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Curriculum Vitae

Last updated October 7, 2024

AREAS OF SPECIALIZATION

Maternal and Child Health • Growth and Nutrition • Cardiometabolic Health • Human Genetics • Social Determinants of Health • Data Science • Bayesian Inference

EDUCATION

- 2020 Ph.D., Anthropology, University of Missouri, Columbia, MO
Dissertation: *Genetic variation and health in a rural Caribbean village*
Committee: Gregory E. Blomquist, Mark V. Flinn, Lisa Sattenspiel, Jared E. Decker
- 2014 M.A., Anthropology, University of Missouri, Columbia, MO
Thesis: *Genetic and maternal effects on neonatal survival in the western lowland gorilla*
Advisor: Gregory E. Blomquist
- 2012 B.S., Anthropology (Biology minor), Texas State University, San Marcos, TX
summa cum laude

ACADEMIC APPOINTMENTS

- 2022- Assistant Professor, Vanderbilt University (VU), Department of Anthropology
- 2020-22 Postdoctoral Scholar, University of Washington, Department of Anthropology
Faculty mentor: Melanie A. Martin

PEER-REVIEWED PUBLICATIONS

Starkweather KE, **Keith MH**, Zohora FT, Alam N. 2024. Impacts of women's work and childcare on child illness among Bangladeshi Shodagor communities. *Social Science & Medicine*, 359, 117277.

Keith MH, Martin, MA. 2024. Social Determinant Pathways to Hypertensive Disorders of Pregnancy Among Nulliparous U.S. Women. *Women's Health Issues*, 34(1): 36-44.

Starkweather KE, **Keith MH**, Zohora FT, Alam N. 2023. Economic impacts and nutritional outcomes of the 2017 floods in Bangladeshi Shodagor fishing families. *American Journal of Human Biology*, 35(1): e23826.

Martin MA, **Keith MH**, Pace RM, Smith JE, Ley S, Barbosa-Leiker C, Caffè B, Smith CB, Kunkle A, Lackey KA, Navarette AD, Pace CDW, Gogel AC, Eisenberg D, Fehrenkamp B, McGuire MA, McGuire SK, Meehan CL, Brindle E. 2022. SARS-CoV-2 specific antibody trajectories in mothers and infants over two months following maternal infection. *Frontiers in Immunology*, 13, 1015002.

Martin MA, **Keith MH**, Olmedo S, Edwards D, Barrientes A, Pan A, Vallengia C. 2022. Cesarean section and breastfeeding outcomes in an Indigenous Qom community with high breastfeeding support. *Evolution, Medicine, and Public Health*, 10(1): eoab045.

Keith MH, Flinn MV, Durbin HJ, Rowan TN, Blomquist GE, Taylor KH, Taylor JF, Decker JE. 2021. Genetic ancestry, admixture, and population structure in rural Dominica. *PLOS One*, 16(11): e0258735.

Starkweather KE, **Keith MH**, Prall SP, Alam N, Zohora F, Thompson ME. 2021. Are fathers a good substitute for mothers? Paternal care and growth rates in Shodagor children. *Developmental Psychobiology: Comparative Perspectives on Paternal Effects [Special Issue]*, 63(6): e22148.

Keith MH, Blomquist GE, Flinn MV. 2019. Anthropometric heritability and child growth in a Caribbean village: A quantitative genetic analysis of longitudinal height, weight, and BMI in Bwa Mawego, Dominica. *American Journal of Physical Anthropology*, 170: 393–403.

Starkweather KE, **Keith MH**. 2019. One piece of the matrilineal puzzle: the socioecology of maternal uncle investment. *Philosophical Transactions of the Royal Society B: The evolution of female-biased kinship in humans and other mammals [Special Issue]*, 374: 20180071.

Starkweather KE, **Keith MH**. 2018. Estimating impacts of the nuclear family and heritability of nutritional outcomes in a boat-dwelling community. *American Journal of Human Biology*, 30: e23105.

Ahsan MH, Blomquist GE. 2015. Modeling variation in early life mortality in the western lowland gorilla: genetic, maternal and other effects. *American Journal of Primatology*, 77: 666–678.

RESEARCH GRANTS AND FELLOWSHIPS

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|---------|---|
| 2024 | Vanderbilt Evolutionary Studies Initiative Pilot Grant: Socioecology of inflammation among Orang Asli communities in Malaysia (\$5,000) |
| 2024 | University of Missouri Research Council Grant: Ancestral effects on human thermoregulation (\$10,200) |
| 2021-22 | University of Washington eScience Institute: Data Science Fellowship (\$7,000) |

- 2021 NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development, Decoding Maternal Morbidity Data Challenge: Structural equation model identifies causal pathways between social determinants of maternal health, biomarkers of allostatic load, and hypertensive disorders of pregnancy among U.S. racial groups (\$60,000)
- 2021 University of Washington Center for Studies in Demography and Ecology: Research Proposal Award supporting the Decoding Maternal Morbidity Data Challenge (\$5,000)
- 2017 University of Missouri Research Board Grant: Genetics of metabolic syndrome in a Caribbean village (\$47,048)
- 2017 University of Missouri: Dorothy (Dot) Tompkins Gelvin, Ph.D., Memorial Research Scholarship (\$1,500)
- 2012-16 University of Missouri: Life Sciences Fellowship (\$130,000)

HONORS AND AWARDS

- 2024 Excellence in Graduate Mentorship, Department of Anthropology, Vanderbilt University
- 2020 William S. Pollitzer Student Travel Award, American Association of Physical Anthropologists
- 2019 Best Paper by a New Investigator, Evolutionary Anthropology Society, American Anthropological Association
- 2019 Conference Travel Award, Department of Anthropology, University of Missouri
- 2017 Conference Travel Award, Department of Anthropology, University of Missouri
- 2012 Outstanding Undergraduate in Anthropology, Texas State University
- 2011 Lambda Alpha National Honor Society
- 2010-11 University Honors Scholarship, Texas State University
- 2009-12 Texas State Achievement Scholarship, Texas State University
- 2009-12 Top 10% Scholarship, Texas State University

RESEARCH PROJECTS

- 2024- Biology of Human Thermoregulation, *Collaborator*
 PI: Scott Maddux; Co-PIs: Libby Cowgill, Cara Ocobock, Steven Romero
 Funding: NSF, University of Missouri Research Council
- 2021- Social determinants of allostatic load, maternal health, and birth outcomes in the US, *Principal Investigator*
 Co-PIs: Melanie A. Martin, Mulubrhan Mogos
 Funding: NIH, University of Washington Center for Studies in Demography and Ecology

- 2021-22 COVID-19 and Breastfeeding Study, *Collaborator*
 Co-PIs: Melanie A. Martin, Eleanor Brindle, Courtney Meehan, Michelle McGuire, Sylvia Ley, Dan T.A. Eisenberg
 Funding: NSF, University of Washington Center for Studies in Demography and Ecology
- 2020-24 Chaco Area Reproductive Ecology (CARE) Program, *Collaborator*
 PI: Claudia Valeggia; Co-PIs: Melanie A. Martin, Sofia Olmedo
 Funding: NSF, Wenner-Gren Foundation
- 2016- Shodagor Longitudinal Health and Demography Project, *Collaborator*
 PI: Kathrine E. Starkweather
 Funding: NSF, Wenner-Gren Foundation, Max Planck Institute
- 2014- Dominica Longitudinal Health Study, *Collaborator*
 PI: Mark V. Flinn
 Funding: NSF, University of Missouri Research Board
- 2012-14 Taxonomic Investigation of Bornean Loris Variation, *Research Assistant*
 PI: Lori S. Eggert; Co-PI: Rachel A. Munds
- 2011 Genetics of Metabolic Health, *Intern*
 Texas Biomedical Research Institute, Department of Genetics, Comuzzie Lab
 Director: Anthony Comuzzie

INVITED LECTURES

- 2023 “Socioecology of health, nutrition, and child growth among Shodagor fishing families in Bangladesh”. Presented for the Global Health Grand Rounds Seminar Series of the Vanderbilt Institute for Global Health. September 25, 2023.
- 2023 “Researching health disparities in biological anthropology”. Presented for the Oxford International School of Bangladesh. July 16, 2023.
- 2022 “A structural equation model of social determinant pathways to hypertensive disorders of pregnancy”. Presented for the Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health. March 16, 2022.
- 2021 “Health equity and case studies in biocultural anthropology”. Presented for the Levin Graduate Urban Colloquium, Cleveland State University. November 22, 2021.
- 2020 “Longitudinal Health in Two Small-Scale Societies”. Presented for the Genes for Good Research Group, University of Michigan. February 3, 2020.

2019 "Health, Genes, and Ancestry in a Caribbean Village". Presented for the Department of Anthropology, University of Pittsburgh. January 28, 2019.

CONFERENCE PRESENTATIONS

- 2024 Starkweather KE, **Keith MH**, Zohora FT, Alam N. The impacts of women's work and childcare on child illness among Bangladeshi Shodagor communities. 49th annual Human Biology Association meetings, Los Angeles, CA. (contributed podium)
- 2023 **Keith MH**, Martin MA. Socio-ecology of pregnancy planning among nulliparous US women. 48th annual Human Biology Association meetings, Reno, NV. (contributed flash talk)
- 2023 Starkweather KE, **Keith MH**, Zohora FT, Alam N. Economic impacts and nutritional outcomes of the 2017 floods in Bangladeshi Shodagor fishing families. 48th annual Human Biology Association meetings, Reno, NV. (contributed podium)
- 2023 Martin MA, **Keith MH**, Pace RM, Williams JE, Ley SH, Barbosa-Leiker C, Caffè B, Smith CB, Kunkle A, Lackey KA, Navarrete AD, Pace CD, Gogel AC, Eisenberg DT, Fehrenkamp BD, McGuire MA, McGuire MK, Meehan CL, Brindle E. Maternal and infant SARS-CoV-2 antibody responses following maternal COVID-19 infection. 92nd annual American Association of Biological Anthropology meetings, Reno, NV. (contributed podium)
- 2022 **Keith MH**, Martin MA. Pathways between social determinants of health, allostatic load, and hypertensive disorders of pregnancy vary among US racial/ethnic groups. 91st annual American Association of Biological Anthropology meetings, Denver, CO. (contributed podium)
- 2022 **Keith MH**, Corley M, Daniel S, Glass DJ, Lipton S, Ellison P, Vallengia C, Martin MA. Estimating precision in hormone sampling design. 47th annual Human Biology Association meetings, Denver, CO. (contributed poster)
- 2022 Martin MA, **Keith MH**, Olmedo S, Vallengia C. Cesarean birth and breastfeeding outcomes in an Indigenous community with high breastfeeding support. 47th annual Human Biology Association meetings, Denver, CO. (contributed podium)
- 2021 **Keith MH**, Martin MA, Vallengia C. How precise is your sample? A mixed model approach to assess sampling precision using pubertal hormone data. 7th annual Northwest Evolution, Ecology, and Human Behavior Symposium, virtual. (contributed flash talk)

- 2020 **Keith MH**, Durbin HJ, Rowan TN, Blomquist GE, Flinn MV, Taylor JF, Decker JE. Genetic ancestry and demographic history of a rural Caribbean village. 89th annual American Association of Physical Anthropology meetings. (abstract accepted, meetings canceled)
- 2019 Starkweather KE, **Keith MH**. Shodagor women’s work and reproductive decision-making. American Anthropology Association Annual Meetings, Vancouver, BC. (contributed podium)
- 2019 **Keith MH**, Starkweather KE. Socio-ecological predictors of maternal uncle investment in the bilateral, semi-nomadic Shodagor. 88th annual American Association of Physical Anthropology meetings, Cleveland, OH. (contributed podium)
- 2017 **Ahsan MH**, Starkweather KE. Effects of genetics and the nuclear family environment on Shodagor health. 86th annual American Association of Physical Anthropology meetings, New Orleans, LA. (invited poster)
- 2016 **Ahsan MH**, Bain JC, Flinn MV. Heritable traits and their impacts on child health in a Caribbean village. 85th annual American Association of Physical Anthropology meetings, Atlanta, GA. (contributed poster)
- 2015 **Ahsan MH**, Blomquist GE. Survival of the infants: An analysis of early life mortality in captive western lowland gorillas. 27th annual Human Behavior and Evolution Society meetings, Columbia, MO. (contributed podium)

POPULAR MEDIA

- 2024 Evolutionary Studies News at VU “[Vanderbilt Anthropologist Explores How Different Childcare Models Affect Child Health in Working Families](#)”
- 2023 Evolutionary Studies News at VU “[Researchers Root US Maternal Health Disparities in the Social Environment](#)”
- 2023 Evolutionary Studies News at VU “[Vanderbilt Anthropologist Discovers Lasting Effects from Disasters in Bangladesh](#)”
- 2022 Human Biology Association Podcast “[The Sausage of Science, Episode 178: Modeling Health Outcomes in Pregnancy with Dr. Monica Keith](#)”

TEACHING EXPERIENCE

- 2023- **Vanderbilt University, Department of Anthropology**
 Introduction to Biological Anthropology (ANTH 1301), *Instructor of Record*
 Biology of Inequality (ANTH 2342), *Instructor of Record*
 Evolutionary Biology of Womxn (ANTH 3401W), *Instructor of Record*

Graduate Seminar in Statistical Methods (ANTH 8400), *Instructor of Record*

2016-20 **University of Missouri, Department of Anthropology**
Introduction to General Anthropology (ANTHRO 1000), *Instructor of Record*
Introduction to Multiculturalism (ANTHRO 1300), *Instructor of Record*
Introduction to Biological Anthropology (ANTHRO 2050), *Laboratory Instructor*

2017-19 **University of Missouri, Department of Biological Sciences**
General Biology Lab (BIOSC 1020), *Teaching Assistant*
Summer Transition Program Biology Lab, *Teaching Assistant*

2011 **Texas State University, Student Learning Assistance Center**
Pre-medical Biology and Chemistry, *Tutor*

TECHNICAL SKILLS

Wet Lab

Ancient DNA extractions from tissue, DNA extractions from tissue and buccal swabs
Anthropometric, osteological measurements
PCR, gel electrophoresis
Point-of-care biomarker testing, dried blood spot collection
Serum processing, biochemical assays

Computational

Proficient in Program R, Linux, SAS, Systat, PEDSYS, SOLAR, and Excel; basic Perl script
Longitudinal phenotype database and genotype data management
Bayesian modeling, linear and nonlinear multilevel models
Multivariate and structural equation modeling
Pedigree analysis, heritability estimation
Genome-wide association studies, genetic ancestry and admixture analysis

MENTORSHIP

Postdoctoral Taylor Harman, PhD, VU Anthropology (2024-)

Graduate

Committee member Katie McCormack, VU Anthropology (in progress)
Ro De La Rosa, VU Anthropology (in progress)
Taiye Winful, VU Anthropology (2024)

Undergraduate

Major advisor Landon Harris, VU Anthropology (in progress)
Minor advisor Tyler Chueh, VU Sociology and Anthropology (in progress)
Tristan Sealy, VU Biochemistry and Anthropology (2024)
Immersion advisor Lohitha Basa, VU Neuroscience and MHS (2024)

SERVICE

Departmental

2024-25 Website Committee Chair, VU Anthropology
2023-25 Immersion Liaison, VU Anthropology
2023 Co-host, Anthro Hour Talk Series, VU Anthropology
2022-23 Speaker's Committee, VU Anthropology

Journals Refereed

American Journal of Human Biology
Evolution, Medicine, and Public Health
Human Nature
Journal of Adolescent Health
Journal of Racial and Ethnic Health Disparities
PLOS One
Social Science & Medicine

AFFILIATIONS AND MEMBERSHIPS

American Anthropological Association
American Association of Biological Anthropologists
American Society of Human Genetics
Human Biology Association
Center for Studies in Demography and Ecology, University of Washington
Center for Research on Inequality and Health, Vanderbilt University
Data Science Institute, Vanderbilt University
Evolutionary Studies Initiative, Vanderbilt University