

Tre J. Blohm

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EDUCATION

University of Montana

PhD - Anthropology

Anticipated graduation date: Spring 2022

Thesis/dissertation topic: Ancient DNA and paleoepidemiology during the Neolithic in Europe

Advisor: Dr. Meradeth Snow

Master of Arts – Anthropology – November 2020

University of Montana

Advisor: Dr. Meradeth Snow

Bachelor of Science – May 2018

University of Wisconsin – Oshkosh, WI

Major: **Anthropology and Biology**

Associate of Art and Sciences – May 2015

University of Wisconsin – Fond du Lac, WI

Major: Biology

RESEARCH AND INTERNSHIP EXPERIENCE

2020: Ancient mtDNA pipeline, edited and created new script/documentation for running

Dr. Nieves-Colons' script on macOS https://github.com/mnievesc/Ancient_mtDNA_Pipeline

2019-2020: Analyzed aDNA sequences from the American Southwest

2018-2019: Genetic research with international researchers from INMEGEN (National Institute of Genomic Medicine, Mexico): The Snow aDNA lab had visiting researchers from INMEGEN for a few months where we collaborated on research and showed them techniques and protocols used in our lab

2018-2019: Genetic research on samples from the Southwest, US, Snow aDNA Lab-

Assisted in research tasks for some of Dr. Snow's work.

2018: Library Preparation on samples from Middle East: Helped with a colleague's research where I performed library preparation on their samples

2018-2019: TB from Ukraine Research, Snow aDNA Lab: Continuation of my undergraduate research where I am using aDNA methods to identify tuberculosis in samples from Ukraine

2017: Presence of the Mycobacterial Tuberculosis Complex in Neolithic Ukraine skeletal samples, University of Wisconsin Oshkosh, Anthropology Department: Undergraduate research project where I identified PCR amplicons suggestive of the presence of MTBC in samples from Ukraine.

2016-2018: Bioarchaeological Cave Excavation, Verteba Cave, Ukraine: I have participated in four bioarchaeological excavations as part of Dr. Jordan Karsten and colleagues' work.

FUNDING/AWARDS

- 2017 - University of Wisconsin – Oshkosh Office of Student Research and Creative Activity, Student Faculty Collaborative Research Grant- \$3,500
2019 – University of Montana Innovation Factory, Epic Ideas Pitch contest award - \$150
2019 – University of Montana ASUM, Research and Creative Scholarship Fund - \$750
2021 – University of Montana Ridge Research Scholar - \$1,000

PUBLICATIONS/MEDIA

- Wibowo M., Yang Z., Borry M., Hubner A., Huang K., Tierney B., Zimmerman S., Barajas-Olmos F., Contreras-Cubas C., Garcia-Ortiz H., Martinez-Hernandez A., Luber J., Kirstahler P., **Blohm T.**, Smiley F., Arnold R., Ballal S., Pamp S., Russ J., Maixner F., Rota-Stabelli O., Segata N., Reinhard K., Orozco L., Warinner C., Snow M., LeBlanc S., and Kostic A. 2021. Reconstruction of ancient microbial genomes from the human gut. *Nature*. May 12, 1-30.
- UM News, University of Montana, “Research reveals ancient people had more diverse gut microorganisms”, May 2021, <https://www.umt.edu/news/2021/05/051221pale.php>
- Schroeder T., **Blohm T.**, and Snow M. 2021. Spirit Eye Cave: Reestablishing provenience of trafficked prehistoric human remains using a composite collection-based ancient DNA approach. *JAS: Reports*. 36(April), p. 1-8
- Marfa Public Radio Nature Notes. “In Ancient DNA Findings, Profound Implications for Big Bend’s Past, and Present. Broadcast date: February 11, 2021. [In Ancient DNA Findings, Profound Implications for Big Bend's Past, and Present - KRTS 93.5 FM Marfa Public Radio](https://www.krts.com/news/2021/02/11/ancient-dna-findings-profound-implications-for-big-bend-s-past-and-present)
- UM News, University of Montana, “UM Earns Grant to Boost Research Network Infrastructure”, September 2020, <https://www.umt.edu/news/2020/09/091120zach.php>
- Advance Titan, University of Wisconsin-Oshkosh Campus Newspaper: <https://advancetitan.org/news/2017/11/09/uwo-senior-digs-fossils-ukraineas>

TECHNICAL REPORTS

- Blohm T.**, O’Brien H., Biddle K. 2018. Forensic Case, FSD 17-235, Montana State Crime Lab. Report.
- Blohm T.**, O’Brien H., Biddle K. 2018. Forensic Case, FSD 18-246, Montana State Crime Lab. Report.
- Blohm T.**, Green K., Biddle K. 2018. Forensic Case Recovery, Cruse Dr. Montana State Crime Lab. Report.
- Blohm T.**, and Ramey S. 2019 Forensic Case Analysis, Case 19-106. Montana State Crime Lab. Report.
- Blohm T.**, and Hampton A. 2019. Forensic Case Analysis, ANTH5. Montana State Crime Lab. Report.
- Blohm T.**, O’Brien H., Biddle K. 2020. Forensic Case Analysis. BCC#19-112, Bonner County Coroner’s Office.

PRESENTATIONS

- Blohm T.**, Karsten J, Schmidt R. 2017. *Presences of the Mycobacterial Tuberculosis Complex in skeletal remains from Neolithic Ukraine*. Poster presented at the Midwest Bioarchaeological and Forensic Anthropology Conference, October 2017, Milwaukee, Wisconsin.

- Blohm T**, Karsten J, Schmidt R. 2017. *Presences of the Mycobacterial Tuberculosis Complex in skeletal remains from Neolithic Ukraine*. Poster presented at the Robert Ritzenthaler Society, a Chapter of the Wisconsin Archaeological Society, December 2017, Oshkosh, Wisconsin.
- Blohm T**, Karsten J, Schmidt R. 2018. *Presences of the Mycobacterial Tuberculosis Complex in skeletal remains from Neolithic Ukraine*. Poster presented at the American Association of Physical Anthropologists, April 2018, Austin, Texas.
- Blohm T**, Karsten J, Schmidt R. 2018. *Presences of the Mycobacterial Tuberculosis Complex in skeletal remains from Neolithic Ukraine*. Poster presented at the University of Wisconsin – Oshkosh Celebration of Scholars, April 2018, Oshkosh, Wisconsin.
- Blohm T**. 2018. *Bioinformatic analysis of Tripolye samples from Vertebe Cave, Ukraine*. Poster presented at the University of Wisconsin – Oshkosh Anthropology Department Senior Capstone and Awards Ceremony, May 2018, Oshkosh, Wisconsin.
- Blohm T**, Karsten J, Schmidt R, Snow, M. 2019. *Presence of the Mycobacterium Tuberculosis Complex in ancient skeletal remains from Ukraine*. Invited symposium presentation at Society for American Archaeology, April 2019, Albuquerque, New Mexico. Chair: Kendra Sirak, Harvard.
- Blohm T**. 2019. *Mobile aDNA Extraction Chamber*. University of Montana EPIC Ideas Business competition, November 2019.
- Blohm T**. 2019. *Mobile aDNA Extraction Chamber*. Early Stage Montana at The Wilma, November 2019.
- Blohm T**. 2019. *Mobile aDNA Extraction Chamber*. Montana Ambassadors at the University of Montana Innovation Factory, November 2019.
- Blohm T**, Karsten J, Schmidt R, Snow M. 2020. *Paleomicrobiological analysis of Tripolye genomes from Vertebe Cave, Ukraine*. Society for American Archaeology conference, poster, April 2020
- Blohm T**, Karsten J, Snow M. 2020. *Identification of disease at Vertebe Cave, Ukraine*. American Association of Physical Anthropology conference, poster, April 2020.

LAB EXPERIENCE

FYR Diagnostics

Junior Research Scientist Intern, Missoula, MT

- Performed isothermal qPCR and RT-qPCR, R&D work, bioinformatics

University of Montana

Graduate Student Researcher, Missoula, MT

- Performed multiple research projects using techniques such as: library preparation (Purification, Repair, adapter ligation, indexing, bead cleans, quantification), Qubit DNA quantification, PCR, gel electrophoresis, Sanger Sequencing, NGS, DNA extraction

University of Wisconsin Oshkosh

Genetics Student, Oshkosh, WI

- Enrolled in genetics lab where I used PCR, gel electrophoresis, RT-PCR, SDS-PAGE, DNA extraction, and used UGENE program for computer-based exercises regarding genetics.

University of Wisconsin Oshkosh

Biotechnology Student, Oshkosh, WI

- Enrolled in a Biotechnology lab where I gained experience in basic microbial lab practices, sonification, PCR, gel electrophoresis, SDS-PAGE, DNA extraction and isolation

University of Wisconsin Oshkosh

Chemistry Student, Oshkosh, WI

- Enrolled in two Chemistry labs where I gained experience in basic chemistry practices and standards, working with acids and bases, titrations, chromatography, filtrations, etc.

OTHER EXPERIENCE

Forensic Case work, Spring 2017 – I went to a forensic crime scene with Dr. Karsten to help the Jefferson County, WI Sheriff's Office and Medical Examiner investigate a scene where human skeletal remains were found.

Forensic Case Work, Spring 2018 – I assisted in analysis of remains that were found in a house fire to identify cause of death and identification.

Forensic Case Report 1, November 2018 – Analyzed remains from a case and provided a written case report to law enforcement

Forensic Case Report 2, November 2018 – Analyzed remains from a case and provided a written case report to law enforcement

Forensic Case Recovery, December 2019 – I assisted Dr. Kirsten Mink from University of Montana along with Missoula PD to excavate a forensic burial in Lake County, Ronan, MT.

Forensic Case Analysis, April 2019 – Analyzed remains from the Montana State Crime Lab and provided written case report.

Forensic Case Analysis, September-December 2019 – I was in charge of analyzing remains sent to the University of Montana.

Forensic Case Analysis, January 2020 – Part of a team working on forensic identification and analysis for Bonner County, MT

Forensic Case Field Work, October 2020 – Part of a team tasked with identifying a potential grave site.

SOFTWARE/PROGRAM SKILLS

Galaxy, SamTools, BamTools, FASTQC, BWA, UGENE, Gene Construction Kit, Sequencher, Mac Command Line, Clustal, PAUP*, Mr.Bayes, FORDISC, SPSS, PAST, BEAST, R (command line, GUI, app), MAFFT, mapDamage, Python

CERTIFICATES/LICENSES

Molecular Diagnostic Technician (American Medical Technologists), March 2021

Clinical Laboratory Scientist, Board of Clinical Laboratory Science Practitioners Montana, March 2021

RELEVANT COURSES

Microbial Genetics – Bio 375 (UWO)

Principles of Biotechnology – Bio 389 (UWO)

Biotechnology Laboratory – Bio 390 (UWO)

Genetics – Bio 343 (UWO)

Molecular and Cell Biology – Bio 323 (UWO)

Evolution – Bio 351 (UWO)

Introduction to Bioanthropology – Anthro 202 (UWO)

Introduction to Archaeology – Anthro 208 (UWO)

Forensic Anthropology – Anthro 377 (UWO)
Human Evolution – Anthro 378 (UWO)
Human Osteology – Anthro 374 (UWO)
Seminar in Bioarchaeology- ANTY513 (UofM)
Theory and Methods in Biological Anthropology – ANTY515 (UofM)
Seminar in Human variation and evolution – ANTY510 (UofM)
Phylogenetics – BIOB483 (UofM)

TEACHING

-Teaching Assistant, University of Montana, Intro to Physical Anthropology Lab, Fall 2020
-Snow lab aDNA Summer Course, July 2020, taught a guest lecture on bioinformatics using Galaxy
-Inter-Tribal Student Organization: Talked about majors/minors in Anthropology, November 2017
-Taught lab portions of ANTY418 where we introduced pipette skills to students, concepts of DNA extraction, PCR, and gel electrophoresis.
-Preceptorship for ANTY312 (Osteology), University of Montana, Fall 2019

WORK EXPERIENCE

Fall 2019-present, FYR DIAGNOSTICS, Missoula, MT

- Junior Research Scientist
- Supervisor: Dr. Vik Ghai

Spring 2019-present University of Montana Research Assistant

- Supervisor: Dr. Meradeth Snow

EXTRACURRICULAR/VOLUNTEER ACTIVITIES

Anthropology Club Treasurer (2016-2017 school year), UWO
Anthropology Club President (Fall 2017 – Spring 2018), UWO
Montana Anthropology Student Association Secretary (Fall 2018 – Spring 2019)
Lambda Alpha Treasurer (Fall 2018-Spring 2019), UofM
Sunday Sweepers: Cleaned garbage from designated streets in Missoula, MT, 2018
Graduate Mentor (2019-2020), University of Montana: I'm a graduate mentor to an undergraduate to help them with their graduate school application process.
Forensic Photo Workshop Attendee, Presenter: Dr. Aldo Fusaro, University of Montana, February 2019.
Forensic Photo Workshop Attendee, Presenter: Dr. Aldo Fusaro, University of Montana, November 2019.

PROFESSIONAL ORGANIZATIONS

Midwest Bioarchaeological and Forensic Anthropology
American Association of Physical Anthropologists
Society for American Archaeology
American Association of Anthropological Genetics
Lambda Alpha
American Genetics Association
Association of Medical Technologists

CONFERENCES ATTENDED

Midwest Bioarchaeological and Forensic Anthropology Conference, October 2016
Midwest Bioarchaeological and Forensic Anthropology Conference, November 2017
Celebration of Scholars (University of Wisconsin-Oshkosh), April 2018
American Association of Physical Anthropology, Austin, TX 2018
Society for American Archaeology, Albuquerque, New Mexico 2019
Western Bioarchaeology Group, Denver, CO 2019
Society for American Archaeology, Austin, TX 2020 (Accepted, canceled due to COVID19)
American Association of Physical Anthropology, Los Angeles, CA 2020 (Accepted, canceled due to COVID19)
Association of Medical Technologists, Annual Meeting July 2021 (Virtual)

REFERENCES

Dr. Meradeth Snow, Adjunct Professor, University of Montana
Contact: email: meradeth.snow@umontana.edu
Dr. Jordan Karsten, Professor, University of Wisconsin – Oshkosh
Contact: email: karstenj@uwosh.edu
Dr. Ryan Schmidt, University of Porto, Portugal
Contact: email: schmidtrw@gmail.com