

Monica H. (Ahsan) Keith

University of Missouri | Department of Anthropology
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EDUCATION

PhD, Biological Anthropology expected May 2020

University of Missouri

Dissertation: *Health, genes, and ancestry in a Caribbean village*

Advisor: Gregory E. Blomquist

MA, Biological Anthropology 2012-2014

University of Missouri

Thesis: *Genetic and maternal effects on neonatal survival in the western lowland gorilla*

Advisor: Gregory E. Blomquist

BS, summa cum laude 2009-2012

Texas State University

Anthropology major, Biology minor

RESEARCH APPOINTMENTS

Research Assistant 2017-present

University of Missouri, Genetics and Health in Dominica

Principal Investigator: Gregory E. Blomquist

Project: Genetics of metabolic syndrome, ancestry, and selection in a Caribbean village

Duties: One month of fieldwork in Dominica, data collection (buccal swab DNA samples, urine glucose testing, anthropometrics, blood pressure), DNA extractions, genotype data management and analysis

Lab Assistant 2012-2014

University of Missouri, Eggert Lab

Director: Lori S. Eggert

Project: Investigating Borean lorises taxonomy through ancient DNA

Duties: aDNA extraction from museum tissue, PCR, gel electrophoresis, sequence alignment, phylogenetic reconstruction in BEAST

University of Missouri, Taylor Lab

Director: Jerry F. Taylor

Project: Exploring bovine traits through GWAS

Duties: Genomic data management, genome-wide association studies (GWAS)

Data Analysis Intern

2011

Texas Biomedical Research Institute, Department of Genetics, Comuzzie Lab

Director: Anthony Comuzzie

Projects:

1) The Oman Family Study

Duties: Cardiac data analysis, pedigree/genealogical analysis

2) The Baboon Program Project: Genetics of Uric Acid Variation

Duties: Serum processing, data compilation and management

3) Diet and Genotype in Primate Atherosclerosis

Duties: Analyses of weight correlations with high fat/high cholesterol diets in captive baboons

4) Metabolic Profiling in Baboons

Duties: Correlating nutritional outcomes with heart, kidney, and liver fat

TEACHING APPOINTMENTS

Graduate Instructor

2016-present

Department of Anthropology, University of Missouri

Multiculturalism (Anthro 1300)

2019-2020

Introduction to Biological Anthropology Lab (Anthro 2050/2052)

2017-2019

General Anthropology (Anthro 1000)

2016-2017

Department of Biological Sciences, University of Missouri

General Biology Lab (Bio 1020)

2018-2019

Summer Transition Program Biology Lab

2019

Tutor

2011-2012

Student Learning Assistance Center, Texas State University

Tutor for biology and chemistry majors

PUBLICATIONS

Keith MH, Durbin, HJ, Rowan TN, Blomquist GE, Flinn MV, Taylor JF, Decker JE. (in prep). Genetic ancestry and population structure of a rural Caribbean village.

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.

PROFESSIONAL PRESENTATIONS

Keith MH, Starkweather KE. 2019. Socio-ecological predictors of maternal uncle investment in the bilateral, semi-nomadic Shodagor. Podium at the 88th annual American Association of Physical Anthropology meetings. Session: Life History and Behavior Ecology. Cleveland, OH.

Keith MH. 2018. Heritability, life history, and pedigrees: early life mortality in captive gorilla populations. University of Missouri, Conservation Genetics Seminar.

Ahsan MH, Starkweather KE. 2017. Effects of genetics and the nuclear family environment on Shodagor health. Poster at the 86th annual American Association of Physical Anthropology meetings. New Orleans, LA.

Ahsan MH. 2017. Population structure, health, and genetics in a Caribbean village. University of Missouri, Department of Biological Sciences Ecolunch.

Ahsan MH, Bain JC, Flinn MV. 2016. Heritable traits and their impacts on child health in a Caribbean village. Poster at the 85th annual American Association of Physical Anthropology meetings. Atlanta, GA.

Ahsan MH. 2016. Integrating genetics and anthropology to understand health, disease, and life histories. University of Missouri, Life Sciences Seminar.

Ahsan MH. 2016. Evolution, health, and genetic variation. University of Missouri, EvoBlitz.

Ahsan MH, Blomquist GE. 2015. Survival of the infants: An analysis of early life mortality in captive western lowland gorillas. Invited podium at the 27th annual Human Behavior and Evolution Society meetings. Symposium: Insights into social behavior and life history traits from comparative nonhuman primate data. Columbia, MO.

Ahsan MH, Blomquist GE. 2014. Heritability and maternal effects of neonatal survival in the western lowland gorilla. Poster at Missouri Life Sciences Week.

TECHNICAL SKILLS

Laboratory

Ancient DNA extractions from tissue
DNA extractions from tissue, buccal swabs
PCR, gel electrophoresis
Serum processing
Chemical assays
Anthropometric data collection, osteological measurements

Computational and Statistical

Proficient in Program R, SAS, Systat, PEDSYS, SOLAR, and Excel
Basic Perl script
Genotype data management
Admixture dating and analysis
Bayesian modeling, mixed models, multivariate analysis
Pedigree analysis, heritability estimation
Genome-wide association studies
Phylogenetic reconstructions, comparative methods

FUNDING AND AWARDS

2019 Conference Travel Award (\$500), Department of Anthropology, University of Missouri
2017 Research Board Grant (\$47,048), University of Missouri
2017 Dorothy (Dot) Tompkins Gelvin, Ph.D., Memorial Scholarship (\$1,500), University of Missouri
2017 Conference Travel Award (\$500), Department of Anthropology, University of Missouri
2012-2016 Life Sciences Fellowship (\$33,000/year), University of Missouri
2012 Outstanding Undergraduate in Anthropology, Texas State University
2012 Golden Key International Honour Society Induction
2011 Lambda Alpha National Honor Society Induction
2009-2012 Texas State Achievement Scholarship (\$2,500/year), Texas State University
2009-2012 Top 10% Scholarship (\$2,000/year), Texas State University
2010-2011 University Honors Scholarship (\$1,000), Texas State University
2009-2012 Dean's List, Texas State University

PROFESSIONAL MEMBERSHIPS

2014-present American Association of Physical Anthropologists
2014-present Human Behavior and Evolution Society

REFERENCES

Gregory E. Blomquist, PhD
Associate Professor
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Mark V. Flinn, PhD
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