

CURRICULUM VITAE

Dr. Sarah Renee Phillips

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San Francisco State University
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Education

2021 Ph.D., Evolutionary Anthropology, University of New Mexico
2011 Master of Arts, University of New Mexico, Evolutionary Anthropology
2002 Master of Science, Eastern Illinois University, Biology
2000 Bachelor of Science, Eastern Illinois University, Zoology

Research Interests & Ongoing Collaborations

Immunogenetics	Ecological Immunology	Evolutionary Med/One Health
Eco/Evo of Infectious Diseases	Coinfection & the Pathome	Parasitology & Virology
Primateology	Aging & Life History Evolution	Female Reproduction

Reproduction & Immunity in a Life History Context

Melissa Emery Thompson, University of New Mexico
Tony Goldberg, University of Wisconsin, Madison

Chimpanzee Immunogenetics & Disease

Emily Wroblewski, Washington University in St. Louis
Peter Parham, Stanford University School of Medicine
Richard Wrangham, Harvard University

Primate Microbiome & Diet

Rachel Carmody, Harvard University

Professional Appointments

2021-present **San Francisco State University, Department of Biology**
Post-doctoral Scientist, Viral Genomics & Evolution

2021-present **University of New Mexico, Department of Anthropology**
Adjunct Assistant Professor, Evolutionary Anthropology

2012-2021 **University of New Mexico, Department of Anthropology**
Teaching Assistant, lecture & laboratory

2016-2017 **University of New Mexico, Department of Anthropology**

Research Assistant, Hominoid Reproductive Ecology Laboratory
Directors: Melissa Emery Thompson & Martin N. Muller
Funded by NIH

2009-2011 **University of New Mexico, Department of Biology**
Fellow, Program in Interdisciplinary Biology & Biomedical Sciences (PiBBs)
Directors: Jim Brown and Felisa Smith
Funded by NIH & Howard Hughes Medical Institute

Publications (Orcid ID: <https://orcid.org/0000-0001-6857-5888>)

(Bold denotes my authorship)

- A.T. Reese, **Phillips S.R.**, Owens L.A., Venable E.M., Langergraber K.E., Machanda Z.P., Mitani J.C., Muller M.N., Watts D.P., Wrangham R.W., Goldberg T.L., Thompson M.E., and Carmody R.N. 2021. Age patterning in the wild chimpanzee gut microbiota diversity reveals differences from humans in early life. *Current Biology*. 31(3): 613-620.
- Sarah Renee Phillips**, T.L. Goldberg, M.N. Muller, Z.P. Machanda, S. Friant, E. Otali, J. Carag, K.E. Langergraber, J.C. Mitani, R.W. Wrangham, E.E. Wroblewski, and M. Emery Thompson. 2020. Fecal parasites increase with age but not reproductive effort in wild female chimpanzees. *Phil. Trans. Royal. B*. 375(1811): 20190614.
- M.E. Thompson, S.A. Fox, A. Berghanel, K. Sabbi, **S. Phillips-Garcia**, D.K. Enigk, E. Otali, Z.P. Machanda, R.W. Wrangham, and M.N. Muller. 2020. Wild Chimpanzees Exhibit Human-Like Aging of Glucocorticoid Regulation. *PNAS*. 117(15): 8424-8430.
- Negrey, J.D., Reddy, R.B., Scully, E.J., **Phillips-Garcia, S.**, Owens, L.A., Langergraber, K.E., Mitani, J.C., Emery Thompson, M., Wrangham, R.W., Muller, M.N., Otali, E., Machanda, Z., Hyeroba, D., Grindle, K.A., Pappas, T.E., Palmenberg, A.C., Gern, J.E., and T.L. Goldberg. 2019. Simultaneous outbreaks of respiratory disease in wild chimpanzees caused by distinct viruses of human origin. *Emerging Microbes & Infections*. 8(1): 139-149.
- Rodgers, J.K., Sandland, G.J., **Joyce, S.R.** and D.J. Minchella. 2005. Multi-species interactions among a commensal (*Chaetogaster limnaei limnaei*), a parasite (*Schistosoma mansoni*) and an aquatic snail host (*Biomphalaria glabrata*). *Journal of Parasitology*. 91(3): 709-712.

Publications in Active Preparation

- Sarah Renee Phillips**, M. Emery Thompson, E.V. Lonsdorf, M.N. Muller, Z.P. Machanda, E. Scully, E. Otali, T.L. Goldberg, T.R. Gillespie, D.A. Travis, R.W. Wrangham, P. Parham, and E.E. Wroblewski. (In prep) Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*): MHC-B genotypic and phenotypic associations with respiratory illness. (in prep for **Molecular Ecology**)

Sarah Renee Phillips, T.L. Goldberg, Wroblewski, E.W., and M. Emery Thompson. (*In prep*). Impact of Sex, Stress, and Coinfection on Parasite Burden in Wild Chimpanzees (*Pan troglodytes schweinfurthii*).

Research Funding & Professional Recognition

2018 Best Oral Presentation, Southwest Association of Biological Anthropologists (\$100)
2018 Louis B. Leakey Foundation Research Grant (\$11,125.00)
2018 American Association of Anthropological Genetics Outstanding Trainee Award (\$200)
2016 National Science Foundation DDIG (\$19,625)
2010 PIBBS Fellowship – NIH/Howard Hughes Medical/UNM Biology (\$21,000)
2009 PIBBS Fellowship – NIH/ Howard Hughes Medical/UNM Biology (\$21,000)
2001 EIU Graduate Research/Creative Activity Award (\$750.00)
2000 Sigma Xi Grant in Aid of Research (\$715.00)
2000 Errett/Mazie Warner Presidential Award in Zoology (\$2140.00)
2000 Phi Sigma (Beta Pi Chapter) Research Award (\$250.00)

Invited Talks & Presentations

2020 Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*): MHC-B genotypic and phenotypic associations with respiratory illness, Department of Anthropology (Wroblewski Laboratory), Washington University in St. Louis, St. Louis, Mo.

2019 Trade-offs between Reproduction & Immunity in Wild Female Chimpanzees from Kibale National Park, Uganda, Department of Anthropology, Washington University in St. Louis, St. Louis, Mo.

2018 Ecoimmunology & Disease Ecology of Wild Chimpanzees, Ecohealth Course (Michael Wasserman), Department of Anthropology, Indiana University, Bloomington, IN

2017 Life History Trade-offs Between Reproduction & Immunological Health in Wild Chimpanzees, Goldberg Laboratory, Department of Pathobiological Sciences, University of Wisconsin, Madison, WI

2017 Life History Trade-offs Between Reproduction & Immunological Health in Wild Chimpanzees, Biological Anthropology Section, Department of Anthropology, University of Wisconsin, Madison, WI

2017 Life History Trade-offs Between Reproduction & Immunological Health in Wild Chimpanzees, Parham Laboratory, School of Medicine, Stanford University, Stanford, CA

2015 Genetics of the Human Diaspora with Emphasis on Archaic Admixture, Evolution & Human Emergence (Corey Ragsdale), Department of Anthropology, University of New Mexico, Albuquerque, NM

Conference Papers and Posters

- 2019 Trade-offs between reproduction and immunity in wild female chimpanzees (*Pan troglodytes schweinfurthii*) of Kibale National Park, Uganda. **Sarah Phillips-Garcia**, Tony L Goldberg, Martin N Muller, Zarin P Machanda, Sagan Friant, Emily Oтали, Jessica Carag, Kevin E Langergraber, John C Mitani, Richard W Wrangham, Melissa Emery Thompson; American Association of Biological Anthropologists; oral presentation; Cleveland, OH.
- 2019 Chimpanzee reverse zoonoses: unfortunate natural experiments in great ape comparative medicine and demography. Tony L Goldberg, Sarmi Basnet, Melissa Emery-Thompson, James E Gern, Kristine A Grindle, Kevin E Langergraber, Zarin P Machanda, John C Mitani, Martin M Muller, Jacob D Negrey, Emily Oтали, Leah Owens, Ann C Palmenberg, Tressa E Pappas, **Sarah Phillips-Garcia**, Rachna B Reddy, Erik J Scully, Richard W Wrangham; American Association of Biological Anthropologists; oral presentation by T.L. Goldberg; Cleveland, OH.
- 2018 Identification of Parasites with Metagenomic Barcoding Confirms Microscopy Findings and Detects Additional Organisms. L.A. Owens, S.L. Friant, **Sarah Phillips-Garcia**, M.E. Thompson, T.L. Goldberg; American Journal of Tropical Medicine and Hygiene; oral presentation by L.A. Owens; New Orleans, LA.
- 2018 Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*) from Uganda & Tanzania: Does *Patr-B* genotype or phenotype predict occurrence of respiratory illness? **S. Phillips-Garcia**, M. Emery Thompson, E.V. Lonsdorf, M.N. Muller, Z.P. Machanda, E. Scully, E. Oтали, T.L. Goldberg, T.R. Gillespie, D.A. Travis, R.W. Wrangham, P. Parham, and E.E. Wroblewski; Southwest Association of Biological Anthropologists; oral pres.; Las Vegas, NV.
- 2018 Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*) from Uganda & Tanzania: Does *MHC* genotype or phenotype predict occurrence of respiratory illness? **S. Phillips-Garcia**, M. Emery Thompson, E.V. Lonsdorf, M.N. Muller, Z.P. Machanda, E. Scully, E. Oтали, T.L. Goldberg, T.R. Gillespie, D.A. Travis, R.W. Wrangham, P. Parham, and E.E. Wroblewski; International Primatological Society; oral pres.; Nairobi, Kenya.
- 2018 Trade-offs between reproduction & immunity in wild female chimpanzees from Kibale National Park, Uganda. **S. Phillips-Garcia**, T.L. Goldberg, M.N. Muller, Z.P. Machanda, E. Oтали, S. Friant, J. Carag, K.E. Langergraber, J.C. Mitani, R.W. Wrangham, & Melissa Emery Thompson; Midwest Primate Interest Group; oral pres.; Bloomington, IN.
- 2018 Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*): Does *MHC* genotype or phenotype predict occurrence of respiratory infection? **S. Phillips-Garcia**, M. Emery Thompson, M.N. Muller, Z.P. Machanda, E. Scully, E. Oтали, T.L. Goldberg, R.W. Wrangham, P. Parham, and E.E. Wroblewski; American Association of Biological Anthropologists; oral pres.; Austin, TX.

- 2018 Characterization of MHC-DRB immunogenetic diversity in the wild chimpanzees (*Pan troglodytes schweinfurthii*) of Gombe National Park, Tanzania. E.E. Wroblewski, **S. Phillips-Garcia**, L. Guethlein, and P. Parham; American Association of Biological Anthropologists; oral presentation by E.E. Wroblewski; Austin, TX.
- 2017 Characterization of a Class I MHC gene in East African Chimpanzees (*Pan troglodytes schweinfurthii*): Does MHC Genotype or Phenotype Predict Frequency of Respiratory Illness? **S. Phillips-Garcia**, M. Emery Thompson, M.N. Muller, Z.P. Machanda, E. Scully, E. Oтали, T.L. Goldberg, R.W. Wrangham, P. Parham, and E.E. Wroblewski; Midwest Primate Interest Group; oral presentation; Northwestern University, Chicago, IL.
- 2017 Longitudinal changes in diet and reproduction among wild chimpanzees at Kanyawara, Kibale National Park. M. Emery Thompson, Z.P. Machanda, **S. Phillips-Garcia**, E. Oтали, M.N. Muller, R.W. Wrangham; American Association of Biological Anthropologists; oral presentation by M. Emery Thompson; New Orleans, LA.
- 2013 The signature of language and geography on the genetic structure of human populations in Africa. M.E. Schaeffer, **S.R. Joyce**, and J.C. Long; American Association of Biological Anthropologists; oral presentation by M.E. Schaeffer; Knoxville, TN.
- 2010 Analysis of global gene identity reveals a history of serial founder effects and admixture with archaic humans. **S.R. Joyce**, K.L. Hunley, and J.C. Long; American Journal of Physical Anthropology. Volume 141 Issue S50; oral presentation at AABA, Hotel Albuquerque, Albuquerque, NM.
- 2003 Phylogenetics of lymnaeid snails with emphasis on the evolution of susceptibility to *Fascioloides magna* infection. **S.R. Joyce**, M. Mort, & J.R. Laursen; oral presentation at American Society of Parasitologists, Westin Inn, Halifax, Nova Scotia.
- 2002 Phylogenetics of lymnaeid snails with emphasis on the evolution of susceptibility to *Fascioloides magna* infection. **S.R. Joyce**, M. Mort, & J.R. Laursen; oral presentation at Annual Midwest Conference of Parasitologists, Millikin University, Decatur, IL.
- 2002 Phylogenetics of lymnaeid snails with emphasis on the evolution of susceptibility to *Fascioloides magna* infection. **S.R. Joyce**, M. Mort, & J.R. Laursen; oral Presentation at Illinois State Academy of Science, Southern Illinois University at Edwardsville.
- 2001 Phylogenetics of Lymnaeidae (Mollusca: Gastropoda) based on multiple molecular data sets. **S.R. Joyce**, M. Mort, & J.R. Laursen; poster presentation at Evolution 2001, University of Tennessee at Knoxville
- 2001 Effects of Aquashade™ and CuSO₄ on growth and reproduction of *Biomphalaria glabrata*. **S.R. Joyce** & J.R. Laursen; poster presentation at Annual Midwest Conference of Parasitologists, Eastern Illinois University, Charleston, IL

2000 Effects of Aquashade™ on the survival, growth, and reproduction of *Biomphalaria glabrata*. S.R. Joyce & J.R. Laursen; oral presentation at North-Central Tri-Beta Conference

Professional Employment

2021-present Post-doctoral Fellow, Department of Biology, San Francisco State University
2012-2021 Graduate Instructor, Department of Anthropology, University of New Mexico
2015 Nature Guide Facilitator, Albuquerque BioPark, Albuquerque, NM
2014 Academic Coordinator, STI, Department of Engineering, University of New Mexico
2011 NIH/HHMI Instructor, Program in Interdisciplinary Biology and Biomedical Sciences, UNM
2009-2011 NIH/HHMI Fellow, Program in Interdisciplinary Biology & Biomedical Sciences, UNM
2008-2009 Part-time Faculty (Biology), CNM Community Colleges, Albuquerque, NM
2005-2007 Environmental Consultant / GIS, Permits West, Inc., Santa Fe, NM
2000-2002 Graduate Instructor, Department of Biology, Purdue University
2000-2002 Graduate Instructor, Department of Biology, Eastern Illinois University
2000-2002 Instructor of Biology / Chemistry, IECC, Olney, IL

Mentored Research

Shauna Brown. (Winter 2021). The relationship between reproductive hormones and gastro-intestinal parasites in rhesus macaques from Cayo Santiago Field Station, Puerto Rico. Master's Thesis, Bangor University, Wales, United Kingdom.

Kate Burkart. (Fall 2017). *Troglodytella abressarti* as a marker of health in wild, East African chimpanzees (*P. t. schweinfurthii*) from Kibale National Park, Uganda. Undergraduate Research, University of Wisconsin, Madison, WI

Cristina Diaz. (Fall 2017). Morphometrics of *Oesophagostomum* eggs in wild chimpanzees: Is there evidence for multiple species? Undergraduate Research, University of Wisconsin, Madison, WI

Laboratory Trainees

Jess Carag, 3rd year DVM, School of Veterinary Medicine, University of Wisconsin, Madison, WI
(currently a post-doctoral trainee at Washington University in St. Louis)

Kylie Grady, 2nd year DVM, School of Veterinary Medicine, University of Wisconsin, Madison, WI
(currently a Veterinarian)

Richard Dulli, 3rd year DVM, School of Veterinary Medicine, University of Wisconsin, Madison, WI
(currently a Veterinarian)

Kayla Bonack, Senior Undergraduate, University of Wisconsin, Madison, WI
(currently a graduate student in Epidemiology at University of Wisconsin-Milwaukee)

Kate Burkart, Junior Undergraduate, University of Wisconsin, Madison, WI
(currently a DVM student at University of Wisconsin-Madison School of Veterinary Medicine)

Cristina Diaz, Sophomore Undergraduate, University of Wisconsin, Madison, WI
 (currently a DVM student at University of Wisconsin-Madison School of Veterinary Medicine)
 Gaby Shay, Freshman Undergraduate, University of Wisconsin, Madison, WI
 (currently a graduate of University of Wisconsin-Madison)

Teaching Interests

Primate Immunogenetics	Ecological Immunology	Evolutionary Medicine/One Health
Eco/Evo of Infectious Diseases	Molecular Epidemiology	Neglected Tropical Diseases
Primateology	Parasitology & Virology	Life History Evolution

Teaching

(Bold denotes courses where I was instructor of record)

2021 Spring, ANTH 150 – Evolution and Human Emergence, UNM
 2019 Fall, ANTH 160 – Human Life Course, UNM
 2019 Spring, ANTH 150 – Evolution and Human Emergence, UNM
 2018 Fall, ANTH 160 – Human Life Course, UNM
 2018 Spring, ANTH 160 – Human Life Course, UNM
 2017 Fall, ANTH 160 – Human Life Course, UNM
 2017 Spring, ANTH 150 – Evolution and Human Emergence, UNM
2016 Fall, ANTH 151L – Evolution and Human Emergence Lab, UNM
2016 Spring, ANTH 160 – Human Life Course, UNM
2015 Spring, ANTH 151L – Evolution and Human Emergence Lab, UNM
2014 Fall, ANTH 151L – Evolution and Human Emergence Lab, UNM
 2014 Spring, ANTH 150 – Evolution and Human Emergence, UNM
 2013 Fall, ANTH 150 – Evolution and Human Emergence, UNM
 2013 Summer, ANTH 150 – Evolution and Human Emergence, UNM
 2013 Summer, ANTH 160 – Human Life Course, UNM
 2013 Spring, ANTH 350 – Human Biology, UNM
 2012 Fall, ANTH 160 – Human Life Course, UNM
 2012 Summer, ANTH 150 – Evolution and Human Emergence, UNM
2012 Spring, ANTH 150/151L – Evolution and Human Emergence, UNM
2011 Spring, BIOL 419/519 - Algal Biofuels (Team Taught), UNM
2009 Summer, General Biology for science majors (lecture), CNM
2009 Spring, General Biology for science majors (lecture), CNM
2008 Summer, Molecular and Cell Biology (lecture), CNM
2008 Spring, General Biology for science majors (lecture), CNM
2008 Spring, General Biology for non-science majors (lecture), CNM
 2003 Fall, Molecular/Cell Biology (lecture), Purdue University
 2002 Fall, Ecology, Diversity and Behavior (lab), Purdue University
 2002 Field Biology (lecture/lab), Illinois Eastern Community Colleges
 2001 Environmental Biology (lecture/lab), Illinois Eastern Community Colleges
 2000 General Biology (lecture/lab), Illinois Eastern Community Colleges
 2000 General Chemistry (lecture/lab), Illinois Eastern Community Colleges

Professional Service

Society Membership:

American Association of Biological Anthropologists, American Society of Primatologists, International Primatological Society, American Association of Anthropological Genetics, American Society of Parasitologists, Society of Systematic Biologists, Sigma Xi, Beta Beta Beta, Phi Sigma

Committee Participation:

2016-2018 LGBTQIAA Social Media Committee, American Association of Biological Anthropologists

Certificates

2021 Responsible & Ethical Conduct of Research, SFSU
2016 Radiation Safety Training, University of New Mexico
2014 Energy and the Environment, Penn State University
2011 Responsible and Ethical Conduct of Research, OGS at UNM
2011 PI Eligibility, OGS at UNM

Computer Programming Languages

R programming language; Matlab