



# 4th Annual Anthropology Symposium

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Friday, April 29, 2016, 1:00–6:00 pm

Memorial Union, Iowa State University

# Schedule

1:00–2:00

Session I: Podium Presentations

*Cardinal Room*

2:00–2:30

Break

2:30–3:10

Session II: Podium Presentations

*Cardinal Room*

3:10–4:00

Break

4:00–4:30

Keynote Address: Dr. Grant Arndt

*Cardinal Room*

4:35–6:00

Poster Presentations

Reception with Refreshments

*Campanile Room*

# Keynote Speaker

## **4:00–4:30, Cardinal Room**

Dr. Grant Arndt, *The Expectations of Tradition: Powwows and the Politics of American Indian Cultural Performance*

Ho-Chunk powwows are the oldest powwows in the Midwest and among the oldest in the nation, beginning in 1902 outside Black River Falls in west-central Wisconsin. As early as 1908 the Ho-Chunk people began to experiment with the commercial potential of the powwows by charging white spectators an admission fee. During the 1940s the Ho-Chunk people decided to de-commercialize their powwows and rededicate dancing culture to honor their soldiers and veterans. Powwows today exist within, on the one hand, a wider commercialization of and conflict between intertribal “dance contests” and, on the other, efforts to emphasize traditional powwow culture through a focus on community values such as veteran recognition, warrior songs, and gift exchange. Over the past two centuries the dynamism of powwows within Ho-Chunk life has changed greatly, as have balances of tradition and modernity within community life. Powwow has become a central space within which Ho-Chunk people create cultural value through their public ceremonial performances.

# Podium Presentations

Cardinal Room, 1:00–4:30

**1:00 Session I: Podium Presentations, Cardinal Room**

1:10 Kurt Wilson, *δ13C and δ18O Isotopic Analysis of a Platygonus compressus Tusk*

1:20 Danielle Airola, *Iowa City Pathologies*

1:30 Sydney Dighton & Whitney Graves, *Accuracy of Cut-Mark Analysis Databases within Forensic Anthropology*

1:40 Alexa Golemo, *Can the Presence and Proportion of Bacterial Communities Be Used to Estimate Post-Mortem Interval? A Critical Analysis*

1:50 Celeste Moreno, *The New Generation of Forensic Facial Reconstruction*

**2:00-2:30 BREAK**

**2:30 Session II: Podium Presentations, Cardinal Room**

2:30 Giselle Narváez Rivera, *An Experimental Study to Assess Crossing Structure Design and Stability for New World Monkeys in a Wildlife Rescue Center*

2:40 Cheryl A. Sanders, *Native Americans: The Fight for Race, Class and Equality in the Field of Anthropology*

2:50 Ben Spick, *Considering Conscience-Development Among LGBT and Allied Catholics*

3:00 Cheryl A. Sanders, *Struggles of Social Inequalities in the Neoliberal World*

**3:10-4:00 BREAK**

**4:00 Keynote Address, Cardinal Room:** Dr. Grant Arndt, *The Expectations of Tradition: Powwows and the Politics of American Indian Cultural Performance*

**4:35-6:00: Poster Presentations & Reception with Refreshments, Campanile Room**

Awards will be announced at 5:00

# Poster Presentations

Campanile Room, 4:35–6:00

*Refreshments will be provided*

1. Karri Folks
2. Iany Cancel-Ramirez
3. Arrien Hansel
4. Nicole Wackerly
5. Lucio Reyes
6. Katherine Slimak
7. Andrea Rabinowitz
8. Hannah Overton
9. Jeremy Weese
10. Hawa Conteh
11. Madison Pullis, Veronica Johnson, & Samantha Budai
12. Danielle Propst
13. Catherine Krahling, Brandon Russom, & Mareta Spikes
14. Ben Spick
15. Brandon Scheuring

# Podium Abstracts

Danielle Airola

## **Iowa City Pathologies**

This study is focused on the pathologies and skeletal abnormalities present among specimens from the Iowa City Collection, narrowed down to four individuals in particular. It compares abnormalities observed on the bones themselves with the written record from the inventory of this collection, identifying which pathology is most common among the specimens, why those pathologies leave their marks in bony tissue, and speculates about the possible origin of this collection before it was loaned to Iowa State from the University of Iowa to become part of the teaching collection for classes in skeletal biology and forensic anthropology.

Sydney Dighton & Whitney Graves

## **Accuracy of Cut-Mark Analysis Databases within Forensic Anthropology**

When it comes to trauma analysis, there are multiple databases and criteria used to determine weapons. Therefore, the purpose of this research is to determine whether or not the accuracy of these databases are precise enough to definitively determine which type of weapon is used. Five different tools were used, split into two different sections. The first were weapons used in stabbings: scalpels, pocket knife, and kitchen knife. The next section of weapons were those used in the dismembering of remains: an axe and machete. It is apparent that the identification of murder weapons is a clear link to the arrest and prosecution of an individual. If there is an inaccuracy within these databases, it may depict a larger issue than just identifying the wrong weapon, as it could truly be a matter of life or death for a potentially wrongly accused perpetrator.

# Podiums, cont.

Alexa Golemo

## **Can the Presence and Proportion of Bacterial Communities Be Used to Estimate Post-Mortem Interval? A Critical Analysis**

The use of bacterial communities to estimate post-mortem interval is a relatively new concept in the field of forensic anthropology, but one that shows great promise. Research has shown a correlation between the presence and proportion of bacterial communities within the microbiome of a deceased vertebrate and the post-mortem interval of that individual. Methodologies include analyzing and comparing relative abundance of different taxa during decomposition, as well as comparing the microbiome of the decomposing vertebrate to the surrounding soil during different phases of decomposition in skeletonized remains. However, this method of estimating time since death must undergo much more in-depth research before a forensic anthropologist could claim it as evidence with a “reasonable scientific certainty.” Challenges to this method include general knowledge of microbiomes, limited sample sizes thus far, and the impact of different environments and temperatures. Forensic anthropology is in need of new ways of estimating post-mortem interval and with further research the analysis of bacterial communities could become an essential method in the twenty-first century.

Celeste Moreno

## **The New Generation of Forensic Facial Reconstruction**

Forensic facial reconstruction is an impressive and unique blend of scientific and artistic skill sets that for many years was based primarily on non-digital or traditional methods such as pencil sketches and clay models. With the recent advancements in 2D digital art software as well as 3D digital art software, forensic artists have a new set of tools to take advantage of. Some artists have focused on using primarily digital reconstruction techniques. These artists and their new techniques are a part of the new generation of forensic facial reconstruction. This is a discussion of how cutting edge technology can increase the efficacy of forensic facial reconstruction. However, it is also a discussion of the challenges that these technologies present and a discussion of how being mindful of traditional techniques is still important even when advanced digital tools are available.

# Podiums, cont.

Giselle Narváez Rivera

## **An Experimental Study to Assess Crossing Structure Design and Stability for New World Monkeys in a Wildlife Rescue Center**

Although wildlife bridges have been shown to aid nonhuman primates by connecting fragmented habitats, the evaluation of crossing structure (CS) design is a fledgling field of study in primatology. To address this problem, we evaluated CS preference and performance among three Neotropical primate species (*Alouatta palliata*, n=4 individuals; *Cebus capucinus*, n=3; and *Ateles geoffroyi*, n=3) at a rescue center in Puerto Viejo de Talamanca, Costa Rica. We tested the hypothesis that monkeys prefer bridges that are relatively stiff. Study subjects were given uniform access to five models varying in stiffness and width during 27 sampling hours in July 2015. Model preference and performance was assessed by sampling focal individuals' behavior and estimating bridge crossing rates. Our results show that there was a clear difference between bridge models in crossing events ( $N=122$ ,  $\chi^2= 10.4335$ ,  $df= 4$ ,  $p=0.0337$ ). The least popular model was used in 6.7% of the crossings and the most used bridge comprised 41% of our sample. Moreover, the most popular CS model had a high degree of stiffness, indicating that this material property may be a determinate of CS preference. Our findings provide a better understanding of CS design for nonhuman primates and may be incorporated into biological corridor management.

Cheryl A. Sanders

## **Native Americans: The Fight for Race, Class and Equality in the Field of Anthropology**

Native Americans have endured racial typology, robbery for pseudo-science, declared a dying race as they became the trophy items for emerging museums all over the country. Because of such actions the Native American Grave Protection and Repatriation Act (NAGPRA)



# Podiums, cont.

was created to safeguard any remains and protect any burials of Native American descent. My research is set out to reveal that the field of physical anthropology is always changing and how this history affects forensic anthropology in practice. This project will focus on the history of eugenics and Social Darwinism, as these outdated concepts led to the establishment of NAGPRA. Furthermore, I will discuss how NAGPRA impacted the forensic anthropology field, including identification and analysis of Native American remains. This project will highlight the limitations of NAGPRA, as well as human decency, through the integration of alternative claims, such as kinship and religion in the physical anthropology field.

Cheryl A. Sanders

## **Struggles of Social Inequalities in the Neoliberal World**

Social inequalities are often thought of as inexistent in the globalized world. This project looks at anthropological observations in a sense of new class boundaries. The purpose of this project is to establish symbols of inequality within current day society. My project is constructed within the frameworks of Pierre Bourdieu's habitus and field. Some of the constructs of class that are exposed within my project are on the biological level between gender and race as well as in consumer's everyday lives through items such as the television and the automobile. Social inequalities remain in place because they establish boundaries within class; evolving, adapting and changing, even if they are unrecognizable due to our habitus.

Ben Spick

## **Considering Conscience-Development Among LGBT and Allied Catholics**

This presentation explores the role which the development and cultivation of conscience plays in the lived experiences of LGBT and allied Catholics. In conversations with informants for past and current projects, the theological notion of "primacy of conscience" – that is, an individual has the moral obligation to follow their informed conscience in making judgments or decisions – emerged as a key

# Podiums, cont.

explanation for their championing of LGBT issues as Roman Catholics. This presentation will also reflect on the outcomes, potential, and limitations in laying groundwork for further study of this topic. In so concluding, it will also touch on some identifiable contributions such further study could make to both queer anthropology and anthropology of religion.

Kurt Wilson

## **$\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ Isotopic Analysis of a *Platygonus compressus* Tusk**

Stable-isotope analysis of *Platygonus compressus* remains from Peccary Cave, AR documents previously unknown dietary and seasonal information on flat-headed peccary. *P. compressus* diet knowledge currently derives from dental wear analyses with no isotopic data. New  $\delta^{13}\text{C}$  data obtained from  $^{14}\text{C}$  dated specimens reveals a C3 focused diet, despite dental adaptations allowing for omnivorous and mixed plant-life feeding. Combined with other indicators,  $\delta^{13}\text{C}$  enables improved recreation of peccary habitat adaptations in the late Pleistocene. Serial sampling of a *P. compressus* tusk for  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  further evidences a C3 diet and documents seasonal shifts in  $\delta^{18}\text{O}$ . Abrupt  $\delta^{18}\text{O}$  shifts between samples enables improved understanding of water sources. Merging  $\delta^{13}\text{C}$  from bone and  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  from tusk adds to understanding *P. compressus* extinction and the debate over cause; climate change or human predation.

# Poster Abstracts

## 1. Karri Folks

### **Using Science Communication and Informal Education to Become an Informational Portal to the Public**

Effective communication with the public is a key component of research outreach. As graduate students, our curriculums usually require some form of public outreach. You are expected to demonstrate the broader impacts of your research through multi-generational education; however training for this type of communication is usually not provided. Reiman Gardens (Ames, IA) provides outreach development and training to Iowa State graduate students, scientists, engineers, researchers, and other science-based professionals through their Portal to the Public Science Communication Fellowship. The fellowship provides training on how to effectively communicate your research to diverse audiences and enhance science communication skills. Each fellow worked individually to develop a hands-on activity related to their specific research with an intention to share this activity with the general public audiences through various programs at Reiman Gardens. The activities developed are presented at schools, conferences, and other educational or professional settings. My activities intended to demonstrate the skill sets required from primatologists to conduct behavioral research in the field. These included a “monkey charades” activity, intended to reveal some of the obstacles associated with deciphering primate behavior and a “monkey memory” activity envisioned to convey the complexity in identifying individual primates within a large troop.

## 2. Iany Cancel-Ramirez

### **Taphonomic Analysis of the Wyoming Skull: How Taphonomy Gives Us Clues About Perimortem and Postmortem Modifications of Human Remains**

When dealing with skeletal remains in forensic investigations, it is critical to take into consideration the effects that natural and man-made forces have on the preservation and modification of the remains. The ISUAL 47 specimen, also known as the Wyoming Skull, was brought to Iowa State

# Posters, cont.

University without any documentation regarding the context in which the remains were found. Due to the lack of documentation of the specimen, it is necessary to rely on an actual analysis of the remains to answer questions about the circumstances surrounding the perimortem and postmortem intervals of the remains. This analysis take into consideration the influence of animal scavenging, weathering, root etching, and anthropogenic activity on the preservation of these remains. In addition, a biological profile for the decedent is established. These efforts create a clearer picture about the origins of these remains and their postmortem depositional context, as well as highlighting the significance of taphonomy to the study of human skeletal remains.

## 3. Arrien Hansel

### **Photography as a Methodological Tool Within Primate Food Availability Studies**

Anthropological primatologists study fruit availability because it profoundly influences the behavior of wild primates. The aim of this study is to establish whether photography can be used as a methodological tool to measure fruit availability. To accomplish this goal, the two methods of counting fruits were compared for baobab (*Adansonia digitata*) trees at Fongoli, Senegal, first by counting fruits on the trees in the field. Then a fruit count from photos was taken at the same time of the field count. Linear regression was then used to assess the correlation between these methods. Anthropological primatology could benefit from photography as a research tool as it may reduce in-field hours counting fruit and increase measurement precision for certain fruit tree species.

# Posters, cont.

## 4. Nicole Wackerly

### **Observations of a One-Armed Juvenile Male *Ateles geoffroyi* at El Zota Biological Field Station**

Information on how wild non-human primates cope with severe disabilities is rare. Here I present an account of a juvenile spider monkey (*Ateles geoffroyi*) missing his right arm living in a lowland. This individual (JF) was discovered at El Zota Biological Field Station. Adjustments were of interest in comparison to the able-bodied individuals at the site. I examined whether he exhibited differing postural and locomotor behaviors than monkeys with all functioning limbs. Research on such individuals can provide insight into how non-human primates adjust to physical limitations and can assist interpretations of behaviors associated with disabilities in the hominin fossil record. It is unknown whether JF was born with his disability or whether it is the result of circumstances during his early years. Moreover, the observed missing limb may be the result of injury through conflict or accident. Throughout this presentation, I will detail the potential pathways leading to his disability, as well as present my results on the postural and locomotor adjustments exercised by this individual during foraging and traveling.

## 5. Lucio Reyes

### **Effects of Different Soil Types on Decomposition Rate of Pig Extremities**

This experiment is intended to research the effects of soil types on the decomposition rate of pig's feet using quantitative analysis of the weight of the feet over time and carbon dioxide emissions over time. The experiment will also analyze the effects of fleshy vs. de-fleshed remains in these soil types, which is of importance to forensic and biological anthropology. It will provide information on the significance of soil type and state of remains to the decomposition rate for recently deceased organisms by solely exogenous microbial activity. This can help determine more accurate postmortem intervals which can be useful tools in forensic and biological anthropology when examining deceased specimens.

# Posters, cont.

## 6. Katherine Slimak

### **A Critical Review of the Identification of Mass Disaster Remains Through the Use of Genomic Analysis**

Identification of a single complete set of bones can be considerably challenging given the condition of the bones; however, identifying tens to hundreds of different bones, how many complete sets are present, and to whom they belong is a complete different story. Throughout the world today there are many mass disasters that take the lives of hundreds and even thousands of people, leaving remains behind that are fragmented, heavily impacted by the incident and environment, or completely obliterated. Mass disaster remains can be identified through techniques in genomic analysis that use extracted DNA from remains that have potential to be completely destroyed such as the hair and bones, as well as remains that are more resistant to decomposition such as the teeth. Through a critical review, some simple critical questions will be answered. How accurate have these genomic techniques been in the identification of mass disaster remains, what are the inaccuracies in the methods, and how could they be improved?

## 7. Andrea Rabinowitz

### **English and Lexigram Comprehension of Language-Trained Bonobos**

If language and cognition are intrinsically linked, it follows that studying the linguistic processes of great apes will heighten our knowledge of the evolution of human language and thought, a primary focus of anthropological research. The present study expanded upon ongoing research of bonobos (*Pan paniscus*) raised in a language-enriched environment at the Ape Cognition and Conservation Initiative. While Kanzi's linguistic and cognitive capabilities have been well documented in early life, this project evaluated a current vocabulary of English and symbolic lexigrams. A series of three computerized match-to-sample tasks tested his ability to match a picture to spoken English, lexigram to spoken English, and picture to lexigram symbol for 120 words commonly encountered in his daily life. An assessment of multiple communication methods used by Kanzi provides data on the extent of

# Posters, cont.

language comprehension of a unique ape who plays an important role in the study of language development and ape language research. This project allows for further investigation of the linguistic abilities of humans' evolutionary relatives and the origins of language in our lineage.

## 8. Hannah Overton

### **Biological Determinism: The Lombrosian Theory, and How It Influenced the Early Construction of Biological Anthropology and Criminology.**

The Lombrosian Theory focuses on characteristics that the criminal and insane share, focusing on physical and psychological abnormalities. For Lombroso, these anomalies allowed him to quantify what made one criminal or insane. These traits were things that he could see, and what Lombroso fails to do is address the nature of the crime. Instead he moves away from that sort of thought. Lombroso's focal point is solely biological, leaving out the possibility of environmental factors. One way Lombroso attempted this was by assessing the cranium and its characteristics. My research will analyze how the cranium was used to determine whether or not someone was a criminal or insane. Applying the Lombrosian Theory to a sagittal cross section of a skull, provided by Iowa State University, and then addressing the failings of this analysis. Lastly, anthropology has changed drastically since its creation, and the Lombrosian Theory is an example of this. Providing chronological history, this research will take an in-depth look at the periods of anthropology to evaluate how this theory has affected anthropology, even to this day.

## 9. Jeremy Weese

### **Witchcraft in Africa**

Witchcraft's prevalence in Africa, and many other places in the world, has been a subject of interest to scholars for quite some time. However, its popularization in movies and books has skewed the public's perception of all the things witchcraft entails. Looking past the fictionalized "monsters" that are depicted in today's popular culture,

# Posters, cont.

we see that witchcraft is a vital part of many African communities. Drawing on early ethnographies, such as E. E. Evans-Pritchard's *Witchcraft, Oracles, and Magic Among the Azande*, as well as more current research, we are shown the central role that witchcraft plays in social structures (the consequences which may or may not be fatal to the bewitched). Using these ethnographies and other sources, I plan to use my poster to highlight some of the areas not generally studied in this area, and how these ideas play into the cultures as a whole.

## 10. Hawa Conteh

**The Effect of Civil War on the Economic Development of Sierra Leone**  
Sierra Leone, home to 6.1 million people, has suffered huge consequences in the country's economic growth due to a civil war that took place from 1991-2002. Therefore, Sierra Leone's population is made of mostly the young youths and adults due to abandonment of caregivers and deaths. The effect of the violent civil war has caused the country to be ranked as one of the poorest country in the world. There are some efforts being put to stimulate economic growth so the citizens can be able to sustain themselves. The efforts include outside assistance from other countries and the inside effort of the citizens in the country itself.

## 11. Madison Pullis, Veronica Johnson, & Samantha Budai

### **Treatment of AIDS and Poverty**

This project focuses on the historical and current significance of AIDS and AIDS treatment as they relate to poverty. It will put the outbreak of HIV/AIDS in a historical and cultural context and look at in on a global scale. The project will show what treatment costs are for both people living in developed and developing countries. There will also be a focus placed on the current debate over who receives the treatments and who produces them. Finally, the project will look at different anthropological theoretical perspectives that have been used over time and how they apply to this current issue.



# Posters, cont.

## 12. Danielle Propst

### **Place Based Culture and Identity: The Threat of Gentrification to Bo-Kaap and Woodstock in Cape Town, South Africa**

The Group Areas Act of 1950 was a tool used by the apartheid government of South Africa to separate people geographically by racial classifications. Most neighborhoods and suburbs of Cape Town were impacted by this act either through forced removals or the establishment of new townships. The two areas exempt this act were the Muslim neighborhood of Bo-Kaap and the racially mixed suburb of Woodstock. These neighborhoods are now experiencing an increase in property values, an outward migration of working-class and lower income households, and an influx in the number of wealthy young professionals. The aforementioned indicators are all signs of gentrification and changing residential composition. In the past, the culture and identity of these neighborhoods was largely influenced by their residential resilience against the apartheid regime and exemption from the displacement caused by the Group Areas Act. The gentrifying process is now threatening this identity and the place based culture of the residents who live there and the denizens who are being displaced.

## 13. Catherine Krahling, Brandon Russom, & Mareta Spikes

### **Islamophobia and Veiling**

The concept of the “Other” is not new to Western society. It has been used since the first days of colonization to place Western beliefs and ideals on a pedestal of superiority to justify genocide and unlawful treatment and incarceration. Today, media sources preemptively report the “facts” and perpetuate the fear of a new “Other,” Islam, within Western society and widen the rift started during the Crusades

# Posters, cont.

and Reconquista. The destruction of the Twin Towers in 2001 widened this gapped and is the basis of modern Islamophobia. By seeing all Muslims as a homogenized group, a distinct “Other,” individuals have their health and safety threatened through harassment, assault, and an unwillingness to help in a time of need.

## 14. Ben Spick

### **Honor's Investigation into LGBT-Catholic Intersections of Identity in a Midwestern College Town Parish**

This pilot study seeks to investigate the intersections of LGBT and Catholic identities by analyzing the discourse of members of a gay-straight alliance in a Midwestern parish. The goal was to understand what teachings or practices they referenced. Key questions concerned why those teachings/practices were important; where those teachings/practices came from; and how those teachings/practices are used by different people in different ways. Interviews with three informants were conducted, and data pertaining to individuals' ideologies, worldviews, practices, etc. were compared with each other and with data collected from secondary sources.

## 15. Brandon Scheuring

### **Spatial Expansion on Lima's Costa Verde**

This project examines spatial growth and allocation in Lima Peru's Costa Verde. The region is governed by the six autonomous municipalities that comprise it, each with their own visions for the region. The Costa Verde is characterized by cliffs topped with high-rises, plunging abruptly into the Pacific Ocean. Along the ocean below the cliffs is a narrow strip of land that has become the focus of municipal developers and of this project. There have been many phases of expanding the coastal shelf to make new real estate. Because of the strong Humboldt Current, being situated on the Pacific Ring of Fire, and global climate change, the threats are numerous for the expansion. What this project aims to do is: 1.) Measure the amount of growth of the Costa Verde coastal shelf for each of the six municipalities; 2.) Illustrate how each of the municipalities has developed their portion of the Costa Verde based on demographics,

# Posters, cont.

length of coast, and access points; 3.) Use the preceding findings to confirm or nullify statements I have received from participants in the ethnographic portion of my Master's thesis project concerning the same topic.

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Ho-Chunk Powwow