The Bioarchaeologists’ Northeast Regional Dialogue (BNRD) Conference was established in 2010 to initiate dialogue among bioarchaeologists in the Northeast United States and to provide a semi-formal venue in which students and faculty can present current research in subfields of biological anthropology including, but not limited to, human osteology, paleopathology, paleodemography, dental anthropology, forensic anthropology, and bone taphonomy.

The 2014 conference is being hosted by Ithaca College. It is funded by the Department of Anthropology, the School of Humanities and Sciences, and the Office of the Provost at Ithaca College. Local arrangements support has been provided by Ithaca College’s Student Anthropological Society. This year an undergraduate poster session was added to encourage the participation of newer members of our community.

2014 Conference Committee

Sarah Heins  University at Albany – SUNY
Lauren Hosek  New York State Museum
Dr. Meredith Ellis  Syracuse University
Dr. Jennifer Muller  Hobart and William Smith Colleges

contact: bnrd.conf@gmail.com
**Schedule**

10:00 a.m. - 10:30 a.m. Welcome Reception & Introduction (Refreshments)
10:30 a.m. - 12:30 p.m. Session One – Physical Markers of Inequalities
12:30 p.m. - 1:00 p.m. Lunch
1:00 p.m. - 2:00 p.m. Keynote Lecture
2:00 p.m. - 2:30 p.m. Undergraduate Poster Session (Refreshments)
2:30 p.m. - 4:30 p.m. Session Two – Osteobiographies & Methods

**Location**

**PARK CENTER FOR BUSINESS AND SUSTAINABLE ENTERPRISE**

**ROOM #111** on the campus of Ithaca College.
Parking is available at O LOT.

Individuals with disabilities requiring accommodations should contact Jennifer Muller at jlmuller@ithaca.edu, 607-274-3327. We ask that requests for accommodations be made as soon as possible.
Dr. Jonathan Bethard is an Assistant Professor in the Department of Anatomy and Neurobiology at Boston University where he also holds a joint appointment in the Department of Archaeology. He completed his academic training at the University of Tennessee and received a Ph.D. in 2013. Broadly, his research interests include the bioarchaeology of empires and imperialism (especially among the Inka), questions related to the bioarchaeology of children and the bioarchaeology of impairment/disability. In addition, Dr. Bethard maintains active interests in forensic anthropology, especially in contexts related to human rights and conflict zones. Though his primary field-work has been conducted in Peru and Colombia, Jon has spent the last two field seasons on a museum-based bioarchaeological project in the Carpathian Basin of Romania. He is a Lifetime Member of the American Association of Physical Anthropologists and a Fellow in the American Academy of Forensic Sciences.

**KEYNOTE LECTURE**

1:00 – 2:00pm

**From Infants to Elders: Developing Bioarchaeology at Extremes of the Human Lifespan**

Bioarchaeologists have added a great deal to what is known about past peoples from numerous time periods and geographical regions. Recent contributions to the field have pushed scholarship in exciting new directions thanks to the adoption of sophisticated theoretical frameworks and novel methodological innovations. Moreover, bioarchaeologists have expressed renewed interest in contexts represented by both the youngest and oldest members of archaeological populations. In the case of non-adults, bioarchaeologists are working to better understand the social role of these young individuals in their communities. Enhanced technological applications such as genetic sex-typing from DNA and odontoskeletal histology have furthered these efforts. Turning to the other end of the lifespan, bioarchaeologists have recently begun to question the utility of a ubiquitous, catchall age cohort for individuals estimated to be above 50 years old. Novel methodological approaches for estimating age-at-death among the oldest individuals has sparked the potential for decreasing homogeneity in this category and scholars have inaugurated a new era of scholarship questioning the social role and agency of the elderly. In this talk, recent developments related to the interpretation of both the youngest and oldest members of human populations will be illustrated from bioarchaeological contexts drawn from late medieval and early modern Transylvania in present-day Romania.
The Bioarchaeology of Structural Violence

Structural violence is harm done to individuals or groups through the normalization of inequalities that are intimately, and invisibly, embedded in political economic organization. Research on living groups and bioarchaeological skeletal collections that employs the concept of structural violence has focused on the lived experiences of individuals and the resulting health disparities. The focus of the current research is to consider skeletal evidence of postmortem examination (i.e., dissection and autopsy) from the 19th century United States relative to the concept of structural violence. While the use of socially marginalized groups for dissection is well documented in the historical literature, I will demonstrate how the reformation of poor relief and the adoption of anatomy laws in the United States became intertwined and how they reflect the embedding of structural vulnerability for poor and socially marginalized groups. By conceptualizing dissection as a manifestation of structural violence, it extends the concept to include postmortem manifestations of social inequality.

On Oral Health Inequality: Proposing an Oral Health Index for Archaeological Samples

For years, dental anthropologists have studied oral health within archaeological populations by analyzing frequencies of each pathology and explaining dietary and socioeconomic factors that may cause them. While I do not criticize this method, it can be quite limiting when comparing individuals to determine oral health inequality; how do you compare an individual with heavy wear and no caries to an individual with light wear but high incidences of caries?

Adapting the Oral Health Index (OHX) (Burke and Wilson, 1995) from dentistry can help with this question. I propose an Oral Health-Archaeological Index (OHAI) to provide us with an objective score of oral health among archaeological samples. These scores can be used in conjunction with Lorenz Curves and other inequality methodologies to better determine oral health inequality within a population. From this, we can help determine socioeconomic relationships between individuals and perhaps determine their position and relationship in society based on the historical context of the population.

The OHAI includes components from the OHX—assessment of dental caries and restorative work (scored by tooth; 0-1), periodontal disease (by sextant, 0-1), and wear (by tooth, 0-2)—while incorporating abscesses (by sextant, 0-1) and calculus build-up (by tooth, 0-1). A total score is divided by the maximum possible score for each individual, giving their OHAI ratio. My work on the Erie County Poorhouse (1851-1913) provides a good test sample, highlighting the utility as well as the possible areas of concerns for generating such an index.
**The Body as Assemblage: The Mouth and Dental Prostheses in 19th-Century New York City**

Bodies are not closed systems, but rather dynamic and permeable social entities composed of multiple materials and temporalities. As Ingold notes, bodies are “flow(s) of materials comprising corporeal life” (2011:16). Expressions of identity and formations of personhood are relational, generated and distributed through social interactions and material things. While this sense of relational, extended personhood is well attended to in prehistoric archaeology, historical archaeologists have engaged less with theories of personhood and tend to rely more on modern Western notions of bounded individuals and bodies (Wilkinson 2013; Fowler 2010). In this paper, we examine 19th century dental prostheses—a stone tooth, a gold bridge, and gold fillings—found with commingled skeletal remains in the Spring Street Presbyterian Church burial vaults (ca. 1820-1846) in New York City. A microhistorical analysis of these prostheses demonstrates how objects and substances are incorporated into bodies, becoming part of the overlapping processes and temporalities that make up corporeal life. The mouth is an especially active social interface where materials with biological and geological histories of their own intersect with experiences, habits, and practices. We examine the microscale entanglements of class, gender, medical practices, and ideologies of morality and aesthetics in the dynamic social landscape of 19th century New York City. Finally, we consider how the relational nature of bodies and materials allows personhood to be experienced, performed, and extended through a smile, a stone, or a glint of gold.

**The “Vampir”: Biocultural Constructs of the Undead**

Deviant burials have been identified at a number of archaeological sites throughout Europe. These burials are deemed atypical based on associated mortuary practices, which deviate from the norm for a population. At the Drawsko 1 site in northwestern Poland, six atypical burials have been recovered from the 17th-18th century cemetery. These individuals, including both sexes and a range of ages, are considered deviant due to the inclusion of anti-vampiristic burial goods. Slavic folklore indicates that there was a long-standing and widespread belief in vampires, which are revenants or reanimated corpses. The deceased who were at risk of being reanimated were given specialized funerary treatment to protect the living from the illness and death associated with vampirism.

This study examines how individuals were determined to be at risk for becoming vampires, which may have included biological and cultural factors. Health indicators of stress, trauma, dietary deficiency, and infection were assessed from skeletal remains of deviant and non-deviant burials. Results indicate no significant differences, suggesting that health was not used to identify those at risk. Strontium isotopic analysis was employed to determine whether the atypical burials represented migrants to the region. However, the results reveal that the atypical burials were local individuals, thus excluding migration as a potential factor in determining risk. Collectively, these results suggest that other factors, such as lack of baptism or death from an acute infectious disease, were more likely employed to determine who required anti-vampiristic funerary treatment.
Biology of Oppression: Investigating Markers of Social, Political, & Economic Inequality

This research work aims to reevaluate how health disparities are understood and conceptualized in historical archaeological and modern living populations. Food desert, racial health disparities, and epigenetic research have all highlighted a number of different ways to understand how an individual’s social status influences their health; thus how the social, political, and economic become biological. Infrastructures are the physical built manifestation of social scripts and contracts of a society. How are infrastructures and social scripts impacting human biology? How do we incorporate an understanding of human biology as a social landscape? Here I discuss the importance of a biology of oppression that relies on intersectional understandings of the social and physical world in an attempt to better capture how human bodies become the material evidence for social, political, and economic inequality via racial dental health disparities.

12:10 – 12:30 Questions & Discussion for Session One

12:30 – 1:00 Lunch

1:00 – 2:00 Keynote Lecture – Dr. Jonathan Bethard of Boston University

2:00 – 2:30 Undergraduate Poster Session
Abstracts listed at the end of the program in alphabetical order of first author.
Community Bioarchaeology: The Case of Mr. Fortune

Mr. Fortune was a man enslaved by a bone surgeon in the late 18th century in Waterbury, Connecticut. Abused in life as well as death, he was turned into a teaching skeleton by the doctor. Later, he hung on display at Waterbury’s Mattatuck Museum. Two hundred years later, his skeleton was the center of debate: should he be buried and laid to rest, or should he be studied by anthropologists? A unique collaboration of museum officials, the African-American History Project, biological anthropologists, and diagnostic imaging specialists worked together for nearly ten years in order to illuminate Mr. Fortune’s life before his burial in 2013. Despite his robust skeleton, Mr. Fortune had evidence of a congenital defect, childhood malnutrition, healed trauma, and other pathological indicators. Interpretation of his skeleton is political in nature, and those implications must be understood by bioarchaeologists. Ethical issues surrounding community bioarchaeology are discussed using this case study as an example.

Estimating Sex of Contemporary American Individuals through Metric Measurements of the Petrous Portion

The current study determines if metric measurements of the petrous portion of the temporal bone are an accurate method of sex estimation for contemporary American individuals. Skeletal data utilized in this study were derived from individuals sampled from the William M. Bass Donated Skeletal Collection at the University of Tennessee Knoxville and the Texas State University Donated Skeletal. Methods utilized in this study were modeled after Kalmey and Rathbun (1996) who compiled 9 measurements of the petrous portion and applied them to documented historic individuals from the Robert J. Terry Anatomical Skeletal Collection. General Linear Model MANOVA resulted in significant relationship between metric measurements and sex while discriminant function analysis and stepwise discriminant function analysis procedures result in sex estimation accuracy rates between 60% and 68%. These accuracy rates are comparable with those previously published for historic individuals. This research shows that the petrous portion can be used as an estimator of sex and can be another method in the arsenal of forensic anthropologists and historic bioarchaeologists alike in the absence of other key osseous remains.
Osteobiography of a mummy recovered from a Chullpa Machay tomb from the site of Hualcayán, Callejon de Huaylas Valley, in Peru’s Northern Highlands

Recently, a Chullpa-Machay tomb was discovered at the site of Hualcayán by the Proyecto de Investigación Arqueolóógico Regional Ancash (PIARA). Hualcayán dates from the late Formative or “Early Horizon” Period to the Late Intermediate Period (900 BC - AD 1450) (piaraperu.org). As extensive looting had taken place, surface collection was undertaken in two chambers to protect the tomb and its contents. Several hundred human bones were recovered, with a minimum of 24 adults and six subadults. In addition to the bones recovered from the surface, there was a mostly intact mummified individual. While the majority of the mummy’s wrappings and any associated grave goods had been removed as part of the looting activities, the mummy itself had been left behind in the tomb. Some wadding and cordage was recovered with these remains as well. The mummy is tightly flexed with knees to the chest and is very well preserved with cordage markings evident on the skin where the wrappings were placed during the mortuary treatment. As the only intact (articulated) adult individual recovered thus far from a tomb at Hualcayán, this individual is a prime candidate for osteobiography. It was possible to estimate age-at-death and sex as common skeletal markers for these indicators were visible. Much of the present dentition was visible as well, making observation of dental pathology possible. In addition, the discovery of this mummy permits more detailed insight into mortuary treatment at Hualcayán given that previously recovered bones from other tombs are commingled. This individual will be discussed in the context of current theory in the literature concerning bioarchaeology of the individual.

Cranial Injuries in the Cobb Human Archive: Pattern of Interpersonal Violence, Product of Diverse Lives

The W. Montague Cobb Human Skeletal Collection (1932–1969) is often referenced as being compromised of the remains of the poorest of African Americans from Washington DC. This description does not adequately portray the complexities of lived experiences associated with the individuals. Assumptions regarding ethnoracial normativity, as well as strict association with time and place of death obscure nuanced aspects of individual lives. A more critical study of human biology requires a deep historically contextualized analysis that integrates both the skeletal and documentary archive. This approach to studying the Human Archive is applicable not only to documentary-rich skeletal collections, but also to bioarchaeological research. This paper specifically discusses traumatic injuries present in the Cobb Human Archive. The skeletal records indicate a frequency and pattern of trauma that is highly suggestive of interpersonal violence. This includes very high frequencies of cranial trauma, particularly in the facial region. The historical archive reveals that the experiences resulting in interpersonal violence are likely complex and varied. In order to more critically assess the ultimate etiology of violence-related trauma, the diverse lived experiences of Cobb individuals are discussed. These include time spent in residence in Washington DC, the Great Northern Migration, institutionalization, imprisonment, and recreation. This is a necessary first step in complicating our understanding of human biologies; one that ultimately advocates for an osteobiographical approach.
Louisa Hunter and the Spring Street Presbyterian Church: An Extended Osteobiography of a Teenage Girl

In this paper I will discuss the extended life course of Louisa Hunter. She died at the age of 16 and was buried in the vaults of the Spring Street Presbyterian Church in 1825. The accidental exhumation of her remains in 2006, along with some 192 other individuals, restarted her journey and extended her life course post-mortem. In the following paper I will consider the affect of her life, both in the 19th century as the teenage daughter of an almshouse manager, and in the 21st century as one of only two named individuals from a largely commingled skeletal collection. In particular this paper will consider what agency she had both in life and after death, as both child and skeleton, subject and object, person and thing. This discussion will be set against the backdrop of the Spring Street Presbyterian Church. It was a 19th century radical abolitionist, multi-racial neighborhood church. In the 21st century it would become a contested landscape, site of a parking lot and then a glass tower, fought over by neighbors and wealthy contractors. This paper will illustrate how the osteobiography and post-mortem agency of a young girl reflects our understanding of the past and present.
Diet and Health of an Enslaved Individual from 18th-century Connecticut: An Osteological and Isotopic Investigation

Jirina Fargeorge, Julia Giblin, & Jaime Ullinger
Quinnipiac University

Mr. Fortune was an enslaved man whose owner abused him not only in life, but also in death by turning him into a teaching skeleton in the late 1700s in Waterbury, Connecticut. His skeleton was analyzed by the Bioanthropology Research Institute at Quinnipiac University before being buried in 2013. His cranium exhibited evidence of childhood stress and malnutrition with healed porotic hyperostosis, but his bones overall were robust with strong muscle markings. Besides evidence of healed fractures and a mild congenital condition, he had little pathology. While the healed marrow expansion in the cranium suggests childhood malnutrition, bone robusticity indicates greater access to resources as an adult, despite lower social status. Two rib samples were taken for stable isotope analysis in an attempt to assess δ¹³C and δ¹⁵N values. These results will be discussed in conjunction with osteological data.

Testing the Relationship between Torticollis and Spinal Stenosis

Lucy Freeman & Jaime Ullinger
Quinnipiac University, Bioanthropology Research Institute
Rebecca Redfern & Jelena Beckvalac
Centre for Human Bioarchaeology, Museum of London

Mr. Fortune was a man enslaved in Waterbury, Connecticut in the 18th century. Upon his death, Mr. Fortune was skeletonized for teaching purposes and, later, museum display. Prior to his burial in 2013, Mr. Fortune was studied by the Bioanthropology Research Institute at Quinnipiac University. Some abnormalities in his vertebrae were observed, including significant cervical stenosis, which compresses the spinal cord, as determined using Torg’s ratio. He also exhibited evidence of torticollis, a condition characterized by asymmetrical positioning of the head and neck. Mr. Fortune’s vertebrae were compared against ten individuals, from collections held at the Museum of London, who also suffered from torticollis. Using Torg’s ratio, it was determined that only three out of ten cases showed signs of cervical stenosis. Therefore, we can tentatively conclude that there is no significant causal relationship between the development of torticollis and cervical stenosis.
The Role of Excavation and Conservation Methodologies in Estimating Infant Age-at-Death from the Astypalaia Bioarchaeology Project

Hanna Friedlander
Ithaca College

Within the past 10 years, approximately 1000 of the estimated 3000 skeletons associated with the Kylindra cemetery (800 BCE-AD100) from the Dodecanese island of Astypalaia have been catalogued and examined. The site is the largest known juvenile cemetery to date, containing the burial remains of mainly newborns. The burials consist of large urns, *amphorae*, typically containing only one individual. While there are several goals to the Astypalaia bioarchaeological project, this presentation focuses on the methodologies employed to more accurately determine age-at-death based on fusion and growth in juvenile remains. The poster advocates for use of specific excavation, conservation, and analytical methodologies that lead to better preservation of juvenile skeletal remains, and therefore more reliable age-at-death estimates. These include *in situ* assessment of skeletal development, i.e. examining the delicate fusion of the tympanic ring to the pars petrosa, ball excavations, and dual sieving in order to recover as much pottery, bone, and marine shell as possible. Every step of the excavation process is documented in order to recreate a virtual model of the burial that can be used in accordance with the recovered remains in future studies. The implementation of these methodologies in bioarchaeological projects involving juvenile remains will maximize data recovery. This, in turn, has the potential to enhance our knowledge of child development, growth, and health in the past.

Riding into Battle: An Osteobiographical Investigation of Early Medieval Trauma in the Czech Republic

Vanessa Reeves & Lauren Hosek
Syracuse University

The human-horse interface is a dynamic relationship cultivated not only over the life course of the individual actors themselves, but through the shared personhood created between them. Such reciprocity is reflected in the daily interactions between humans and horses, and can even be identified in their bones. This poster presents the osteobiography of an individual with trauma consistent with battle injuries, some of which may have been sustained while on horseback. Individual 261 was found at the site of an early medieval cemetery in Libice nad Cidinou, in what is now the Czech Republic. Individual 261 is a probable male, approximately 40-44 years old at the time of his death. His burial included iron boot spurs, an iron hatchet, an arrowhead, and other artifacts potentially connecting him to warfare and equestrian activities. Bioarchaeological analysis of Individual 261 revealed extensive perimortem trauma, including both cranial and postcranial sharp force injuries. This poster aims to address how such trauma might have occurred on the battlefield. It is possible that this man’s injuries speak to more than just the pain he must have felt, but also to the presence of a partner who shared and shaped the experience of battle.