

SPAAM3 - Session Notes

Session 1 - Ethical considerations and best practices in ancient metagenomics research

Chairs - Elizabeth Nelson and Kelly Blevins

Presenters - Rita Austin, Justin Lund, Jessica Hider

Session Abstract

Standards and expectations of responsible research are complex and culturally dependent; however, ethical aDNA research should be guided by two questions, “How does my research impact the living?” and “How does my research impact the dead?” Much of aDNA research involves the destruction of human remains from a Western scientific perspective, which is not uniformly supported across Indigenous and invested communities, specifically Indigenous groups and Tribal Nations. The degree to which invested and descendant communities can participate in the decision-making process varies widely by country, with many Indigenous groups and under-resourced communities lacking the sovereignty, scientific infrastructure, and power to control their own cultural resources. Even when researchers have support from stakeholders, it is critical to recognize that ancient remains are finite. Not only is sampling a destructive process, but also over sampling and exportation without proper documentation and repatriation plans can lead to incomplete skeletal collections, limiting future osteological, isotopic, and biomolecular research. The goals of this SPAAM session are to (1) Examine the responsibility of aDNA and laboratory researchers in addressing these concerns, and (2) Offer recommendations for responsible research participation, including best practices for ethical research design, engagement with invested groups, transparency in collaborative practices, and responsible treatment of archaeological and historical remains.

Session Objectives

- 01** Hear from experts active in anthropological and ancient DNA research who are confronting and challenging current frameworks to improve aDNA research.
- 02** Engage in transparent discussions with questions, comments, recommendations and thoughts concerning the complex ethical challenges of our field.
- 03** To have continued communication on ethical practice in aDNA research with our SPAAM community so that we can all learn from and lean on each other.

Rita Austin - *Respectfully moving forward: Discussing how the ancient metagenomic community will address ethical concerns*

Presentation Notes

Our community should take in consideration the ethics concerns and we are responsible to. We are not only telling stories about samples, but also about the individuals that lived in the past. Since we subsample from an individual, it creates a disconnection between sample and individuals, and by doing so they lose their rights. We should acknowledge that the samples are individuals. However since the individuals are dead, which means they lose some of their rights and over time the individuals are losing more and more rights. In western world, death is regarded as cutting off the individual from society. By considering the samples as individuals, we need to provide respect for the deceased. We must not forget that without samples we can not tell the stories that we do since they are key for them, and as researchers we're tools to interpret those stories. Important questions are needed to be asked: Who were they as people, not only known demographic information (age, sex, etc) but also trying to understand more personal things like which hand did they use, were they unethically taken, etc. and who benefits from my science → will the science affect living communities? Rita works on museum collections, which are typically historically acquired, and this involved knowing who these people were and how they were acquired by the museum. This can be done by archival information and connecting this to the bioarchaeological assessment. Having an empathetic consideration when doing research is essential, since the individuals were someone's family. The reality does not always go hand in hand with the respect that human remains deserve. The community of researchers need to decide on how we move forward and to set up standards on how to treat with respect the human remains we all work with.

“Western science machine”

Justin Lund - *Addressing the shifting legacies of US racism through science communication and dialogue*

Presentation Notes

The land of the University of Oklahoma was the traditional home of Caddo Nation and Wichita & Affiliated Tribes, which the university acknowledges this fact, which are important. Land Acknowledgements are a recent practice. Justin has been part of the drafting of these statements, and although he finds joy in seeing the recent growing popularity of this, he has concerns that for some people this is just something they have to do and not something with importance. Navajo introduction by Justin is a practise to set the space for him and to acknowledge his tribe. Covid has shown the flaws of the foundation of the US (worldwide), by showing native americans and people of color have been affected more than white americans. The US is founded in racism, as well as multiple institutions. Academia is a colonial institution, and as academics we are colonial administrations. Knowledge has been used to empower colonialism. In his paper “Entanglement, Sovereignty and Science”, they argued that academia are colonised, and provide a framework to move forward based on the 4 Rs: Respect (for people and cultures), Relevancy (conduct research in ways that are in line with the experiences of the indigenous people), Reciprocity (responsible practises such as dissemination back to the communities in appropriate ways) and **Relationships**. This all speaks for relationships: we need to nurture healthy relationships, but also repair the centuries of oppression. This brings him to ancient DNA: unethical practises can break the relationships and trust between scientists and indigenous people. We should wonder where the samples come from and how they should be acquired. Solving the problems with foundation should not rely only on indigenous people but on all of us.

Key points:

- Ethics is everyone’s responsibility
- Racism is the foundation of US society
- Academia is a colonial institution: engagement is important
- Relationships

Jessica Hider - *Bolstering Ethics in aDNA: the Use of Ethics Review*

Presentation Notes

McMaster University: Traditional territory of Mississauga and Haudenosaunee nations. One of the things that bring Jess here is the repatriation of ancient indigenous remains as well as excavation of indigenous remains, and her work with indigenous site monitors. She is publishing on ancient DNA and she hopes to improve the ethics in ancient DNA. She works as a decolonising educator by teaching people how to teach. She wants to modify the modern medical ethics form in her university

and adapt it to the ancient DNA field, involving archaeologists as well as other researchers. She is open to getting feedback from her talk.

An overview of the main ethical questions to be considered in the form are:

1. Stakeholders, consent and consequences:

Q4 Please list all the parties that will be part of this research (descendants, museums, other institutions), and their interest and role in the research.

Q4.5 Will or has consent been obtained from indigenous/descendent population if they are thought to be culturally or genetically related to remains being sampled?

Q4.6: Will or has consent been obtained from the country or locality of origin of the sample?

Q4.8: Could the study negatively impact individuals or groups including, but not limited to, indigenous, descendent, or racialized communities (e.g. arguing against land claiming)?

2. Destructive sampling, data/sample storage and transmission

Q6.2 Will the unused portion of the samples and DNA/protein extracts be stored (and how) or will they be returned to the contact/curator?

Q6.8 Will related individuals/groups, or local communities be informed of or consulted on results before publication?

In terms of limitations, there are many; a form is not enough and can not get the nuance needed. It does not include flora and fauna. It will be valuable to learn which other limitations the people in the audience can think of in the form.

General Discussion

Slack questions

For Rita by Abby Gancz

- **Q: What policies or training programs would you recommend that research groups implement to ensure respectful treatment of individuals?**
 - **A:** Anthropologically we are exposed to more ethics than other disciplines. Doing the course does not have enough nuance to ethics. Doing ethnographic research, listening and figuring out other people's comments. She does not have a training course in mind to recommend.
Few of us have done this ethics. Most of the courses are focused on the legality of ethics rather on how to be ethical.

- **Q: What is your thought on how this discussion extends to early-human or non-human samples? We have many ethical guidelines for living animals, but how do we stand on ancient ones?**
 - **A:** Very difficult to draw the line between non-human and human. We can not obtain consent for animals. Open source of investigation, she will love to talk and develop something for this topic with someone.
 - Justin Lund: talking about animal remains in indigenous sites and sovereignty. Typically, in the US if it falls under the jurisdiction of a tribal nation, they would have certain sovereignty over animal remains. Once it leaves the land jurisdiction, the sovereignty becomes less and less.

For Justin by Abby Gancz

- **Q: With the drive towards increased data sharing between researchers from many nationalities, how do you think non-US researchers can build ethical relationships with the communities whose ancestors they would like to use as comparative populations? What specific methods do you think US/local researchers can/should use to facilitate discussions?**
 - **A:** Data sharing is political, more than science. In the case of the US, genomics science is mainly funded by the government, and it has specific motifs. The benefits to indigenous people are not the same for each community and they are not the same for academia in general (which is colonial). There is no answer to your questions, it is still a subject of discussion.
 - Responsibility to reaching out to communities once it is publicly available? We are responsible for reaching out to the communities, and you should create a relationship with the communities.
 - Building relationships are KEY!

For Justin/all speakers/SPAAM folk by Abby:

- **Should we consider putting an ethics tag on our individuals' sample list to verify that some discussions/attempts at ethical conduct have been made? As well as warning tags for**

individuals' samples that may require more ethical groundwork prior to being researched?

- **A:** Stephani Russo and other indigenous researchers have created The CARE Principles for Indigenous Data Governance (<https://www.gida-global.org/care>), and they work with different institutions to put these tags.

For Justin by James Fellows

- **Q:** Do you happen to know of any perspectives that N. American indigenous groups (such as the Navajo) have more specifically on the study of remains that aren't directly skeletal or 'human-made' material, such as dental calculus or palaeofaeces? I ask because like you said developing these relationships are important, but maybe topics such as microbial research isn't taught as much at Schools in general etc. and so improving this would be important for communication (This question is partly inspired what I've heard about the work lead by Tina Warinner in Mongolia, where they realised they had to do a lot of fundamental education because some of their collaborators just didn't exactly understand what they were collaborating on) /overly long question, sorry
- **A:** The discussion of microbiome and such are starting to talk about this within the community. Also talking about environmental DNA and sovereignty of indigenous people. Things are advancing very quickly, but these things are starting to be discussed.
- Ethics is an ever developing discipline.

For Justin by Nico Rascovan

- **Q:** You mentioned throughout your talk very important points concerning native american communities (history, racism, integration, colonialism, etc.), particularly in relation to our work. My questions are:

- **Have the communities you are interacting with been in contact to discuss these topics with other native american nations across the Americas?**
 - **A:** Yes, communities get together to talk about this, particularly in genomics. In January 2020, there was a conference in New Zealand where approx. 200 indigenous genomicists, from all over the world, discussed how to incorporate indigenous views into genomics. There are conferences for students, like SACNAS. Also, there is the National American Indian Group, where general topics are discussed, including genomics.

For Jessica by Irina Velsko

- **Q: Hi Jessica, I may have missed this, but how are you incentivizing filling out this form? In biomedical studies, funding agencies won't provide funds if an approved IRB doesn't exist, but there isn't an expectation for this sort of thing from other funding sources. Will it be required by the university before they release funds to the researcher?**
 - Jess hasn't gone that far. She's planning to discuss it further with the Anthropology Department where she's based.

Universal truths:

- Community-based research should be the way forward.
- Engaging the community independently wherever you are.
- Relationships having discussions are KEY: between archaeologists, genomicists, indigenous people, etc.

POLLS:

Q: My work involves new or previously-published data from indigenous/ethically sensitive contexts:

- Yes - 61% (n= 14)
- No - 39% (n=9)

Q: For projects I have worked on, I/we got ethics approval from the (select all that apply)

- Ethics approval board at my university - 15.6% (n=5)
- Museum or curator of the remains - 46.9% (n=15)
- National cultural heritage management body like the Consejo de Arqueología in Mexico - 28.1% (n=9)
- Indigenous or invested community members - 6.3% (n=2)
- I/we did not receive any ethics approval - 3.1% (n=1)