

BRITTANY BINGHAM

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OBJECTIVES STATEMENT

PhD student in biological anthropology with an advanced ancient DNA skillset focused on research questions surrounding human migration, human-animal interactions, and processes of domestication.

EDUCATION

PhD	University of Kansas, Biological Anthropology Lawrence, Kansas	Present
BA	University of Oklahoma, Anthropology Norman, Oklahoma	May 2018
AA	Northern Oklahoma College, Social Science Enid, Oklahoma	May 2016

RESEARCH POSITIONS

Laboratories of Molecular Anthropology and Microbiome Research University of Oklahoma Research Assistant Supervisor: Dr. Brian M. Kemp Duties: Supervision and training of undergraduate students, management of laboratory materials and space, management of projects, Projects: <ul style="list-style-type: none">• Multi-year National Institute of Justice (NIJ) grant, “Quantifying and Qualifying the Influence of Standard Laboratory Procedures on Aged, Degraded, and/or Low Copy Number DNA”• Paleogenomic analyses of bears recovered from historical Chinese medicine shops (ca. 1800s-1900s CE)• Paleogenomic analyses of birds recovered from the Dadiwan archaeological site in northwest China (ca. 9,000-7,000 years ago)• Paleogenomic analyses of pigs recovered from California (historic)• Molecular species identification of historic cod recovered from Gold Rush San Francisco (ca. 1850s CE)• Characterizing mitochondrial DNA variation in human burials recovered from the Spanish mission site of Sanchez Adobe in northern California (ca. Mission period)• Molecular species identification of fish to reconstruct ancient fishing practices in northern California (ca. Mission period)	2018-2020
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Laboratories of Molecular Anthropology and Microbiome Research 2017-2018
University of Oklahoma

Undergraduate Research Assistant

Supervisor: Dr. Brian M. Kemp

Projects:

- Molecular species identification of various fishes, bears, canids, sheep, bison, elk, ducks, recovered from Central Alaska (ca. 500-13,000 years ago)
- Molecular species identification of rockfish to reconstruct ancient fishing practices in Alaska (prehistoric)
- Molecular species identification of various fishes to reconstruct ancient fishing practices in northern California (prehistoric)
- Molecular species identification of canid samples from California (prehistoric)

PUBLICATIONS

Barton L, **Bingham B**, Sankaranarayanan K, Monroe C, Thomas A, Kemp BM. 2020. The earliest farmers of northwest China exploited grain-fed pheasants not chickens. *Scientific Reports* 10.

Halfman CM, Potter BA, McKinney HJ, Tsutaya T, Finney BP, Kemp BM, Bartelink EJ, Wooller MJ, Buckley M, Clark CT, Johnson JJ, **Bingham BL**, Lanoë FB, Sattler RA, Reuther JD. 2020. Ancient Beringian paleodiets revealed through multiproxy stable isotope analyses. *Science Advances* 6.

Kemp BM, **Bingham B**, Frome R, Labonte M, Palmer E, Parsons ES, Gobalet KW, Rosenthal J. 2020. Subduing the influence of PCR inhibitors on amplifying aged, degraded, and low copy number DNA: PCR enhancer cocktail-p and rescue PCR. *Plos One* 15.

Lanman RB, Hylkema L, Boone CM, Allee B, Castillo RO, Moreno SA, Flores MF, DeSilva U, **Bingham B**, Kemp BM. 2021. Ancient DNA Analysis of Archaeological Specimens as Extends Chinook Salmon's Known Historic Range. *PLOS ONE*.

Accepted. Conrad C, DeSilva U, **Bingham B**, Kemp BM, Gobalet KW, Bruner K, Pastron AG. Finny Merchandise: The Atlantic Cod (*Gadus morhua*) Trade in Gold Rush-era (ca. 1849-1855), San Francisco, California. *Journal of Anthropological Research*.

Accepted. Kennedy Ryan J., **Bingham B**, Flores MF, Kemp BM. Ancient Dna Identification Of Giant Snakehead (*Channa micropeltes*) Remains From The Market Street Chinatown And Some Implications For The Nineteenth-Century Pacific World Fish Trade. *American Antiquity*.

In Review. Moss ML, **Bingham B**, Blankenship R, DeSilva U, Frome R, Labonte M, Li J, Palmer E, Kemp BM. What Ancient DNA Reveals about the Ubiquitous Rockfish of the Northwest Coast of North America. *Archaeological and Anthropological Sciences*.

LABORATORY/MOLECULAR SKILLS

Laboratory Environment: basic laboratory functions, ISO-6 level cleanroom standards, undergraduate supervision, technical writing skills, data processing, and contamination control standards

DNA Analysis: degraded DNA recovery, DNA Barcoding, DNA sequencing, Illumina genomic sequencing (DNA capture, library preparation), Qubit assay, PCR

Lab Instruments: BioRad qPCR, various DNA extraction kits, various aDNA extraction protocols, gel electrophoresis, Agilent Fragment Analyzer, Agilent Tape Station, centrifugation, incubators, Pippin Prep, Qsonica, MiSeq FGx, ForenSeq Signature Prep Kit,

Computer Skills: MS Office, Geneious, Genecode Sequencher, Fluxus DNA Align/Network 5.4, Agilent Prosize, Biorad CFX Maestro, Illumina ForenSeq Universal Analysis Software, Popart 1.7, Amplify 4.0

HONORS, AWARDS, AND GRANTS

NSF Graduate Research Fellow	2020-2025
Carroll D. Clark Graduate Student Summer Research Award	July 2021
Oklahoma Regents Academic Scholar	2014-2018
Patti Johnson Wilson Foundation Scholarship	2017-2018
The Roland Lehr Phi Beta Kappa Award for Distinguished Undergraduate Research	April 2017
Federal Employees Education Assistance Scholar	2016-2017
Northern Oklahoma College President's Leadership Council Scholar	2014-2016

PRESENTATIONS

Kemp BM, Beaty KG, **Bingham BL**, DeSilva U, Flores MF, Monroe C, Barta JL, "Influence of DNA extraction methods on the quantity and quality of retained genetic material" American Academy of Forensic Sciences, February 2020.

Beaty KG, **Bingham BL**, Monroe C, Barta JL, Kemp BM, "Where, Oh Where, Has the DNA Gone?" American Academy of Forensic Sciences, February 2020.

Bingham BL, Barton LW, and Kemp BM, “Genetic Species Identification of Large Birds from the Dadiwan Neolithic Site in northern China” Society for American Archaeology, April 14th, 2019.

Conrad C, DeSilva U, **Bingham BL**, Kemp BM, Gobalet KW, Jones EL, Bruner K, and Pastron A, “Importation Of Atlantic Cod (Gadus Morhua) Into San Francisco, California, During The Gold Rush-Era (Ca. 1849-1855)” Society for American Archaeology, April 11th, 2019.

Bingham BL, “aDNA and Ways to Overcome Inhibition: Introducing PEC-P Buffer” Undergraduate Research Day, University of Oklahoma 2018.

Bingham BL and Frome RN, “Isotopic Analysis in the Prehistoric Southwest,” Undergraduate Research Day, University of Oklahoma 2017.

MEMBERSHIPS AND AFFILIATIONS

Society for American Archaeology, 2019

Transfer Leadership Class, University of Oklahoma 2017-2018

Phi Theta Kappa Honor Society, Northern Oklahoma College 2014-2016

Presidential Leadership Council, Northern Oklahoma College 2014-2016
Served as secretary from 2015-2016.

Civitan International, Northern Oklahoma College 2014-2016

SERVICE AND OUTREACH

Peer reviewer for Human Biology and Scientific Reports.

The Case of the Missing Sacred Bison (2019), Comanche Nation STEAM Camp volunteer aiding in forensic activities geared towards grades 6-12.

Organized and led hands on activities at the Kiowa Higher Education Program Anadarko STEAM Camp (2019).

STEM outreach coordinator and educator (2019) at Waukomis Public Schools teaching hands on DNA extraction to grades 7-11.

REFERENCES

Dr. Brian M. Kemp, Associate Professor
Department of Anthropology

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Dr. Cara Monroe, Research Associate
Department of Anthropology
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Dr. Jennifer Raff, Associate Professor
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