatologists. Chicago, Illinois.
- 2016 Di Fiore, A., **Chiou, K.L.**, Chevett, M., Overstreet, R., Igoe, T. Ethoinformatics II: developing open-source software and digital data services for primatology. Joint meeting of the International Primatological Society and the American Society of Primatologists. Chicago, Illinois.
- 2016 **Chiou, K.L.**, Di Fiore, A., Overstreet, R., Chevett, M., Igoe, T. Ethoinformatics I: developing a community-informed standard vocabulary and data model for primatology. Joint meeting of the International Primatological Society and the American Society of Primatologists. Chicago, Illinois.
- 2016 Walco, E.R., **Chiou, K.L.**, Kawamura, S., Fedigan, L.M., Melin, A.D. Color vision and age affect fruit foraging rates of wild white-faced capuchins (*Cebus capucinus*) in Sector Santa Rosa. Joint meeting of the International Primatological Society and the American Society of Primatologists. Chicago, Illinois.
- 2016 Di Fiore, A., **Chiou, K.L.**, Chevett, M., Overstreet, R., Igoe, T. Ethoinformatics II: developing open-source digital data services for behavioral field research. *American Journal of Physical Anthropology*, 159(Suppl. 62), 130-131.
- 2016 **Chiou, K.L.**, Di Fiore, A., Overstreet, R., Chevett, M., Igoe, T. Ethoinformatics I: developing a standard vocabulary and data model for behavioral field research. *American Journal of Physical Anthropology*, 159(Suppl. 62), 115-116.
- 2015 Walco, E.R., **Chiou, K.L.**, Melin, A.D. Juvenile foraging efficiency in white-faced capuchins (*Cebus capucinus*): assessing the impact of color vision. Annual meeting of the Midwestern Primate Interest Group. St. Louis, Missouri.

- 2013 **Chiou, K.L.** A pilot description and categorization of Kinda baboon vocalizations. *American Journal of Physical Anthropology*, 150(Suppl. 56), 98.
- 2013 Weyher, A.H., **Chiou, K.L.** Adult Kinda baboon (*Papio kindae*) behavior: preliminary results from a two year study. *American Journal of Physical Anthropology*, 150(Suppl. 56), 289.
- 2010 **Chiou, K.L.**, Hodgson, J.A., Pozzi, L., Di Fiore, A. Complete mitochondrial DNA sequences lend insight into the evolutionary history and biogeography of Central American squirrel monkeys. *American Journal of Physical Anthropology*, 141(Suppl. 50), 80-81.
- 2009 **Chiou, K.L.** Determining the home range of a mantled howler monkey (*Alouatta palliata*) group of Isla de Ometepe, Nicaragua. *Inquiry: A Journal of Undergraduate Research*, 13, 187.

## RESEARCH ACTIVITIES

- 2022-present **Social and dietary modifiers of neuroinflammation and aging**, Arizona State University. PI. With Carol Shively and Tom Register.
- 2019-present **Single cell transcriptional and epigenomic atlas of the macaque brain across the lifespan**, Arizona State University. Team Member. With Noah Snyder-Mackler, Jay Shendure, and Michael Platt.
- 2019-present **Kasanka Baboon Project**. Co-Director. With Anna Weyher, India Schneider-Crease, Megan Petersdorf, Benjamin Mubemba, and Jason Kamilar.
- 2017-present **Functional genomics of high-altitude adaptation in geladas**, Arizona State University. With Noah Snyder-Mackler.
- 2017-present **Social influences on the epigenomic landscape of the aging nonhuman primate brain**, Arizona State University. With Noah Snyder-Mackler.
- 2013-2017 **Population genomics of a baboon hybrid zone in Zambia**, Washington University: Ph.D. Dissertation. Advisor Jane Phillips-Conroy.
- 2013-2017 **Ethoinformatics: developing data services for behavioral research**, Washington University. Co-PI. With Anthony Di Fiore, Tom Igoe, and Jane Phillips-Conroy.
- 2011-2015 **Ecological niche modeling of Central American squirrel monkeys, *Saimiri oerstedii***, Washington University. With Mary Blair.
- 2012 **Comparative acoustics and vocal recognition of Kinda (*Papio kindae*) and gray-footed chacma (*Papio ursinus griseipes*) baboons of Kafue National Park, Zambia**, Washington University.
- 2011-2012 **Zambian baboon capture and release project**, Kafue National Park, Zambia: Team Member.
- 2011-2012 **The Kinda baboon (*Papio kindae*) gut microbiome**, Jeffrey Gordon Lab, Center for Genome Sciences & Systems Biology, Washington University: Visiting Researcher.
- 2009-2010 **“Wired monkeys” project: developing physical computing products for wildlife biology**, New York University: Team Member.
- 2009-2010 **The phylogenetic and phylogeographic history of squirrel monkeys, genus *Saimiri***, New York University: B.A. Thesis. Advisor Anthony Di Fiore.
- 2009-2010 **Proyecto Primates**, Tiputini Biodiversity Station, Ecuador: Team Member.
- 2008-2010 **Intern supervisor**, Molecular Primatology Laboratory, New York University.

- 2009 **Reproductive endocrinology of female lowland woolly monkeys, *Lagothrix poeppigii***, New York University.
- 2009 **Population genetics of Zambian baboons, genus *Papio***, Molecular Primatology Laboratory, New York University: Research Assistant.
- 2008-2009 **Population genetics of white-bellied spider monkeys, *Ateles belzebuth*, and lowland woolly monkeys, *Lagothrix poeppigii***, Molecular Primatology Laboratory, New York University: Research Assistant.
- 2008 **Patterns of home range use in mantled howler monkeys, *Alouatta palliata***, Ometepe Biological Field Station, Nicaragua: Field School Student.

## MEDIA COVERAGE

- 2022 Caspermeyer, J. "Life at the top", *ASU News*. Arizona State University. 24 Mar. 2022.
- 2017 Brown, K.B. "Poop May Be the Key to Studying the Most Elusive Animals on Earth", *Gizmodo*. Gawker Media. 17 Feb. 2017.

## TEACHING EXPERIENCE

### Coursework

- Spring 2016 **Darwin and Doctors: Evolutionary Medicine and Health**, Washington University: Teaching Assistant.
- Fall 2015 **Introduction to Human Evolution**, Washington University: Teaching Assistant.
- Spring 2013 **Behavioral Research at the St. Louis Zoo**, Washington University: Teaching Assistant.
- Fall 2012 **Principles of Anatomy and Development**, Washington University: Teaching Assistant.
- Spring 2012 **Public Health Research and Practice**, Washington University: Teaching Assistant.
- Fall 2011 **Anthropology and Public Health**, Washington University: Teaching Assistant.

### Mentoring

- 2024 **Kate Nelson**, Barrett, The Honors College, Arizona State University: B.S. Committee Member.
- 2020-2023 **Spencer Green**, Barrett, The Honors College, Arizona State University: Co-Mentor, B.S. Committee Member.
- 2022 **Zane Jacobs**, Barrett, The Honors College, Arizona State University: B.A. Committee Member.

## UNIVERSITY SERVICE

- 2012-2013 **Graduate Council**, Washington University: Graduate Student Representative.
- 2009-2010 **Anthropology Undergraduate Student Association**, New York University: President.
- 2008-2009 **Anthropology Undergraduate Student Association**, New York University: Vice-President.

## PROFESSIONAL ACTIVITIES AND SERVICE

- Organizer 2015 National Science Foundation Ethoinformatics Working Group Meeting, University of Texas at Austin · 2013 National Science Foundation Ethoinformatics Working Group Meeting, Olin Library, Washington University.
- Reviewer *American Journal of Physical Anthropology* · *American Journal of Primatology* · *BMC Ecology and Evolution* · *Evolutionary Anthropology* · *G3: Genes|Genomes|Genetics* · *International Journal of Primatology* · *Journal of Heredity* · *Journal of Molecular Evolution* · *MicrobiologyOpen* · *Molecular Biology and Evolution* · *Molecular Ecology* · *Molecular Ecology Resources* · *Molecular Phylogenetics and Evolution* · *Nature Ecology and Evolution* · *Proceedings of the National Academy of Sciences* · *Proceedings of the Royal Society B: Biological Sciences* · *Scientific Reports* · The Leakey Foundation.
- Member American Association of Biological Anthropologists · International Primatological Society · American Association of Anthropological Genetics · Society for Molecular Biology and Evolution · American Aging Association · Society for Neuroscience · NIH BRAIN Initiative Cell Census Network · Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment · Animal Behavior Society · Lambda Alpha.

## SKILLS

- Tech Python, Perl, sed/awk, R, JavaScript, PHP, PostgreSQL, MySQL, CouchDB, RDF/SPARQL, QGIS, ArcGIS, NetLogo.
- Foreign Languages Spanish (intermediate), Mandarin Chinese (speaking: fluent, writing: basic).

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