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Professional Appointments and Education

- 2020-pres. **Assistant Professor**, Department of Genetics, Rutgers University
2016-2019 **Post-doctoral Fellow**, Perry Lab, Penn State University
2015-2016 **Post-doctoral Researcher**, Besansky Lab, University of Notre Dame
2009-2015 **Ph.D.** Biological Anthropology, New York University
2011 **M.A.** Biological Anthropology, New York University
2005-2009 **B.A.** Anthropology, New York University

Publications

Trujillo, A.E., Sugi, T., Reteng, P., Tosi, A.J., Yamagishi, J., and **Bergey, C.M.**. (In preparation). Host-parasite interaction in primate models of Duffy-null malaria infection revealed through single-cell transcriptomics.

Trujillo, A.E. and **Bergey, C.M.** (Submitted; Preprint available). Gene expression of macaques infected with malaria species of zoonotic concern.

Sorensen, E.F. *et al.* (including **Bergey, C. M.**) (Submitted) Genome-wide coancestry reveals details of ancient and recent male driven reticulation in baboons.

Trujillo, A. E. and **Bergey, C. M.** (Submitted; Preprint available) Immuno-genetic response to a malaria-like parasite in a wild primate.

Chiou, K. L., **Bergey, C. M.**, Burrell, A.S., Disotell, T.R., Rogers, J., Jolly, C.J., and Phillips-Conroy, J.E. (Submitted; Preprint available). Genomic signatures of extreme body size divergence in baboons.

2023 Sørensen, E. F, *et al.* (including **Bergey, C. M.**) (2023) Genome-wide coancestry reveals details of ancient and recent male-driven reticulation in baboons. *Science*, 380, eabn8153.

2022 **Henderson, C. A.**, Kemirembe, K., McKeand, S., **Bergey, C. M.**, and Rasgon, J. L. (2022) Novel genome sequences and evolutionary dynamics of North American anopheline species *Anopheles freeborni*, *crucians*, *quadrimaculatus*, and *albimanus*. *G3*, jkac284.

Petersen, R. M., **Bergey, C. M.**, Roos, C., and Higham, J. P. (2022) Relationship between genome-wide and MHC class I and II genetic diversity and complementarity in a nonhuman primate. *Ecology and Evolution*, 12(10), e9346.

Henderson, C. A., Brustolin, M., Hegde, S., Hughes, G. L., **Bergey, C. M.**, and Rasgon, J. L. (2022) Mayaro Transcriptomic and small RNA response to Mayaro Virus infection in *Anopheles stephensi* mosquitoes. *PLOS Neglected Tropical Diseases*, 16 (6), e0010507.

Marciniak, S. M., **Bergey, C. M.**, Silva, A.M., Hałuszko, A., Furmanek, M., Veselka, B., Velemínský, P., Vercellotti, G., Wahl, J., Zariņa, G., Longhi, C., Kolář, J., Garrido-Pena, R., Flores-Fernández, R., Herrero-Corral, A. M., Simalcsik, A., Müller, W., Sheridan, A., Miliauskienė, Ž., Jankauskas, R., Moiseyev, V., Köhler, K., Király, Á., Gamarra, B., Cheronet, O., Szeverényi, V., Kiss, V., Szeniczey, T., Kiss, K., Zoffmann, Z. K., Koós, J., Hellebrandt, M., Domboróczki, L., Virag, C., Novak, M., Reich, D. E., Hajdu, T., von Cramon-Taubadel, N., Pinhasi, R., Perry, G. H. (2022). An integrative skeletal and paleogenomic analysis of prehistoric stature variation suggests relatively reduced health for early European farmers. *Proceedings of the National Academy of Sciences*, 119 (15) e2106743119.

Chiou, K. L., Janiak, M.C., Schneider-Crease, I., 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., and Snyder-Mackler, N. (2022) High-altitude adaptation and incipient speciation in geladas. *Nature Ecology and Evolution*.

2021 **Bergey, C. M.** (2021). Western diet shifts immune cell balance. *eLife*, 10: e72787.

Marciniak, S., Mughal, M. R., Godfrey, L. R., Bankoff, R. J., Randrianatoandro, H., Crowley, B. E., **Bergey, C. M.**, Muldoon, K. M., Randrianasy, J., Raharivololona, B. M., Schuster, S.,C., Malhi, R. S., Yoder, A. E., Louis Jr., E. E., Kistler, L., and Perry, G. H. (2021). Evolutionary and phylogenetic insights from a nuclear genome sequence of the extinct, giant 'subfossil' koala lemur *Megaladapis edwardsi*. *Proceedings of the National Academy of Sciences*, 118 (26) e2022117118.

Chiou, K. L., **Bergey, C. M.**, Burrell, A.S., Disotell, T.R., Rogers, J., Jolly, C.J., and Phillips-Conroy, J.E. (2021). Genome-wide ancestry and introgression in a Zambian baboon hybrid zone. *Molecular Ecology*, 30 (8), 1907-1920.

2020 Schmitt, C. A., **Bergey, C. M.**, Jasinska, A. J., Ramensky, V., Svoldal, H., Jorgensen, M. J., Freimer, N. B., Grobler, J. B., Turner, T. R. (2020). *ACE2* and *TMPRSS2* variation in savanna monkeys (*Chlorocebus* spp.): Potential risk for zoonotic/anthroponotic transmission of SARS-CoV-2 and a potential model for functional studies. *PLoS ONE*, 15(6), e0235106.

- 2019 **Bergey, C. M.**, Lukindu, M., Wiltshire, R. M., Fontaine, M. C., Kayondo, J., and Besansky, N. J. (2019). Assessing connectivity despite high diversity in island populations of the malaria mosquito *Anopheles gambiae*. *Evolutionary Applications*, 13(2), 417-431.
- Harrison, G. F., Sanz, J., Boulais, J., Mina, M. J., Grenier, J. C., Leng, Y., Dumaine, A., Yotova, V., **Bergey, C. M.**, Nsohya, S., Elledge, S. J., Schurr, E., Quintana-Murci, L., Perry, G. H., and Barreiro, L. B. (2019). Natural selection has contributed to functional immune response differences between human hunter-gatherers and agriculturalists. *Nature Ecology and Evolution*, 3: 1253–1264.
- Rogers, J. *et al.* (including **Bergey, C. M.**) (2019). The comparative genomics, epigenomics and complex population history of *Papio* baboons. *Science Advances*, 5 (1):eaau6947.
- 2018 **Bergey, C. M.**, Lopez, M., Harrison, G. F., Patin, E., Cohen, J. A., Quintana-Murci, L., Barreiro, L. B., and Perry, G. H. (2018). Polygenic adaptation and convergent evolution on growth and cardiac genetic pathways in African and Asian rainforest hunter-gatherers. *Proceedings of the National Academy of Sciences*, 115 (48):E11256-E11263.
- Wiltshire, R. M., **Bergey, C. M.**, Kayondo, J. K., Birungi, J., Mukwaya, L. G., Emrich, S. J., Besansky, N. J., and Collins, F. H. (2018). Reduced-representation sequencing identifies small effective population sizes of *Anopheles gambiae* in the north-western Lake Victoria basin, Uganda. *Malaria Journal*, 17(285).
- Lukindu, M., **Bergey, C. M.**, Wiltshire, R. M., Small, S., Bourke, B., Kayondo, J. K., and Besansky, N. J. (2018). Spatio-temporal genetic structure of *Anopheles gambiae* in the Northwestern Lake Victoria Basin, Uganda: implications for genetic control trials in malaria endemic regions. *Parasites & Vectors*, 11(246).
- Chiou, K. L.* and **Bergey, C. M.*** (2018). Methylation-based enrichment facilitates low-cost, noninvasive genomic scale sequencing of populations from feces. *Contributed equally. *Scientific Reports*, 8(1975).
- 2017 Miles, A. *et al.* (including **Bergey, C. M.**) (2017). Genetic diversity of the African malaria vector *Anopheles gambiae*. *Nature*, 552, 96-100.
- 2016 **Bergey, C. M.**, Phillips-Conroy, J. E., Disotell, T. R., and Jolly, C. J. (2016). Dopamine pathway is highly diverged in primate species that differ markedly in social behavior. *Proceedings of the National Academy of Sciences*, 113(22):6178–6181
- 2015 Burrell, A. S., Disotell, T. R., and **Bergey, C. M.** (2015). The use of museum specimens with high-throughput DNA sequencers. *Journal of Human Evolution*, 79:35–44

- 2014 Pozzi, L., **Bergey, C. M.**, and Burrell, A. S. (2014). The use (and misuse) of phylogenetic trees in comparative behavioral analyses. *International Journal of Primatology*, 35(1):32–54
- 2013 **Bergey, C. M.**, Watkins, A. M., and Arora, P. S. (2013). HippDB: a database of readily targeted helical protein-protein interactions. *Bioinformatics*, 29(21):2806–2807
- Bergey, C. M.**, Pozzi, L., Disotell, T. R., and Burrell, A. S. (2013). A new method for genome-wide marker development and genotyping holds great promise for molecular primatology. *International Journal of Primatology*, 34(2):303–314
- 2012 Pickett, S. B., **Bergey, C. M.**, and Di Fiore, A. (2012). A metagenomic study of primate insect diet diversity. *American Journal of Primatology*, 74(7):622–631
- 2011 **Bergey, C. M.** (2011). AluHunter: a database of potentially polymorphic Alu insertions for use in primate phylogeny and population genetics. *Bioinformatics*, 27(20):2924–2925
- Jolly, C. J., Burrell, A. S., Phillips-Conroy, J. E., **Bergey, C. M.**, and Rogers, J. (2011). Kinda baboons (*Papio kindae*) and grayfoot chacma baboons (*P. ursinus griseipes*) hybridize in the Kafue river valley, Zambia. *American Journal of Primatology*, 73(3):291–303
- 2010 Hodgson, J. A., **Bergey, C. M.**, and Disotell, T. R. (2010). Neandertal genome: the ins and outs of African genetic diversity. *Current Biology*, 20(12):R517–519

Research Support

Research Incubator in Climate and Health - Seed Funding Initiative Grant for “Modeling the impacts of climate change on mosquito distribution and pathogens in rural Madagascar” - \$49,994 (2023).

Busch Biomedical Grant for “Transgenic disruption of pathogen transmission in mosquito vectors using piRNA signaling” - \$60,000 (2022).

NSF Doctoral Dissertation Research Improvement Grant - co-PI with **Amber E. Trujillo** (Ph.D. student) and Todd R. Disotell (BCS-2118108) - \$24,250 (2021).

Rutgers University COVID Impact on Scholarly Productivity Faculty Grant Program - \$5,000 (2021).

Rutgers University Open and Affordable Textbooks Program Award - \$1,000 (2021).

Rutgers University Center for Human Evolutionary Studies Faculty Member Research Grant for “Genetic architecture of primate innate immune response” - \$8,000 (2021).

Mindlin Foundation “One Tweet, One Percent” Award for “Wilderness First Responder training for biological fieldwork” (MF19-1T1P05) - \$4,000 (2019).

NIH F32 NRSA Postdoctoral Fellowship for “Functional genomics of growth hormone response in a natural human model for short stature with comparisons to other populations and species” (1 F32 GM125228-01A1) - (2017-2019).

NSF Senior Research Award for “The evolutionary mechanics of hybridization across a primate radiation: a case study of the Cercopithecini” (BCS1717188) - co-PI with Anthony J. Tosi and Andrew S. Burrell (2017-2021).

NSF Senior Research Award for “The evolution of the anthropoid genome” (BCS1640500) - co-PI with Andrew S. Burrell and Todd R. Disotell - (2017-2021).

NGS Discovery Project Grand Prize, NGX Bio for whole genome sequencing from noninvasive samples - with Kenneth L. Chiou - \$5,000 (2016).

Lewis and Clark Fund for Exploration and Field Research Grant for study of tsetse fly population genomics in Zambia - \$4,400 (2015).

Wenner-Gren Foundation Dissertation Fieldwork Grant for study of introgression and demography of baboons in Awash, Ethiopia - \$7,996 (2013).

NSF Doctoral Dissertation Improvement Grant for study of MHC introgression across the baboon hybrid zone in Awash, Ethiopia - \$31,226 (2013).

NYU Sokol Travel / Research Award to survey and sample primates in a proposed national park in the TL2 region of the Democratic Republic of the Congo - \$3,000 (2012).

Explorer’s Club Exploration Fund Grant for travel to trap and sample Kinda baboons (*Papio kindae*) in Kafue National Park, Zambia - \$2,500 (2011).

NSF GRFP Travel Grant for Zambia baboon trip (above) - \$1,000 (2011).

NSF Graduate Research Fellowship (2009-2012).

NYU MacCracken Fellowship (2012-2015).

NYU Dean’s Undergraduate Research Fund Grant for travel to meeting of the American Association of Physical Anthropologists to present hybrid baboon research - \$595 (2008).

NYU Dean’s Undergraduate Research Fund Grant for expenses relating to acoustic study of greater bamboo lemurs (*Prolemur simus*) in Madagascar - \$2,000 (2008).

NSF Research Experience for Undergraduates Grant for population genetic study of blue monkeys (*Cercopithecus mitis stuhlmanni*) - \$3,000 (2007).

NYU Dean's Undergraduate Research Fund Grant for blue monkey study (above) - \$975 (2007).

Provisional Patent

“piRNA-Based Constructs For Regulating Gene Expression And Methods Of Use Thereof.”
U.S. Provisional Application 63/362,713 filed April 8, 2022.

Invited Lectures

- April 6, 2023: Robert Wood Johnson Medical School Department of Pathology and Laboratory Medicine Grand Rounds. “Insights into vector-borne diseases from genomics, ecology, and evolutionary biology.”
- April 3, 2023: North Carolina State University, Genetics and Genomics Academy. “Ecological and anthropogenic impacts on malaria mosquitoes.”
- October 19, 2022: Research Incubator in Climate and Health Fall Symposium. “Impacts of climate change on highland mosquitoes and their pathogens.”
- April 26, 2021: Rutgers Division of Life Sciences New Faculty Symposium. “Natural selection in humans and other primates.”
- February 22, 2021: City College of New York, Department of Biology. “Adaptive evolution in African rainforest hunter-gatherers.”
- February 11, 2021: Arizona State University, Center for Evolution and Medicine, “Adaptive evolution in African rainforest hunter-gatherers.”
- December 21, 2020: Rutgers Department of Ecology, Evolution, and Natural Resources seminar series, “Genomic insights into adaptation of humans to rainforest environments.”
- December 11, 2020: Rutgers University, Center for Human Evolutionary Studies. “Genomic insights into human adaptation to life in the rainforest.”
- October 29, 2020: Ithaca College, Department of Biology, “Adaptive evolution in African rainforest hunter-gatherers.”
- January 13, 2020: Rutgers Department of Genetics and HGINJ Luncheon Research Progress series, “Adaptive evolution targeting height and heart development in an African hunter-gatherer population.”
- November 21, 2019: New York Regional Primatology Colloquium: “Genomic perspectives on hybridization in primates with a focus on baboons and guenons.”
- October 29, 2019: Human Genetics in New York City. “Convergent evolution in African and Asian hunter-gatherers with short stature.”
- February 26, 2018: American Museum of Natural History. “Evolutionary genomics of mosquitoes in marginal habitats (and implications for malaria)”
- March 2, 2017: New York Institute of Technology. “Practical results: applying population genomics of humans and disease vectors to improve health”
- September 23, 2015: Florida Atlantic University. “Monkeys and Mosquitoes: Population genomics of our close relatives and an important disease vector.”

Professional Service

Ad-hoc Reviews Completed

Grant proposals reviewed for: Agence nationale de la recherche (France), Leakey Foundation, National Science Foundation (BCS Biological Anthropology), and Wellcome Trust.

Fifty peer reviews contributed for the following eighteen journals: *American Journal of Biological (Physical) Anthropology*, *American Journal of Primatology*, *Annals of Human Biology*, *Axios Review*, *Bioinformatics*, *eLife*, *Folia Primatologica*, *Frontiers in Zoology*, *G3*, *Genes*, *Journal of Medical Entomology*, *Molecular Biology and Evolution*, *Molecular Ecology*, *Molecular Ecology Resources*, *Pathogens*, *Plos Genetics*, *Plos One*, and *Proceedings of the National Academy of Sciences*.

Reviewer (external international) for Ph.D. thesis, Tshwane University of Technology.

Reviewer for chapter in *Cells in Evolutionary Biology: Cell processes in the evolution of primate characteristics*.

Professional Memberships

2022-pres. **Member**, Global Health Institute, Rutgers University

2022-pres. **Member**, Graduate Program in Ecology and Evolution, Rutgers University

2020-pres. **Member**, Graduate Program in Anthropology, Rutgers University

2020-pres. **Member**, Graduate Programs in Biomedical Sciences, Rutgers University

2020-pres. **Member**, Human Genetics Institute of New Jersey, Rutgers University

2020-pres. **Member**, Center For Human Evolutionary Studies, Rutgers University

Sigma Xi, American Association of Biological (Physical) Anthropologists, American Association of Anthropological Genetics, American Society of Tropical Medicine and Hygiene, International Primatological Society

Other Service

Guest Lecturer, **University of Antananarivo Department of Anthropobiology and Sustainable Development**, March 17, 2023.

Guest Lecturer, **New York University Department of Anthropology**, October 28, 2022.

Member, **ASTMH Scientific Program Committee - One Health Subcommittee**, 2023-2026.

External Member, **Department of Entomology Faculty Search Committee**, 2022-2023.

Member, **Department of Genetics Faculty Search Committee**, 2022-2023.

Member, **Department of Genetics Curriculum Committee**, 2022-2023.

Co-Chair, **International Conference on Intelligent Biology and Medicine (ICIBM) 2022 Award Committee**, 2022.

Member, **Graduate Admissions Committee for Molecular Biosciences Graduate Program, Rutgers University**, 2022-2023.

Member, **██████████ Committee, Rutgers University**, 2021-2023.

Faculty judge, **David and Dorothy Bernstein Endowed Scholarship**, 2021-2022.

Faculty judge, **Northeastern Evolutionary Primatologists meeting**, 2020-2021.

Member, **Department of Genetics Diversity Committee, Rutgers University**, 2021.

Panelist, **SAS Honors Program recruitment event (Virtual Scholars Day)**, April 16, 2021.

Session chair, **American Association of Physical Anthropology, “Genetics and Genomics: Nonhuman Primates,”** April 14, 2021.

Panelist, **Research Topic Discussion Group for applicants to Molecular Biosciences Ph.D. program**, February 5, 2021.

Panelist, **Virtual event advising graduate students interested in careers in academia**, August 6, 2020.

Panelist, **Stepping into STEM (NAACP-sponsored event)**, July 8, 2020.

Teaching and Mentorship

Trainees/Students Advised

Postdoctoral researchers:

Cory Henderson (current position: CEO, BioDrive, Inc.; start-up with origins in research conducted in lab)

Ph.D. students:

Amber Trujillo (co-advised; Ph.D. candidate, New York University Department of Anthropology)

Rebecca DeCamp (Ph.D. student, Rutgers University Department of Anthropology)

Lindsey Hauff (Ph.D. student, Rutgers University Department of Ecology, Evolution, and Natural Resources)

Undergraduate students (Mentored research or teaching projects):

Emily Ali (Rutgers University Department of Genetics, Spring 2020)

Tala Azzi (Rutgers University Peer Instructor for the First-Year Interest Group Seminars program, Spring 2020-Spring 2022)

Alexandra Beck (Rutgers University Department of Genetics, Spring 2020-Spring 2022)

Kevin Tilton (Rutgers University Department of Genetics, Spring 2020-Spring 2022)

Kiara Diaz Rodriguez (Rutgers University Department of Genetics, Fall 2021-Spring 2022)

Aditya Girish (Rutgers University Department of Mathematics, Spring 2020-present)

Corinne Groome (Rutgers University Department of Genetics, Spring 2022-present)

Nikita Guelmer (Rutgers University Aresty Research Assistant Program, Spring 2022-present)

Theo Martin (Rutgers University Aresty Research Assistant Program, Spring 2022-present)

Angela Casallas (Rutgers University Department of Genetics, Fall 2022-present)

Vibhavari Madhava (Rutgers University Department of Genetics, Spring 2023-present)

Student Committee Membership**Ph.D. students (current):**

Kyra Fitz (Ph.D. student, Rutgers University Department of Ecology, Evolution, and Natural Resources)

Amanda Johnston (Ph.D. student, Columbia University Department of Ecology, Evolution, and Environmental Biology),

Anna Penna (Ph.D. student, University of Texas-San Antonio Department of Anthropology)

Cody Ruiz (Ph.D. student, Kent State University School of Biomedical Sciences program in Cell and Molecular Biology)

Anissa Speakman (Ph.D. student, Rutgers University graduate program in Human Evolutionary Sciences)

Luna Wang (Ph.D. student, Rutgers University graduate program in Human Evolutionary Sciences)

Ph.D. students (past):

Laura Matthews (Ph.D. 2021, New York University Department of Anthropology)

Rachel Petersen (Ph.D. 2021, New York University Department of Anthropology)

Aishee Bag (M.D./Ph.D. 2022, Rutgers RWJMS Distinction in Research (DIR) program)

Katrina Catalano (Ph.D. 2022, Rutgers University Department of Ecology, Evolution, and Natural Resources)

Emma Ayres Kozitzky (Ph.D. 2022, New York University Department of Anthropology),

Undergraduate students (Honors thesis committees):

Susan Czekay (2020, Rutgers University Department of Genetics), Alexander Kane (2021, Rutgers University Department of Genetics), Devanshi Mehta (2022, Rutgers University Department of Genetics), Morgan Lewin (2023, Rutgers University Department of Genetics), Mahek Virani (2023, Rutgers University Department of Genetics)

Teaching Experience

Fall 2022: **Instructor** for Evolutionary Medicine (01:447:356), Rutgers, the State University of New Jersey (65 students).

Fall 2021: **Instructor** for Evolutionary Medicine (01:447:356), Rutgers, the State University of New Jersey (58 students).

Fall 2019: **Curriculum developer, Instructor** for workshop on population genomic and phylogenetic methods using R, taught to researchers attending the annual meeting of the African Primatological Society in Entebbe, Uganda.

Summer 2017: **Curriculum developer, Instructor** for two week RNA-seq workshop. Taught methods for transcriptome analysis to students from Universidad Peruana Cayetano Heredia in Lima, Peru.

2014-2015: **Curriculum developer** for “BridgeUp: STEM” at the American Museum of Natural History. Two courses for female low-income New York City youth to explore computer science and bioinformatics using the museum’s scientific datasets.

2009-2012: **Curriculum developer, Instructor** for “Harlem Children’s Society Bioinformatics Class.” Summer-long course on bioinformatics computer programming for New York City public high school students.

Spring 2012: **Course assistant** for “Topical Seminar: Phylogenetic Methods.” (Prof. Todd Disotell) Department of Anthropology, New York University.

Fall 2011: **Teaching assistant** for “Human Evolution.” (Prof. Susan Antón) Department of Anthropology, New York University.

International Research and Field Experience

Spring 2023: Mosquito sampling for genomic analyses as well as identification of blood meal and *Plasmodium*. Centre ValBio, Ranomafana, Madagascar.

Summer 2022: Resident coordinator for study abroad program. Centre ValBio, Ranomafana, Madagascar.

Fall 2019: Discussion of ongoing research with Bwindi Community Hospital staff. Buhoma, Uganda.

Summer 2019: Presentation of results and ongoing research to Batwa participants in population and functional genomic studies. Buhoma, Uganda.

Summer 2015: Mosquito (*Anopheles gambiae sensu lato*) sampling for whole genome sequencing. Ssesse Islands, Uganda.

Summer 2012: Primate surveying and sampling in a proposed national park. TL2 region of the Democratic Republic of Congo.

Summer 2011: Biological sampling of the Kinda baboon. Kafue National Park, Zambia.

Fall 2007 & Summer 2008: Research into acoustic communication of the critically endangered greater bamboo lemur. Ranomafana National Park, Madagascar.

Last updated: June 1, 2023