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PROGRAM OF THE
86TH ANNUAL MEETING
OF THE AMERICAN
ASSOCIATION OF PHYSICAL
ANTHROPOLOGISTS
APRIL 19 – 22, 2017

To be held at the
New Orleans Marriott
555 Canal Street
New Orleans, LA  70130

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KEY TO ACRONYMS

AAAG – American Association of Anthropological Genetics
AAPA – American Association of Physical Anthropologists
AJHB – American Journal of Human Biology
AJPA – American Journal of Physical Anthropology
COD – AAPA’s Committee on Diversity
DAA – Dental Anthropology Association
HBA – Human Biology Association
JHE – Journal of Human Evolution
PAWMN – AAPA Physical Anthropology Women’s Mentoring Network
PPA – Paleopathology Association
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MESSAGE FROM THE VP & PROGRAM CHAIR

It is my pleasure to welcome you to the 2017 meeting of the American Association of Physical Anthropologists. This year’s meeting is our 86th, and will be held in New Orleans at the Marriott French Quarter. Our programming officially begins on Wednesday, April 19th, with the Committee on Diversity Undergraduate Research Symposium (open to everyone from 6-8 pm) and the Opening Reception (8-11 pm). This year we will kick off the main scientific program early with three invited Plenary Poster Sessions on Wednesday evening. These sessions address the practice and ethics of working with ‘vulnerable’ populations, integrating research into teaching, and training the next generation. These poster sessions will run from 8-11 pm just down the hall from the Opening Reception.

Several special committee initiatives occur before and during the meetings. Among these are: the NSF-funded 2nd annual Committee on Diversity IDEAS (Increasing Diversity in Evolutionary Anthropology) workshop, which will be held all day Wednesday and supports 16 student scholars participating in the AAPA meeting; local school site visits and a Saturday educators workshop by the Education Committee, Friday’s Career Development Panel (How to get funding in anthropology: A workshop on grantsmanship); and, a Thursday lunch event on mental health (Ending the Silence on Mental Health in Biological Anthropology). Nearly all the AAPA Committees meet or have an activity at some point during the meetings—check out the new app for their times and locations! Speaking of the app, thanks to Ed Hagen for developing our meetings app—available for Android and Apple!

This year’s program includes a record 1300 scientific presentations which will be presented in podium or poster sessions on Wednesday evening or during one of the three full days of the meeting. The 71 sessions include 7 invited podium symposia, 21 invited poster symposia, 17 contributed podium sessions, and 26 contributed poster sessions. One particularly exciting event that is new this year is the Up Goer Five PhysAnth Edition, which has been organized by Kim Valenta and Katherine H. Bannar-Martin. It is a series of nine 5-minute talks that challenge presenters to effectively communicate their research by using only the top 1000 most common words in the English language. This session takes place on Saturday afternoon from 4:45-5:30 pm, and clearly it can’t be missed!

Our extensive program includes an impressive international group of scientists with authors from all over the world including Europe, Latin America, Africa, Asia, the Middle East, and Australia! We are pleased to be joined this year by the Paleopathology Association (PPA), the Human Biology Association (HBA), the American Association for Anthropological Genetics (AAAG), and the Dental Anthropology Association (DAA). Due
to the size of our meetings we chose to contract with a second hotel—the Westin New Orleans Canal Place, located a short two blocks from the Marriott. This location will host all PPA and HBA events.

The Wiley Symposium this year is a Saturday morning podium session, **Humans as Holobionts: The Microbiome as a Biological System in Human Evolution**, organized by Stephanie Schnorr and Meagan Rubel. Our joint AAPA-HBA session, which will be held on Friday morning, is the podium session **Human Biology: Evolutionary Perspectives on Reproduction, Development, and Health**, chaired by Aaron D. Blackwell. The joint AAPA-AAAG session this year will be held on Thursday afternoon, and is an invited podium symposium titled **Collaborations across Anthropology and Genetics: Examples of Transdisciplinary Work**. It is organized by Connie J. Mulligan and Catherine Panter-Brick. Finally, the joint AAPA-PPA session, **Bioarchaeology of Transition: Health and Changing Environments**, organized by Brittany S. Walter and Sharon N. DeWitte, will be held on Thursday morning.

The significant number of abstracts submitted necessitated substantial changes to the program—our only alternative to rejecting a large number of abstracts. The biggest change is that we will be hosting two contributed poster sessions per day (each of which includes several of its own sessions). We will be presenting a morning session from 8 am-1 pm (with authors present 12:30-1 pm) and an afternoon session from 1:30-6 pm (with authors present 1:30-2 pm); the Saturday schedule is a bit different (see below). Another key change is that the afternoon podium and invited poster sessions begin at 2:30 pm; this allows for an assortment of lunchtime events and workshops.

This year we had planned to transition away from our traditional AAPA Luncheon on Saturday (because of the high cost of the lunch) in favor of returning to holding a Plenary Lecture. However, the announcement of the **March for Science** in Washington, DC on Saturday, April 22, and its associated march in New Orleans at 1 pm, led us (in consultation with this year’s planned speaker, Tony DiFiore), to cancel the Plenary Lecture and to instead reserve time so our conference attendees can march if they choose. We will convene at 12:30 pm in Bissonet where incoming president Leslie Aiello will give brief remarks and then lead a procession the 8 blocks to the start of the march. To accommodate Saturday’s march, morning contributed poster sessions will conclude at 12:30 pm (with authors present 12-12:30); afternoon contributed poster sessions will begin at 2:30 pm with authors present from 5:30-6 pm.

Other AAPA programming on Saturday will also resume as regularly scheduled at 2:30 with podium and poster sessions and the Presidential Panel. The **Presidential Panel**, starting at 2:30 pm, will feature a discussion of ‘How can the AAPA promote a positive environment for science?’
The afternoon sessions will extend our presentations later into the evening. On Thursday evening we are excited to hold our annual Auction, which starts with a silent auction (5-7 pm) and ends with a live auction (7-8:30 pm), and will be emceed by auctioneer Jon Bethard. The auction regularly raises thousands of dollars to support Pollitzer Student Travel Awards. Please participate through donations (contact organizers Valerie DeLeon, UF, or Jon Bethard, USF, if interested) and by bidding on our array of enticing auction items. Students, submit your raffle tickets for Lunches with Luminaries during the auction (you must be present to win!) and nominations for Amazing Advisors.

On Friday, following the conclusion of the scientific sessions, the annual Business Meeting will begin at 6:30 pm. This meeting will include acknowledgement of this year's IDEAS Scholars, Early Career Grants, and Pollitzer and COD Undergraduate Research travel awards, as well as presentations of the Charles R. Darwin Lifetime Achievement Award and the Gabriel W. Lasker Service Award. This year's Darwin Award will be presented to Alan Walker and the Lasker Award to John Relethford. Please join us in celebrating this year's winners.

Saturday evening brings with it the Student Awards Ceremony and Closing Reception from 6-9 pm—please join us to learn who won the 2017 Student Presentation Awards!

I am very grateful to all those who have helped assemble the 2017 program. Thanks are due to our meetings guru, Lori Strong (from Burk & Associates), as well as Ed Hagen (our webmaster and developer of a new meetings app). A huge thank you goes to the 44 members of the Program Committee and to the Advance Team. The Advance Team consisted of the Officers and representatives from Burk and the Program Committee who visited New Orleans in October. The program assistant, Julia DiFiore Rue, has been a tremendous help, as have the Officers and other members of the Executive Committee. Special thanks also to Local Arrangements Chair, Trent Holliday, and his Local Arrangements Committee. These meetings would not have been possible without these exemplary individuals, so please join me in thanking them when you see them in New Orleans!

J. Josh Snodgrass
AAPA Vice President and Program Chair
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[Images of staff members]

Chris Deter  Geraldine Fahy  Patrick Mahoney  Matthew Skinner  Tracy Kivell  Nick Newton-Fisher  Brandon Wheeler  Tanya Humle  Sarah Johns

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# EVENTS

## Monday, April 17

**PPA**

**Paleopathology Association Pre-Meeting Excursion**  
10:00 am – 6:00 pm  
Meet in Lobby, Westin

**Paleopathology Association Registration**  
6:00 pm – 9:00 pm  
3rd Floor Prefunction, Westin

## Tuesday, April 18

**HBA**

**Human Biology Association Executive Committee** *(closed session)*  
6:00 pm – 10:00 pm  
Chairman's Room, Westin

**PPA**

**Paleopathology Association Registration**  
7:45 am – 5:00 pm  
3rd Floor Prefunction, Westin

**Paleopathology Association Workshop 1** *(requires PPA meeting registration)*  
8:30 am – 11:00 am  
Azalea 2, Westin

**Paleopathology Association Workshop 2** *(requires PPA meeting registration)*  
8:30 am – 11:00 am  
Azalea 1, Westin

**Paleopathology Association Podium Presentations** *(requires PPA meeting registration)*  
1:30 pm – 5:00 pm  
Azalea Ballroom, Westin

**Paleopathology Association Student Action Committee** *(requires PPA Meeting registration)*  
5:00 pm – 6:30 pm  
Salon Room, Westin

**Paleopathology Association Banquet & Business Meeting** *(ticketed event)*  
6:45 pm – 10:00 pm  
River 127 & Terrace, Westin

## Wednesday, April 19

**AAAG**

**Educational Event - Managing Large Datasets**  
12:00 pm – 2:00 pm  
Studio 5, Marriott

**Members Speed Networking Event**  
2:30 pm – 4:00 pm  
Studio 5, Marriott
EVENTS

AAPA

Speaker Ready/Press Room
7:30 am – 5:00 pm  
Blues, Marriott

COD Ideas Workshop *(pre-registration required)*
8:00 am – 5:00 pm  
Studio 2, Marriott

AAPA Executive Committee *(board members only)*
8:00 am – 5:00 pm  
Board Room, Marriott

Family Respite Room
9:00 am – 10:00 pm  
Rhythm, Marriott

AJPA Editorial Board Lunch *(board members)*
12:00 pm – 1:30 pm  
Studio 3, Marriott

AAPA Executive Committee & IDEAS Lunch *(invitation required)*
12:00 pm – 1:30 pm  
Studio 8, Marriott

Registration
2:00 pm – 7:00 pm  
Ballroom Foyer, Marriott

Student Committee Meeting
4:00 pm – 5:00 pm  
Studio 3, Marriott

Student Early Career Event
5:00 pm – 6:00 pm  
Studio 3, Marriott

AAPA COD Undergrad Research Symposium & Reception
5:00 pm – 8:00 pm  
Acadia, Marriott
*(open to everyone from 6:00 pm - 8:00 pm)*

Daycare Room
5:00 pm – 10:00 pm  
Audubon, Marriott

Opening Reception
8:00 pm – 11:00 pm  
Carondelet/ Bissonet, Marriott

DAA

DAA Workshop
9:00 am – 4:30 pm  
Studio 7, Marriott

HBA

AJHB Editorial Board *(board members only)*
7:30 am – 9:00 am  
Chairman’s Room, Westin

Human Biology Association Registration
8:00 am – 8:00 pm  
Foyer 2, Westin
 EVENTS 

Human Biology Association Poster Session *(requires HBA Meeting Registration)*
8:00 am – 11:00 am Magnolia Ballroom, Westin

Human Biology Association Breakout Session 1 *(requires HBA Meeting registration)*
11:30 am – 12:30 pm River Room 1, Westin

Human Biology Association Breakout Session 2 *(requires HBA Meeting registration)*
11:30 am – 12:30 pm River Room 2, Westin

Human Biology Association Plenary Session & Pearl Memorial Lecture *(requires HBA Meeting registration)*
1:00 pm – 6:00 pm Grand Ballroom, Westin

Human Biology Association Reception & Banquet *(ticketed event)*
6:30 pm – 9:30 pm River127/ Riverbend Terrace, Westin

 PPA

Paleopathology Association Registration
8:00 am – 12:00 pm 3rd Floor Prefunction, Westin

Paleopathology Association Posters & Silent Auction *(requires PPA meeting registration)*
8:00 am – 5:00 pm Magnolia Ballroom, Westin

Paleopathology Association Podium Presentations *(requires PPA meeting registration)*
8:30 am – 5:00 pm Azalea Ballroom, Westin

 Thursday, April 20

 AAAG

AAAG Business Meeting
7:00 pm – 8:00 pm Studio 8/9/10, Marriott

AAAG Cocktail Hour
8:00 pm – 9:00 pm Studio 6, Marriott

 AAPA

Registration
7:00 am – 5:00 pm Ballroom Foyer, Marriott

Speaker Ready/Press Room
7:30 am – 5:00 pm Blues, Marriott

Daycare Room
7:30 am – 7:00 pm Audubon, Marriott

Family Respite Room
7:30 am – 10:00 pm Rhythm, Marriott
EVENTS

Exhibits
9:30 am – 6:00 pm  
Acadia, Marriott

AAPA COD LGBTQQIAA Meeting
12:00 pm – 2:00 pm  
St Charles, Marriott

Yearbook Editorial Board Meeting (board members)
12:00 pm – 2:00 pm  
Napolean, Marriott

COD - AACT Meeting
12:00 pm – 2:00 pm  
Lafayette, Marriott

Science Policy and Working in Government Q&A
12:30 pm – 2:00 pm  
Studio 1/2/3, Marriott

Ethics Committee: Ending the Silence on Mental Health in Biological Anthropology
12:30 pm - 2:00 pm  
Riverview 1, Marriott

PAWMN Lunch (pre-registration required)
1:15 pm – 2:15 pm  
Riverview 2, Marriott

Silent Auction
5:00 pm – 7:00 pm  
Riverview, Marriott

PAWMN Happy Hour
6:00 pm – 8:00 pm  
Preservation Hall Foyer

Live Auction
7:00 pm – 8:30 pm  
Riverview, Marriott

JHE Editorial Board (board members only)
7:30 pm – 10:00 pm  
St. Charles, Marriott

HBA

Human Biology Association Registration
7:30 am – 8:30 am  
Foyer 2, Westin

Human Biology Association Podium Presentations (requires HBA Meeting registration)
8:30 am – 11:45 am  
Grand Ballroom, Westin

Human Biology Association Awards Luncheon (ticketed event)
12:00 pm – 1:15 pm  
Terrace Room, Westin

Human Biology Association Podium Presentations (requires HBA Meeting registration)
1:30 pm – 4:30 pm  
Grand Ballroom, Westin

Human Biology Association Business Meeting
5:00 pm – 6:30 pm  
Magnolia, Westin

Human Biology Association Student Reception (requires HBA Meeting registration)
7:00 pm – 9:30 pm  
Crescent, Westin
## EVENTS

### Friday, April 21

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
<th>Room</th>
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<tbody>
<tr>
<td><strong>AAPA</strong></td>
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<tr>
<td>Registration</td>
<td>7:00 am – 5:00 pm</td>
<td>Ballroom Foyer, Marriott</td>
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<tr>
<td>Speaker Ready/Press Room</td>
<td>7:30 am – 5:00 pm</td>
<td>Blues, Marriott</td>
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<tr>
<td>Daycare Room</td>
<td>7:30 am – 7:00 pm</td>
<td>Audubon, Marriott</td>
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<tr>
<td>Family Respite Room</td>
<td>7:30 am – 10:00 pm</td>
<td>Rhythm, Marriott</td>
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<tr>
<td>Fossil Casts</td>
<td>8:00 am – 5:00 pm</td>
<td>Lafayette, Marriott</td>
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<tr>
<td>Exhibits</td>
<td>9:30 am – 6:00 pm</td>
<td>Acadia, Marriott</td>
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<tr>
<td>COD IDEAS Meeting</td>
<td>12:00 pm – 1:00 pm</td>
<td>Beauregard, Marriott</td>
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<tr>
<td>Career Development Panel: How to get funding in anthropology: A workshop on grantsmanship</td>
<td>12:30 pm – 2:15 pm</td>
<td>Studio 1/2/3, Marriott</td>
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</tr>
<tr>
<td>Ethics Committee (open meeting first half hour; committee members only thereafter)</td>
<td>12:30 pm – 2:30 pm</td>
<td>Galvez, Marriott</td>
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</tr>
<tr>
<td>COD Steering Committee</td>
<td>1:00 pm – 2:30 pm</td>
<td>Beauregard, Marriott</td>
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<tr>
<td>Education Committee</td>
<td>5:00 pm – 6:00 pm</td>
<td>Galvez, Marriott</td>
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<tr>
<td>AAPA Business Meeting (open to all AAPA members)</td>
<td>6:30 pm – 8:30 pm</td>
<td>Bisonet, Marriott</td>
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<tr>
<td><strong>DAA</strong></td>
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<tr>
<td>DAA Business Meeting (DAA members)</td>
<td>8:30 pm – 9:30 pm</td>
<td>Studio 8/9/10, Marriott</td>
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</tbody>
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## EVENTS

### Saturday, April 22

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Registration</strong></td>
<td>7:00 am – 5:00 pm</td>
<td>Ballroom Foyer, Marriott</td>
</tr>
<tr>
<td><strong>COD-MAIN Comm Breakfast</strong></td>
<td>7:30 am – 9:00 am</td>
<td>Beauregard, Marriott</td>
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<tr>
<td><strong>Daycare Room</strong></td>
<td>7:30 am – 5:00 pm</td>
<td>Audubon, Marriott</td>
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<tr>
<td><strong>Family Respite Room</strong></td>
<td>7:30 am – 10:00 pm</td>
<td>Rhythm, Marriott</td>
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<tr>
<td><strong>Edu Comm K-12 Teacher Workshop</strong></td>
<td>8:00 am – 12:00 pm</td>
<td>St. Charles/ Lafayette, Marriott</td>
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<tr>
<td><strong>Speaker Ready/Press Room</strong></td>
<td>8:00 am – 12:00 pm</td>
<td>Blues, Marriott</td>
</tr>
<tr>
<td><strong>COD International Scholars</strong></td>
<td>9:00 am – 10:00 am</td>
<td>Beauregard, Marriott</td>
</tr>
<tr>
<td><strong>Exhibits</strong></td>
<td>9:30 am – 6:00 pm</td>
<td>Acadia, Marriott</td>
</tr>
<tr>
<td><strong>Science March Remarks</strong></td>
<td>12:30 pm – 12:40 pm</td>
<td>Bissonet, Marriott</td>
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<tr>
<td><strong>Presidential Panel</strong></td>
<td>2:30 pm – 4:30 pm</td>
<td>Studio 8/9/10, Marriott</td>
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<tr>
<td><strong>Rising Star Reunion</strong></td>
<td>5:00 pm – 6:00 pm</td>
<td>St. Charles, Marriott</td>
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<tr>
<td><strong>AAPA Student Awards Comm (committee members only)</strong></td>
<td>5:00 pm – 6:00 pm</td>
<td>Beauregard, Marriott</td>
</tr>
<tr>
<td><strong>AAPA Student Awards and Closing Reception</strong></td>
<td>6:00 pm – 9:00 pm</td>
<td>Carondelet, Marriott</td>
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</tbody>
</table>
EXHIBITOR FLOOR PLAN

EXHIBIT HOURS: Acadia
Thursday, April 20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9:30 am-6:00 pm
Friday, April 21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9:30 am-6:00 pm
Saturday, April 22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9:30 am-6:00 pm
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424-209-1173
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The Institute for Field Research (IFR) manages over 43 field schools across the world. Each IFR field school is peer-reviewed annually by our Academic Board, consisted of 15 of some of the most important archaeologists, bioarchaeologist and geoarchaeologists from universities throughout the world. IFR offers numerous scholarships for students.

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415-561-4646; Fax: 415-561-4647
www.leakeyfoundation.org

We fund research in human origins and evolution. We also fund scholars from developing countries through our Baldwin Fellowship program. We also have multiple programs for education outreach.

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Nairobi, Kenya 254
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www.museums.or.ke

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www.primate.org

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Please Note: Authors in CONTRIBUTED poster sessions will stand by their posters based on the following schedule:

- Thursday and Friday morning sessions: Authors present 12:30 pm-1 pm
- Thursday and Friday afternoon sessions: Authors present 1:30 pm-2 pm
- Saturday morning session: Authors present Noon-12:30 pm
- Saturday afternoon session: Authors present from 5:30 pm-6 pm
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### Thursday, Afternoon

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<td>Human Skeletal Biology: Life Experience, Violence, and Disease</td>
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<td><strong>American Association of Physical Anthropologists (continued)</strong></td>
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<tr>
<td><strong>Skeletal Standards: Documentation Software, Databases, and Online Digitization Resources Available to Researchers</strong></td>
<td>Studio 4/5</td>
<td>8 am-noon</td>
<td>57</td>
<td>Poster</td>
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<tr>
<td><strong>Broadening Forensic Anthropology: Bringing East and Southeast Asia to the Forefront</strong></td>
<td>Studio 6</td>
<td>8 am-noon</td>
<td>58</td>
<td>Poster</td>
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<tr>
<td><strong>Human Biology and Genetics IV</strong></td>
<td>Acadia</td>
<td>8 am-12:30 pm</td>
<td>59</td>
<td>Poster</td>
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<tr>
<td><strong>Fossil Primates and Environments</strong></td>
<td>Acadia</td>
<td>8 am-12:30 pm</td>
<td>60</td>
<td>Poster</td>
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<tr>
<td><strong>Bioarcheology and Paleopathology: Violence, Activity, Infection, and Congenital Conditions</strong></td>
<td>Acadia</td>
<td>8 am-12:30 pm</td>
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<td>Poster</td>
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<th>Saturday, Afternoon</th>
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<tr>
<td><strong>American Association of Physical Anthropologists</strong></td>
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<td><strong>Primates and Dietary Ethanol: Evolutionary Outcome, or Modern Accident?</strong></td>
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<td><strong>Up Goer Five PhysAnth Edition: Communicate Your Science Using English’s Ten Hundred Most Common Words</strong></td>
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<td><strong>Human Adaptive Variation/Integrative Approaches</strong></td>
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<td><strong>Primate Evolutionary Morphology</strong></td>
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<td><strong>Division of Fossil Primates, Duke Lemur Center – 40th Anniversary Symposium</strong></td>
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<td><strong>The Paleobiology of Upper Paleolithic / Later Stone Age Humans</strong></td>
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<td><strong>Stable Isotope Advances in Studies of Stress and Disease</strong></td>
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<td><strong>Functional Anatomy of the Limbs</strong></td>
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<td><strong>Human Skeletal Biology: Population History and Beyond</strong></td>
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<td><strong>Forensic Anthropology and Bioarchaeology: Sex, Comingling, Postmortem Interval, and Decomposition</strong></td>
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This symposium aims to create a space for professionals at various stages of their careers to reflect on core knowledge and skills that the next generation of bioanthropologists needs to address the ever-broadening research questions and methodologies available to the scientific community. A parallel area of discussion encourages educators to consider what content they are focusing on in their courses, in their field schools or laboratories, and during mentoring. The study of humanity necessitates an engagement with the ethics of conducting research on human subjects and research that holds profound implications for different human populations. As the AAPA Ethics Committee becomes a standing committee and is developing a fellows program and case studies initiative for teaching purposes, this is an important moment to reflect broadly about the central values that should be supported in the up and coming generation of professionals. This symposium offers a variety of perspectives, tackling issues ranging from the importance of inclusive learning environments to professional skills a career bioanthropologist might need. Furthermore, it encourages professionals to reflect on the many stakeholders who are interested and affected by research questions and methods and new possibilities for collaboration. We hope that educators and students alike will be engaged by these reflections on pedagogical and disciplinary values and the challenges and opportunities that lie ahead.

8:00 Individual poster presentations

9:30 Discussant: Dennis O’Rourke

1. What SLACS might lack: Teaching Biological Anthropology and ethics at a small liberal arts college. Am KAKALIOURAS

2. Engaging undergraduate students in research. S.R. WILLIAMS.

3. What Biological Anthropology Can Teach Us about Conflict and Social Inequality: Teacher and Student Reflections. R.P. HARROD, N.M. JOHNSON, A.A. HANNIGAN, M.A. KINCAID.

4. Growth and opportunities in graduate education: A student’s perspective. B.M. HOLLISTER.

5. Advancing ethical literacy through case studies. K.M. ZARENKO, J. EYRE.

6. Engendering identity to anatomical collections: Using history, embodiment theory, and ethics to humanize skeletons. C.M. DE LA COVA.

7. Human remains and vodou practitioners in northern Haiti: Ethics and research design in ethnobiaarchaeology. P.L. GELLER.

8. Anthropology education in the age of NAGPRA: Where we stand and where we might go. A.K. SIEVERT, T. NICHOLS.


10. NAGPRA in Practice: Moving from the Classroom to Collaboration. J. THOMAS.

11. Communicating early career research: The importance of outreach. J.A. RAFF.
WEDNESDAY EVENING SESSIONS

Session 2

Integrating Research into Teaching: Examples from Biological Anthropology
Invited Poster Symposium
Organizers/Chairs: Laurie Kauffman, Kerry Dore
Acadia

The Anthropologists outside of Anthropology departments, Contingent, and Teaching-focused faculty (AACT) Task Force, under the umbrella of the Committee on Diversity, was formed at the 2014 annual meeting of the American Association of Physical Anthropologists. This group began in order to serve the needs of AAPA members outside of traditional research faculty roles. Each year since its inception, the group has sponsored a poster session or panel discussion on topics of interest to our members. This poster session is the group’s event for 2017. Many members of the AAPA are affiliated with academic institutions of higher learning with some teaching responsibilities, and increasing numbers of AAPA members are employed with teaching as their primary responsibility. In addition, current research demonstrates that inquiry-based learning, active learning, and participation in undergraduate research helps students succeed in higher education. All of these methods make students responsible for their own learning, help them create knowledge, and give them broader skills needed for successful careers. Further, more and more biological anthropologists are becoming involved in the scholarship of teaching and learning, which provides evidence-based solutions to teaching problems. This symposium showcases how biological anthropologists integrate teaching and research through a diversity of methods. Here we present examples of teaching and research working together, from scholarship on teaching and learning done in the classroom, to integrating research with classes in liberal arts and small college environments, to managing undergraduate researchers. This symposium will serve as a space for biological anthropologists to gain inspiration and acquire tools to help them integrate research into their classrooms.

1. Student Biological Anthropology Research in the Liberal Arts Environment: What to Do Without a Zoo. V.K. Bentley-Condit.
2. Integrating Major Original Research Projects into Undergraduate-level Courses. L. Kauffman.
3. Students as Scholars in the field, lab, archive, and table: Models of undergraduate research in biological anthropology. B.M. Usher.
5. Does a notecard "cheatsheet" help bio anth students on exams?. J.L. Westin.
7. Teaching critical thinking skills through the scientific method: a comparison of different levels of active engagement. M.S. Schaefer.
8. Cultivating collaboration through student-centered independent study. J. Danzy Cramer.
**WEDNESDAY EVENING SESSIONS**

9  Crossing the divide: co-teaching human diversity and evolution to advanced biology and anthropology undergraduate students through the use of interdisciplinary research groups.  
D.E. BLOM, A.L. YONAN

10  “What makes us human?” A question to engage students, the public, and research.  
A.R. ELLER, K.M. DORE.

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**Session 3**

**What is a ‘Vulnerable Population?’ Agency, Intimacy, and Protections in Biological Anthropology**

*Invited Poster Symposium*

*Organizers/Chairs: Kathryn B. H. Clancy, Ripan Malhi, Alejandra Núñez-de la Mora*

*Acadia*

‘Vulnerable’ is often used to discuss the populations we conduct research on, ranging from small forager groups to pregnant women to orphans. This label carries with it a number of challenges. First, the label of ‘vulnerable’ used by many Institutional Review Boards comes from a specific, Western context that may not match participants’ view of themselves. This at times complicates IRB protections, and sometimes calls into question whether the concerns of IRBs are the appropriate concerns for non-Western participants. Second, this label can deny agency to the participants with whom we work, and keep them from being involved in the scientific research conducted in their homes and on their bodies. Collecting biological materials and conducting interviews on sensitive topics are intimate experiences where we can find ourselves becoming paternalistic, rather than egalitarian, stewards of the data we collect and people we collect it from. Finally, we need to acknowledge that research success is sometimes predicated on participants staying ‘vulnerable’ – for instance, that traditional foragers remain foragers rather than transition to a market-based economy, orphans remain unadopted, some portion of the pregnant women we study have complications. How do we acknowledge the difficult moments we measure and document while creating opportunities for improvements in the lives of our participants? In recent years, biological anthropologists have borrowed and devised several research models in order to balance on the tightrope of providing adequate research protections and prioritizing the agency of research participants. To what extent are these models working? To what extent are they influencing communities in which they are used? Are there ways in which our research invades or influences their contexts? We offer a symposium of scholars who are directly engaged with these questions in their research, as well as in their roles on IRBs and funding agencies.

9:00  Discussants: Alejandra Núñez-de la Mora and Kathryn B. H. Clancy.

1 Community-based approaches to genomic research with Indigenous peoples of North America.  
R.S. MALHI, A.C. BADER, M.P. ROGERS.

2 Vulnerability: Going Beyond the Physical to the Spiritual to Understand Indigenous Health in the Amazon.  
P.S. TALLMAN.

3 Agency and objectivity: Working together towards better science.  
H. SHATTUCK-HEIDORN.

4 Zika, Maternal Stress and Prematurity in Puerto Rico: Navigating Unforeseen Vulnerabilities.  
M. CHEYNEY, H. HORAN.
WEDNESDAY EVENING SESSIONS

5 Evolutionary perspectives on dementia and the marginalization of the elderly. M. FOX.

6 Considering Vulnerability in War-affected and Forcibly Displaced Populations. P.F. CLARKIN.

7 The Wrong Side of the Tracks: How Sociocultural Expectations Produce Vulnerability and Risk for Urban Mobile Home Dwellers. A. FORMANACK.

8 Reflecting at 99: Engaging Ethics in the AJPA. J.K. WAGNER.
Changing environmental conditions have the potential to affect human health. Numerous bioarchaeological studies have addressed the health consequences of transitional periods in the past, particularly those accompanied by the emergence of greater social and economic complexity, and they have often produced contradictory results. For example, it has been argued that the shift from foraging to agriculture precipitated changes in nutrition, population density, and disease load that resulted in worsened health, as reflected in increased frequencies of lesions in agricultural skeletal assemblages. However, others argue that these skeletal data could also be reflective of potential improvements in health after the transition. These, and other contradictory findings, suggest that inferences about secular changes in health in the past require approaches that move beyond relatively simple tests of association between changing environments and frequencies of pathologies in skeletal assemblages. Bioarchaeologists must take into account population heterogeneity, evolution of pathogen virulence, migration, diet, cultural variability, and changes in fertility, among other factors. Bioarchaeologists should also incorporate analytical approaches that accommodate multiple interacting factors and integrate several lines of evidence (e.g. stable isotopes, primary documents, and archaeological material) to construct comprehensive interpretations of health during periods of change. This symposium showcases research that investigates how human health has changed in response to transitional contexts in the past, such as agricultural intensification, urbanization, contact, colonization, industrialization, and globalization. Research investigating these transitional periods could reveal information about the evolution of human health, how different groups experience transitional environments, and could potentially be valuable for living populations currently undergoing transitions. The symposium ultimately aims to show how the effect of transitional periods on humans is not necessarily uniformly detrimental to health and may be experienced differently by subpopulations (e.g. age groups, the sexes, socioeconomic statuses), and should thus be investigated comprehensively and within an appropriate context.

8:00  Biosocial Changes in Health before Agriculture: The Case of the Natufian Hunter-Gatherers. A.J. STUTZ, F. BOCQUENTIN.

8:15  Adaptation and resiliency in hunter-gatherers: approaches to environmental variation in prehistoric hunter-gatherers of the Jomon period. D. TEMPLE.

8:30  Site dissection as a tool for microscale inferences of health and dietary transitions. A.R. HOFF, C.M. STOJANOWSKI.

8:45  The Development of the Mid-Continental U.S. Vacant Quarter: The Impact of Aggregation, Warfare and Climate Change on Late Pre-Columbian Population Dynamics. J.J. WILSON.

9:00  Reproductive Value across the Holocene: 8,000-years of Transitions. R.R. PAINE, J.L. BOLDSER.
### THURSDAY MORNING SESSIONS


R. STOREY.

#### 9:30 4,000 Years of Cultural and Adaptive Transitions in Lambayeque: Skeletal Biology, Ecology, and Sociopolitical Interplays in Ancient Peru.

H.D. KLAUS.


B.S. WALTER.

#### 10:00 Break.


G.M. HUGHES-MOREY.

#### 10:45 Isotopic evidence for diet in Iron Age and Roman Apulia – conformity in the face of major social change?

T.L. Prowse, L. Semchuk.

#### 11:00 Modeling dietary variability in Middle Period San Pedro de Atacama, northern Chile.

W.J. Pestle, C. Torres-Rouff, M. Hubbe.

#### 11:15 Let them eat corn: Cause-specific mortality and prehistoric population dynamics in transitional environments.


#### 11:30 Treponematosis in indigenous North America: Bioarchaeological perspectives on the epidemiological landscape of a spirochete disease.

Pm Lambert.

#### 11:45 Ancient Parasites and Transition: Using Intestinal Infections to Track the Impact of Human Lifestyle Change.

P.D. Mitchell.

#### 12:00 Discussant: Jane Buikstra.

### Session 5

#### Anthropological Genetics, Origins, Migrations, and Introgression

**Contributed Podium Presentations**

**Chair: Verena J. Schuenemann**

**Riverview 1**

#### 8:00 Y-chromosome STR analysis of ancient individuals from British Columbia.

A.C. Owings, J.S. Cybulski, R.S. Malhi.

#### 8:15 A mitochondrial DNA study of the Beothuk and Maritime Archaic, extinct aboriginal populations from Newfoundland and Labrador.


#### 8:30 Genetic structure of populations of the Aleutian Archipelago based on 750,000 SNPs.


#### 8:45 Migration, admixture and genetic continuity in pre and post-contact Puerto Rico.


#### 9:00 Analysis of Mexican American full genome DNA sequences identifies 137 SNPs of unique Native American origin.


#### 9:15 The genomic history of the First Australians.

A. Malaspinas, M.C. Westaway, S. Subramanian, J. Wright, L. David, E. Willerslev.

#### 9:30 Studying population genetics in war time: Syria and Iraq according to Genographic database.

M. Shamoon-Pour, G. Vilsansky, M.G. Vilar.
THURSDAY MORNING SESSIONS

9:45  Ancient Egyptian mummy genomes suggest an increase of Sub-Saharan African ancestry in post-Roman periods. V.J. SCHUENEMANN, A. PELTZER, W. HAAK, S. SCHIFFELS, J. KRAUSE.

10:00  Break.

10:30  Levantine and southern Arabian populations share many Neanderthal SNPs. D.N. VYAS, A. AL-MEERI, C.J. MULLIGAN.

10:45  Diverse Patterns of Neanderthal Introgression in Western Asia. R.O. TASKENT, D. ALIOGLU, E. FER, H.M. DONERTAS, M. SOMEL, O. GOKCUMEN.

11:00  Archaic hominin introgression in Africa contributes to functional salivary MUC7 genetic variation. D. XU, P. PAVLIDIS, N. ALACHIOTIS, C. FLANAGAN, R. BLEKHMAN, S. RUHL, O. GOKCUMEN.


11:30  Neolithic familial migration contrasts Bronze Age male migration inferred from ancient X chromosomes. A. GOLDBERG, T. GUNTER, N.A. ROSENBERG, M. JAKOBSSON.

11:45  Ancient DNA Analysis of a Late 17th Century Plantation site in Delaware Yields Considerable Matrilineal Diversity and Relatedness in Early Colonists. R.E. FLESKES, F. WEST, G.S. CABANA, T.G. SCHURR.


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Session 6

Primate Social Behavior
Contributed Podium Presentations
Chair: Adrian V. Jaeggi
Studio 1/2/3

8:00  Adolescent male aggression toward adult females represents dominance striving, not sexual coercion, in wild chimpanzees. D.K. ENIGK, M. EMERY THOMPSON, Z.P. MACHANDA, R.W. WRANGHAM, M.N. MULLER.

8:15  Reciprocity can explain grooming, but not other forms of cooperation, among female bonobos at LuiKotale, DRC. A.V. JAEGGI, L.R. MOSCOVICE, L.G. GOLDSTONE, G. HOHMANN, B. FRUTH.

8:30  Female strategies during intergroup aggression among tufted capuchin monkeys (Sapajus nigritus). C.J. SCARRY.

8:45  Male ranging behavior and cooperative territorial defense in white-bellied spider monkeys (Ateles belzebuth). A. DI FIORE, A. LINK.

9:00  Evolutionary patterns of intersexual power: The rise of male dominance in primates. R.J. LEWIS, E. KIRK, A.D. ASHLEY GOSSELIN-ILDARI.

9:15  Impact of behavioral traits on diversification rates in primates. A. LASERNA, J.P. HERRERA.
THURSDAY MORNING SESSIONS

9:30  Adolescent male chimpanzees form strong and differentiated social bonds with maternal brothers and old adult males. A.A. SANDEL.

9:45  The link between social networks and gut microbial composition in black-and-white colobus (Colobus vellerosus). E.C. WIKBERG, D. CHRISTIE, F.A. CAMPOS, P. SICOTTE, N. TING.

10:00 Break.

10:30  Attention to social grooming among immature East African chimpanzees (Pan troglodytes schweinfurthii) of the Kanyawara community at Kibale National Park. K. SABBi, M. EMERY THOMPSON, M.N. MULLER, Z. MACHANDA, E. OTALI, R.W. WRANGHAM.

10:45  Socializing by vocalizing: a test of the vocal grooming hypothesis in the gelada (Theropithecus gelada). E.T. TINSLEY JOHNSON, N. SNYDER-MACKLER, T.J. BERGMAN, J.C. BEEHNER.


11:15  Group augmentation explains territorial boundary patrolling by male chimpanzees at Ngogo. K.E. LANGERGRABER, D.P. WATTS, L. VIGILANT, J.C. MITANI.

11:30  Dispersal is socially, but not energetically costly, in female chimpanzees of Gombe National Park. K.K. WALKER, C.M. MURRAY, A.E. PUSEY.

11:45  Coping with death: behavioral mitigation of the loss of an alpha male by female chacma baboons in South Africa. S. CHOWDHURY, L. SWEDELL.

12:00  Examining social stress through self-directed behavior in wild orangutans. C.A. O’CONNELL, C.D. KNOTT.

Session 7

Paleoanthropology - Early Hominins
Contributed Podium Presentations

Chair: Rhonda L. Quinn
Studio 8/9/10

8:00  Calcar Femorale Development in Orrorin tugenensis Femora Provides Further internal Evidence for Bipedal Locomotion. A.J. KUPERAVAGE, S. CHAVANAVES, R. ECKHARDT.

8:15  Paleoecological reconstructions of c.4 Ma hominin sites from the Omo-Turkana Basin using fossil Bovidae. L. DUMOUCHEL, R. BOBE.

8:30  Reinvestigation of the ~4 Ma Yellow Sands of the Mursi Formation. M.S. DRAPEAU, J.G. WYNN, D. GERAADS, L. DUMOUCHEL, C.J. CAMPISANO, R. BOBE.

8:45  Oxygen isotopic correlates of diet and drinking behavior in extant mammals from Laikipia, Kenya: implications for gauging Pliocene Turkana hominin paleoecology. R. QUINN, C. RYDER, J. LEWIS, B. POBINER, O. MWEBI.


9:15  A chimpanzee-sized ancestor of the earliest hominins and unusual patterns of body size evolution in the hominid clade. M. GRABOWSKI, W.L. JUNGERs.
THURSDAY MORNING SESSIONS


10:00 Break.

10:30 A new reconstruction of the Sts 14 pelvis supports a human-like birth mechanism in *Australopithecus africanus*. J. EYRE, S.A. WILLIAMS.


11:00 Micro-CT Evaluation of Femoral Neck Cortical Distribution in South African Fossil Hominins. A.G. CLAXTON, K.J. CARLSON.

11:15 Dental pathology, wear, and developmental defects in South African hominins. I. TOWLE, J.D. IRISH, I. DE GROOTE.

11:30 Discrete dental traits differentiating *Australopithecus africanus* and *Paranthropus robustus* evaluated from the perspective of a Great Ape Dental Scoring System. V.C. PILBROW.


12:00 *Australopithecus sediba* and the Origin of *Homo*: Questionable Evidence from the Cranium of the Juvenile Holotype MH 1. W.H. KIMBEL, Y. RAK.


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**Session 8**

**Child Health and Identity in Bioarchaeology**

Invited Poster Symposium

*Organizers/Chairs: Mary Lewis, Sian Halcrow, Rebecca Gowland*

*Balcony K*

A child's skeleton provides a rich repository of information relating to their physical and social worlds. This evidence, when properly contextualised, may be successfully harnessed by bioarchaeologists to explore such diverse aspects of childhood, including care and cultural constructions of the life course, the fluidity of gender and status identity with age, local disease ecologies, activities such as play and occupation, and even cases of physical abuse. Children have emerged as important social actors in the past as individuals who exercise considerable agency, and whose presence and societal contributions are vital to properly consider when interpreting the archaeological record. Bioarchaeologists are increasingly aware of the importance of younger members of society in our understanding of past cultures and lifeways. Children, particularly perinates and infants, are now regarded as crucial to assessing maternal health, adult morbidity...
patterns and longevity. Exposure to malnutrition or infectious diseases during the early stages of our development are recognised to have detrimental effects on health during adulthood and for our offspring. As vulnerable members of a society, wholly dependent on the care of others, understanding the survival of infants has the potential to provide an accurate measure of a population’s ability to adapt to their particular environmental circumstances. Our questions are becoming ever more sophisticated as we broaden our focus away from issues of representation of children and mortality rates to questioning specific issues that surround a child’s identity from infancy to adolescence, and the unique circumstances that influence their health and survival.

10:30 Discussant: Sian Halcrow.

1 Stressful Starts: Investigating the impact of ‘stressors’ on fetal, perinatal and infant health and growth through time. C.M. Hodson, R.L. Gowland.


3 Growing up is hard to do: growth in urban and rural non-adults from Roman Britain. A.J. Rohnegbar.

4 Mouths to Feed: Subsistence Transition and Childhood Health in the Ancient Atacama Desert, Northern Chile (ca 5,500 – 1,500 BP). A.E. Sohler-Snoddy, S.E. Halcrow, H.R. Buckley, V. Standen, B. Arriaza.


8 Plagiocephaly and the maternal-fetal interface at Harappa. G. Robbins Schug.


THURSDAY MORNING SESSIONS

Session 9

Back to the Root: The Use of Dental Cementum in Anthropology
Invited Poster Symposium
Organizers/Chairs: Stephan Naji, William Rendu, Lionel Gourichon
Studio 4/5

Tooth enamel and dentin are the most studied hard tissues used to explore hominin evolution, life history, diet, health, and culture. Surprisingly, cementum (the interface between the alveolar bone and the root dentin) remains the least studied dental tissue even though its unique growth, which is continuous throughout life, has been acknowledged since the 1950s. However, the hypothesized seasonal cementum increments have been successfully used to estimate accurate age and season at death in over 70 mammal species including human, and has opened a range of invaluable interpretative opportunities. Yet archaeological applications have been particularly limited by the lack of understanding of cementogenesis and the controversial nature of the observed increments.

Following our initial meeting in 2013 on cementum studies, this symposium is the first attempt to bridge the gap between faunal and human analyses and to illustrate the growing multidisciplinary uses of cementum in anthropology. The recent implementation of synchrotron x-ray imaging technologies in fluorescence mapping and micro-tomography provides new insight into cementum microstructure. Bioarchaeology and forensic age and season at death estimations now benefit from standardized protocols, as well as a greater understanding of taphonomic alterations and how to deal with them in archaeological and forensic samples. Finally, paleoanthropology can profit from nondestructive virtual cementum analyses to explore dental sexual dimorphism and morphology in hominin remains. With the recent advances in microbiology imaging technologies, and the consequent renewed awareness of cementum growth potentials, anthropologists are finally going back to the root.

10:30 Individual poster presentations and discussion led by Daniel Antoine.

1 Cementum ultrastructure, a comparative perspective from synchrotron x-ray scanning: fluorescence and diffraction. S. NAJI, W. RENDU, L. GOURICHON, Z. CAI, S. STOCK.


3 New insights on Broad Translucent Annulations. T. COLARD, M. DUBOIS, A. DE BROUCKER, B. BERTRAND.

4 Computerized cementochronology - taking the (16)bit between the teeth. B. BERTRAND, J. RAMOS MAGALHAES, T. COLARD.

5 Imaging cementum in primate deciduous teeth using synchrotron phase contrast microtomography. A. LE CABEC, M. TOUSSAINT, D.R. BECUN, P. TAFFOREAU, C. DEAN.

6 Sexual dimorphism in dental cementum microstructure: potential for sexing hominin remains. K. ROBSON BROWN, E. NEWHAM, P. BAYLE, I. CORFE, P. GILL.

7 Synchrotron x-ray microtomography for non-destructive adult age-at-death estimation: visualizing cementum annulations in a historical human assemblage. N. TANG, A. LE CABEC, S. HILLSON, P. TAFFOREAU.

8 Development of Dental Cementum Increment Analysis for Age at Death Determination within the Identification Process of Unaccounted-for US Service Members. K. KOEL-ABT, N.D. WILSON, K.N. SCHMIDT.
THURSDAY MORNING SESSIONS

9 The Utility of Dental Cementum Increment Analysis for Estimating Season-of-Death in Naturally Decomposed Skeletons. L.A. MECKEL, D.J. WESCOTT.

10 Determination of Season at Death Using Dental Cementum Increment Analysis to Assist in the Identification Process of Unaccounted-for US Service Members from Past Conflicts. N.D. WILSON, K. KOEL-ABT, K.N. SCHMIDT.

11 Out of the Mouths of Babes: Cementum Annulations in Human Deciduous Teeth. V.L. WEDEL, K.P. HERMSEN.

12 Cementochronology to the rescue: Osteobiography of a Middle Woodland woman with a combined skeletal dysplasia. A.A. CORMIER, J.E. BUIKSTRA, S. NAJI, T. COLARD.

13 Cementochronology and Palaeodemography: A New Method to Assess the Probable Age Distribution of Immatures. L. LANTERI, B. SALIBA-SERRE, B. BIZOT, J. GAUDART, M. SIGNOLI, A. SCHMITT.

14 Assessing Age-Related Mortality at Petra, Jordan Using Cementochronology and Hazard Modeling. A.S. PROPST, M. PERRY.

15 Seasonality and Neanderthal hunting strategies. L. GOURICHON, W. RENDU, S. NAJI, M. HASSANI, E. PUBERT, C. SANCHEZ-HERNANDEZ.

**Session 10**

**Skeletal Ageing: Factors Affecting Population Variation in Rates of Bone Degeneration**

*Invited Poster Symposium*

*Organizers/Chairs: Vanessa Campanacho, Andrew T. Chamberlain*

*Studio 7*

A persistent problem in physical anthropology is the lack of accuracy in age estimation for adult skeletons, especially when analysing macroscopic degenerative changes at joints of limited movement. To improve the accuracy and precision of age estimation methods a great deal of emphasis has been placed on improving the methodological components. Revised methodologies have re-arranged the number of phases and scoring procedures for morphological traits, and have applied different statistical approaches including Bayesian and maximum likelihood inference. However, these revisions have contributed only slight improvements in the accuracy of age estimation. Tests of established age estimation methods have indicated that bone ageing rates may not be uniform across populations, and it has been suggested that such differences may be caused by the effects of genetic and environmental factors. Limited research has been performed to understand the causes of variability in rates of ageing, but the effects of body size, occupation, and levels of physical activity, parturition and the consumption of drugs and alcohol may be important. This symposium will present current research on the variability of skeletal ageing rates across populations with the aim of raising awareness among researchers of the importance of learning more about the skeletal ageing process. Three main themes will be communicated at the symposium: variability in rates of ageing across populations, factors that have an effect on bone ageing in skeletal remains and living individuals, and the implications for methods of age estimation.
THURSDAY MORNING SESSIONS

Discussant: Vanessa Campanacho.
Discussant: Andrew T. Chamberlain.

1 Macroscopic, microscopic and molecular biomarkers for age estimation: The role of environmental factors. A.T. CHAMBERLAIN.

2 Obesity affects the accuracy and precision of age at death estimations based on the pelvic joints. D.J. WESCOTT, S.R. MAVROUDAS.

3 Body size as a factor in skeletal age estimation: When size matters and how to deal with it. C.E. MERRITT.

4 The influence of body size in age estimation from the pelvic joints: methodological considerations. V. CAMPANACHO.

5 Aging using adult human pelvis morphology: effect of occupation or statistical method? M. MIRANKER.

6 The effects of osteoarthritis on age at death estimates from the human pelvis. S.E. CALCE, H.K. KURKI, D. WESTON, L. GOULD.

7 The relationship between pathology and age: diffuse idiopathic skeletal hyperostosis (DISH) in known-age individuals. L. CASTELLS NAVARRO, J. BUCKBERRY.

8 The Effect of Lifestyle Factors such as Smoking, Activity Level, and Pregnancy on Age Estimation from the Pubic Symphysis: A Study of 1,238 Living Volunteers. J. TRUESDELL.

9 Confounding factors: are molecular methods of age estimation less vulnerable? F. MAYER, T. ARENT, C. BOES, A. RECKERT, S. RITZ-TIMME.

Session 11

Primate Nutrition/Foraging
Contributed Poster Presentations
Chair: Taylor A. Polvadore
Acadia

1 Nutrient limitation and orangutan facilitated nutrient recycling in a peat swamp habitat. S.E. ALAVI, S.S. UTAMI ATMOKO, M. DJINU, E.R. VOGEL.

2 Meat-eating in hamadryas baboons: temporal patterns of meat consumption and doum palm fruit availability. A.L. SCHREIER, R.M. SCHLAHT, L. SWEDELL.

3 Interannual variation in Piliocolobus badius badius diet in Cote d'Ivoire's Tai National Park: implications for conservation. M. WILKINS, W. MCGRAW, E.E. KANE.

4 Histological sectioning and imaging of Papio dentition prior to isotopic sampling permits fine-tuned assessments of ages at dietary transitions. M. MALONE, L. MACLATCHY, J. KINGSTON, G.T. SCHWARTZ.

5 Female sooty mangabeys (Cercocebus atys) select softer seeds than males. E. GEISSLER, D.J. DAEGLING, T.A. POLVADORE, W. MCGRAW.

THURSDAY MORNING SESSIONS


8 Near-infrared Spectroscopy as a Tool for Modeling Savanna Primate Diets. E.K. SMITH, J. LEICHLITER, M. SPONHEIMER, T. CERLING.

9 Variation in Sympaty Among Crowned Lemurs and Sanford’s Lemurs: A Comparison Between Mt.d’Ambre National Park and Analabe Gallery Forest. B.Z. FREED, K.O. ARTHUR.


12 Unique Habitat Sharing between Humans and Wild Chimpanzees in Sierra Leone: Ecological Implications for the Human-Primate Interface. A.R. HALLORAN, C.E. BOLTEM.


14 Correlates of energetic status among female chimpanzees at Ngogo, Kibale National Park using urinary C-peptide. S. GUNTER, K.B. POTTTS, J.L. BROWN.

15 Great ape isotope ecology – moving beyond general patterns. V.M. OELZE.

Session 12

Primate Reproduction, Parentage, and Life History II

Contributed Poster Presentations

Chair: Magdalena N. Muchlinski

Acadia

1 Allocare in a captive population of hamadryas baboon (Papio hamadryas). A. CARTER.

2 Are Male Orangutans a Threat to Infants? Mother-offspring Interactions with Males in Wild Pongo pygmaeus wurmbii. Am SCOTT, C.D. KNOTT.

3 Correlates of fecal androgens in wild female white-faced capuchins (Cebus capucinus imitator). G. KING-BAILEY, K.M. JACK.

4 An ontogenetic perspective of the energetic contratsins of brain growth on muscle mass. M.N. MUCHLINSKI.

5 Testosterone as a Predictor of Dispersal Strategies in Geladas. S. SEN, C. BARALE, J. BEEHNER.


THURSDAY MORNING SESSIONS

Session 13

Human Biology and Beyond
Contributed Poster Presentations

Chair: Victoria M. Dominguez
Acadia


2. Outreach initiatives related with health, obesity and osteology developed by the Anthropological Museum Montané in elementary schools and communities of Cuba. A. RANGEL, V. VÁZQUEZ, D. NIEBLA, M. DÍAZ.


5. An evaluation of US educator product priorities and challenges for teaching human evolution. B. POBINER, D. PATTERSON.


7. 3D geometric morphometrics of lumbar vertebral curvatures in H. sapiens. S. LOIS ZOLONISKI, D. GARCÍA MARTÍNEZ, E. BLANCO-PÉREZ, J.A. SANCHIS GIMENO, A. BARASH, S. MARTELLI, S. NALLA, M. BASTIR.

8. A theoretical demonstration for the effects of anthropometric secular changes relative to military accommodation rates among different race groups. H. CHOI, T.N. GARLIE, J. PARHAM, J. BRANTLEY, S.P. PAQUETTE.

9. Male infants, risk, and postnatal depression: Evidence regarding the Trivers-Willard hypothesis in a contemporary low-fertility context. S.E. JOHNS, S. MYERS.


11. Influence of anatomical, cognitive, and behavioral variables on the morphological variation of human corpus callosum. Y. HEUZÉ, N. TZOURIO-MAZOYER, E. MELLET, F. CRIVELLO.

12. Shape covariation of the human orbit and eyeball. A. RUEDELL.

13. Cortical Area vs Bone Area: Assessing Intracortical and Endosteal Bone Loss With Age. V.M. DOMINGUEZ, Am AGNEW.

14. The “other” drug: Implementing bird grasshoppers as a treatment for anemia. K.J. HURD.

15. Effects of ethanol on Porphyromonas gingivalis in planktonic and biofilm monocultures. N.A. SHORT, R.J. LAMONT, P.W. EWALD.
THURSDAY MORNING SESSIONS


18 “It Sucks To Be A Boy On His Period”: Language Ideologies, “Women’s” Health, & Trans* Communities. A.E. GUITAR, S.M. PERRINO.

19 Variation in the Interface of Brain and Skull. S.Y. GREER, I.D. GEORGE, K. ALDRIDGE.

20 As Tall as Goliath? Stature Among the Philistines at Ashkelon. S.C. FOX, K. MARKLEIN, R. KALISHER, M. FAERMAN, P. SMITH, D. MASTER, A. AJA.


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Session 14

Paleoanthropology: Early Homo II
Contributed Poster Presentations

Chair: Adam P Van Arsdale

Acadia

1 Sex Differences in Walking Kinematics among Modern Humans. L.T. GRUSS, C. WALL-SCHEFFLER.

2 The biomechanics of stone tool behaviors and implications for the evolution of the human hand. E. WILLIAMS-HATALA, K.G. HATALA, M. GORDON, M. KASPER, T.L. KIVELL.


4 Seasonal variation of δ^{13}C and δ^{18}O in extant African suid enamel and its implications for fossil suid diets and paleoecology of hominin fossil sites. D. YANG, K.T. UNO.

5 The interaction of preservation bias and analytical bias in the fossil record. A.P. VAN ARSDALE.

6 Phosphate-water δ^{18}O offset revision improves paleoclimatic reconstructions. D.R. GREEN, A.S. COLMAN.

7 Modeling Hominin Dispersal Patterns using Cost Path Analysis and Spectral Signature Models. R. MCPHERSON, C.M. MUSIBA.

8 A preliminary study of primate abundance in East Turkana collection areas relative to outcrop size. B. THOMPSON, J. ARENSON, M. BIERNAT, W. BARR, J. REEVES, D.R. BRAUN, A. HAMMOND.

9 An Analysis of Shape Differences in Crocodylian Dentition Using Geometric Morphometrics. P. FARRUGIA, J.K. NJAU, P. POLLY.
THURSDAY MORNING SESSIONS


11 Can Small be All? The Limited Commonalities of Mata Menge and Liang Bua Hominins on Flores. M. HENNEBERG, A.J. KUPERAVAGE, S. CHAVANAVES, R.B. ECKHARDT.


13 Minor Physical Anomalies as Additional Indicators of Developmental Disorder in LB1 from Liang Bua, Flores. R.B. ECKHARDT, S. CHAVANAVES, M. HENNEBERG.

14 Shifts in the distribution of rat body sizes through time at Liang Bua: New paleoecological insights into the extinction of Homo floresiensis and other endemic taxa. E.G. VEATCH, M.W. TOCHERI, T. SUTIKNA, JATMIKO, E.W. SAPTOMO, K.M. HELGEN.


17 Revising the hypodigm of Homo heidelbergensis, a view from the Eastern Mediterranean. M. ROKSANDIC.


19 Mechanical Diet and its Role in Evolutionary Anthropology. H. SELVEY, O. PAINE.

20 The affinities of Homo floresiensis based on phylogenetic analyses of cranial, dental and postcranial characters. D. ARGUE, C. GROVES, M. LEE, W. JUNGERS.

Session 15

Functional Anatomy: Jaws and Teeth
Contributed Poster Presentations
Chair: Kate McGrath
Acadia

1 The Developmental Cascade Biases Dates of Evolutionary Change in the Dentition. C.S. MONGLE, A. NESBITT, J.B. SMAERS, F.E. GRINE.

2 An Investigation of the Inhibitory Cascade Mechanism in Extant and Extinct Lemurs. K.K. CATLETT, L.R. GODFREY, K. SAMONDS, E. Daly, G.T. SCHWARTZ, A. EVANS.

3 What is a genus? Understanding craniodental diversity in Callicebus. L.B. HALENAR, S.B. COOKE.

4 First 3D dental topographic analysis of the enamel-dentine junction in non-primate euarchontans: investigating development, diet, and taxonomy. K.R. SELIG, M.T. SILCOX.

5 The Ontogeny of Masticatory Efficiency and Implications for Hominin Canine Reduction. H. GLOWACKA, G.T. SCHWARTZ.
THURSDAY MORNING SESSIONS


7  Coordination of upper and lower primary postcanine tooth size in the haplorrhine primates by the inhibitory cascade. E. DALY, K.K. CATLETT, S. KING, K. SAMONDS, L.R. GODFREY, G.T. SCHWARTZ, A. EVANS.

8  The relationship between dental eruption sequence, phylogeny and life history in the evolution of primate dentition. T.A. MONSON, L.J. HLUSKO.


11 Many ways to form a pit, but not a scratch: modelling and measuring dental microwear signatures. M.A. BERTHAUME, E. SCHULZ-KORNAS, K. KUPCZIK.

12 Are developmental defects of enamel acquired according to seasonal schedules in Bornean gibbons and orangutans? An autocorrelation analysis. M. O’HARA, D. GUATELLI-STEINBERG.

13 Masticatory loading and diet type in relation to cross-sectional geometric properties of the primate zygomatic arch. H.M. EDMONDS.

14 The Biomechanical Consequences of Zygomatic Arch Shape. A.L. SMITH, I.R. GROSSE.

15 Effect of periodontal ligament on stress gradients in alveolar bone. A. RAPOFF, D. YANKOVA, W. MCGRAW, D. DAEGLING.

16 Subfamily affiliation conditions bone stiffness in Táí Forest monkeys. D.J. DAEGLING, J.D. PAMPUSH, W. MCGRAW.

17 Morphological Integration and Function in the Platyrrhine Mandible. M.A. HOLMES.

18 Scaling relationships within architectural properties of the jaw adductormusculature in Macaca fascicularis. E. DICKINSON, L.C. FITTON, K. KUPCZIK.


20 Trabecular symmetry in the primate temporomandibular joint. P.A. RAMOS, A.D. SYLVESTER, A.B. TAYLOR, C.E. TERHUNE.

21 Complex mandibular molar root size differences and similarities between non-human primate species (Gorilla, Pongo and Pan), and chimpanzee subspecies (Pan troglodytes verus). M. BÄUCHLE.
THURSDAY MORNING SESSIONS

Session 16

Human Skeletal Biology: Isotopes, Subsistence, and Mobility
Contributed Poster Presentations

Chair: Luseadra J. McKerracher

Acadia

1. Effects of Mounting Adhesives and Solvent Treatments on Sequential Sectioning of Dentine Samples for Stable Isotope Analysis (C, N). I. SCHARLOTTA.

2. The environmental sulfur isotope composition of the Maya region: A working model and preliminary results. A.J. RAND, V. GRIMES.

3. Isotopes of Coastal Ecuador. L. VAN VOORHIS, J. KRIGBAUM, V. MARTINEZ, N. JASTREMSKI.

4. Stable isotope analyses of human bone collagen from Iron Age Switzerland - Diet and mobility of Swiss “Celtic” populations. N. MOGHADDAM, F. MÜLLER, S. LÖSCH.


6. Inter-tooth differences in enamel defect and $\delta^{18}O$ sequences: implications for research on individual high resolution stress histories. C. WITZEL, A. SOLTYSIAK, E. KRZEMIŃSKA, Z. CZUPYT.

7. Intermarriage and Hybridity at an Ancient Greek Colony: Oxygen Stable Isotope Analysis at Himera in Sicily. V.C. ALARCIA, L.J. REITSEMA, B. KYLE, S. VASSALLO.


10. Early Colonial Period Exodus to the Southern Maya-Spanish Frontier: Investigating Immigration to Tipu through the use of Strontium and Oxygen Isotopes. W.R. TRASK.

11. Family isn't everything: Strontium and oxygen stable isotope analysis of a known population from Fewston Parish, UK. L. QUADE, R. GOWLAND, A. MILLARD.


13. Isotopic perspectives on human mobility at the Imperial Roman Rue Jacques Brel necropolis (ca. 1st to 3rd c. CE) in Saintes, France. R.J. STARK, T.L. PROWSE.


15. Baseline characterization and biogeochemical variation for the identification of paleomobility in the Aegean. E. PREVEDOROU, J.E. BUIKSTRA, G.W. GORDON, K.J. KNUDSON.

THURSDAY MORNING SESSIONS

17 Using Stable Isotopes to Assess Dietary Variation in Late Middle Woodland Settlements in the Central United States: Evidence from Human Burials at Monkey Mountain (23JO14) Warrensburg, Missouri. H.E. MARSH, A.J. WATERMAN, R.H. TYKOT.

18 Bread and Porridge in Early Berlin: A Palaeodietary Analysis of the Medieval Cemetery at Petriplatz, Germany. M.E. ZECHINI, K. KILLGROVE, J. HOLMSTROM, B.J. SCHAEFER, B.L. TURNER.

19 Stable Isotope Analysis of Human Diet at the Santa Bárbara Mining Encampment. T.K. PROCTOR, D.K. SMIT, T.A. TUNG.


22 Stable Carbon and Oxygen Isotope Analysis of Archaeological Dental Calculus: Potential for Future Study. S.D. PRICE, H.P. SCHWARCZ, A. KEENLEYSIDE.

23 Stable carbon and nitrogen isotopes of dental calculus from Greenlandic Inuit are consistent with a protein-rich and fat-rich diet. G. SCOTT, S.R. POULSON, N. LYNNERUP.

24 The Complexities and Interpretive Benefits of Employing Local Food Resources for Dietary Reconstruction via Stable Isotope Analysis. S.C. DENT, D.L. HUTCHINSON.

25 Micro-fossils Recovered from Dental Calculus: Implications for Reconstructing Moche Diet. C.M. GAGNON, A.O. LAFFEY.


27 Diet and Social Complexity in the Atacama Desert of Northern Chile (AD 700 – 1100). R.M. SCOTT, S.E. HALCROW, V. STANDEN, B. ARRIAZA, C.W. SCHMIDT.

28 Human diet in the early medieval period: Tooth wear, mastication, enamel thickness and its relationship to social stratification. A. IBROVÁ, J. DUPEJ, P. STRÁNSKÁ, P. VELEMÍNSKÝ, L. POLÁČEK, J. VELEMÍNSKÁ.

29 Environment resources use of Rio De Janeiro’s state coast by shellmound builders: an estimate of diet composition. V. GUIDA, M. BASTOS, S. REIS, C. RODRIGUES-CARVALHO.

30 Isotopic and paleopathological analysis of Pre-Columbian secondary interments at Cueva Vigía, Sancti Spiritus, Cuba. M. HERNANDEZ, A. RANGEL RIVERO, D. MACHADO MENDOZA.

31 The Importance of Shoes: Correlation between Grave Goods, Status, and Diet of Late Iron Age and Early Roman Individuals from Winterborne Kingston, UK. S.A. MCGUIRE, H. SCHUTKOWSKI, M. HUBBE.

32 Age, body size, and reproductive status affect δ¹³C and δ¹⁵N values: Evidence from living Maya women from Guatemala. L.J. MCKERRACHER, M. COLLARD, P. NEPOMNASCHY, M.P. RICHARDS.

33 Gender differences in diet and physical activity: Evidence of social difference in a Muisca community (Sabana de Bogotá, Colombia, 1000-1400 AD). M.J. MILLER, S.C. AGARWAL, C.H. LANGEBAEK.

34 A Bioarchaeological Investigation of Marine Resource Procurement among the Chumash of Santa Rosa Island, California. S.C. KUZMINSKY, J.M. ERLANDSON, T. XIFARA.
THURSDAY MORNING SESSIONS

35 Adult and early childhood diet of early medieval untypical population group of Central Europe (10th century AD, Czech Republic) in relation to the health status. S. KAUPOVA, P. VELEMINSKY, P. STRANSKA, K. TOMKOVA.


37 An Isotopic Approach to Examining Culture Change at Casas Grandes, Mexico. Am OFFENBECKER, K.D. WALLER, J.H. KELLEY, M. KATZENBERG.

38 Revealing variation in social integration: Diet and migration at the ceremonial site of La Marcha, Peru in the southern Nasca region (1-1000 BCE). C.M. KELLNER, V. WHALEN, A. FIGUEROA FLORES.

39 Dietary variability and age-related behavioural changes among hunter-gatherers from Roonka, South Australia. C.B. SMITH, J. LITTLETON.


41 In Cibus Veritas: Palaeodietary Analysis of Skeletons from 5th Century BC, Italy. A.N. ACOSTA, K. KILLGROVE, B.L. TURNER, B.J. SCHAEFER.

42 Isotope paleodietary investigations on a Medieval Christian population from the 4th Cataract of the Nile River in Sudan. D. ANTOINE, M.A. MANNINO, M.P. RICHARDS.

43 A Multi-Isotopic Approach to the Reconstruction of Prehistoric Mobility and Burial Patterns in the Iranian plateau during Bronze Age. F. KHATIBI JAFARI.
Collaborations Across Anthropology and Genetics: Examples of Transdisciplinary Work
Invited Podium Symposium
Organizers/Chairs: Connie J. Mulligan, Catherine Panter-Brick
Bissonet

Working across disciplines often helps us tackle new research issues and achieve better insights into questions which range from human health over the lifecourse to questions of human identity and evolution. How do geneticists, human biologists, medical anthropologists, psychologists, and archaeologists initiate collaborations, manage the integration of different types of data, and coordinate approaches to ask novel research questions? What do researchers gain from collaboration in terms of data capture, analytical strategy, and insights about what matters for individuals and populations in specific environments? Oftentimes inter-disciplinary collaborations lead to the formulation of new research questions, an overhaul of data collection and analytical strategies, and a more careful use of concepts such as race, resilience, and genetic inheritance. This symposium, sponsored by the American Association of Anthropological Genetics, showcases concrete examples of collaborative work which invites reflection on the value of transdisciplinary research.


3:00 Posttraumatic stress and psychological resilience in Nepali child soldiers: an interdisciplinary study in human social genomics. C.M. WORTHMAN, B.A. KOHRT, S.W. COLE.

3:15 Can acupuncture decrease stress and increase telomerase activity to promote healthy cellular aging among older adults with depression or anxiety? A.L. NON, E.S. CLAUSING, L.S. REDWINE, N.C. RODNEY.

3:30 Physiology, fertility, and population genetics. C.M. BEALL, A. DI RIENZO.

3:45 A Bio-Ethnography of Environmental Health and Body Mass in Mexico City: Challenges and Preliminary Results. E.F. ROBERTS, M. TELLEZ-ROJO.

4:00 Structural Racism, Genetic Variation, and Hypertension among African Americans: Evidence from HEAT Heart Health. C.C. GRAVLEE, J. QUINLAN, R. VACCA, C. MCCARTY, P. BOSTON, M. MITCHELL, C.J. MULLIGAN.


4:30 Break.

4:45 Genetic Ancestry, Race, and National Belonging in Argentina: Interdisciplinary Investigations. G.S. CABANA, M. MENDOZA, L. SMITH.

5:00 Ancient TB in the Americas: the partnership between bioarchaeology and genetics to identify a killer. A.C. STONE, T. HONAR, Å.J. VÅGENE, J.E. BUÍKSTRA, A. HERBIG, K.I. BOS, J. KRAUSE.
THURSDAY AFTERNOON SESSIONS

5:15  Unstated Assumptions and Interdisciplinarity in the Study of Ancient Pathogen DNA.  J.E. BUIKSTRA.

5:30  Discussant: Catherine Panter-Brick.

Session 18
Primate Nutrition and Foraging
Contributed Podium Presentations
Chair: Margaret J. Schoeninger
Riverview 1

2:30  The gut microbiome and metabolome of saddle-back tamarins (Leontocebus weddelli): Understanding the foraging ecology of a small-bodied primate.  P.A. GARBER, A. GOMEZ.

2:45  The role of primate entomophagy in niche partitioning and species coexistence: a molecular case study from Kibale National Park (KNP), Uganda.  M.M. LYKE, A. DI FIORE, N. FIERER, A.A. MADDEN, J.E. LAMBERT.


3:30  Stable Isotope Ratios (δ13C and δ15N) of Hair Indicate Habitat Ecology and Diet at Two Chimpanzee Study Sites.  M.J. SCHOENINGER, C.A. MOST, J.J. MOORE, A.D. SOMERVILLE.

3:45  The Multidimensional Nutritional Niche of Baboons.  C.A. JOHNSON, D. RAUBENHEIMER, J.M. ROTHMAN.

4:00  Elemental Ratios of Carbon and Nitrogen Track Weaning in a Graminivorous Primate (Theropithecus gelada).  L.J. REITSEMA, N. SNYDER-MACKLER, J.C. BEEHNER, T.J. BERGMAN, A. LU.

4:15  Nutritional balancing among Angola black and white colobus monkeys (Colobus angolensis palliatus) in structurally distinct areas of the Diani Forest, Kenya.  N.T. DUNHAM.

4:30  Break.

5:00  Diana monkeys (Cercopithecus diana) experience fewer mechanical challenges during periods of low fruit availability.  E.E. KANE, A. VAN CASTEREN, M. WILKINS, J.N. TRAFF, S.E. LAD, D.J. DAEGLING, W. MCGRAW.

5:15  From forest to savannah: exploring the mechanical properties of eastern chimpanzee (Pan troglodytes schweinfurthii) foods.  A. VAN CASTEREN, K. KUPCZIK.

5:30  Foraging Efficiency and Ecological Risk Aversion in Juvenile Bornean Orangutans.  C.D. KNOTT, K.E. DELONG.

5:45  Nutritional strategies of female redtail monkeys (Cercopithecus ascanius).  M.A. BRYER, D. RAUBENHEIMER, J.M. ROTHMAN.

6:15 Dietary abrasiveness and chewing efficiency in chimpanzees. E. SCHULZ-KORNAS, J. STUHLTRAEGER, R. WITTIG, K. KUPCZIK.

Session 19

Primates and Evolution
Contributed Podium Presentations
Chair: Ulrich H. Reichard
Studio 1/2/3

2:30 Evolution of Gibbons and Siamang: What do we know? U.H. REICHARD, M.M. CROISSIER.

2:45 Rethinking Neonatal Brain Size: Birth Timing Relative to Brain Growth and Neurodevelopmental Schedules in Primates and other Mammals. A.C. HALLEY, T.W. DEACON.

3:00 The effect of different patterns of cranial vasculature on encephalization within Primates. A.R. HARRINGTON, D.M. BOYER.

3:15 Ancestral state reconstructions of dental development in Miocene fossil taxa. C. KUFELDT.


4:00 Yet another new cranium from the early Miocene: the most complete male cranial remains of the fossil ape *Ekembo*. S. MUTETI, T. LEHMANN, L. MICHEL, S. COTE, D.J. PEPE, R.J. JANSMA, K.P. MCNULTY.


4:30 Break.

5:00 The unusual and generically distinct face of the middle Miocene small-bodied ape *“Micropithecus” leakeyorum* from Maboko Island, Kenya. B.R. BENEFIT, M.L. MCCROSSIN, E. DAVIS.

5:15 Signals of Ecogeography and Phylogeny in the Macaque Dentition (Cercopithecidae: *Macaca*). N.D. GRUNSTRA, R.A. FOLEY, P. MITTEROECKER.

5:30 Long bone cross-sectional diaphyseal shape follows different ontogenetic trajectories in captive and wild gorillas. S.L. CANINGTON, A.D. SYLVESTER, M. BURGESS, J. JUNNO, C.B. RUFF.

THURSDAY AFTERNOON SESSIONS

6:00 Shift in Dental Topography and Size in the Early Euprimate *Teilhardina* in Response to Climate Change at the End of the Paleocene-Eocene Thermal Maximum. P.E. MORSE, D.M. BOYER, J.I. BLOCH.


Session 20

Human Skeletal Biology: Life Experience, Violence, and Disease

Contributed Podium Presentations

*Chair: Emily A. Sharp*

Studio 8/9/10

2:30 Radiological and Forensic Re-evaluation of the Cause of Death of the Iceman, c. 5300 BP. F. RUHLI, P. PERNTER, O. PESCHEL.

2:45 Get rid of the ugly one: congenital deformations and early childhood pathologies in the female monastic population in the Iberian Peninsula. N. ŠARKIĆ, R. DINARÈS, L. MUÑOZ, J. HERRERÍN.

3:00 Delineating the effects of early life experience on adult immune function in 20th Century Portugal. K.E. BLEVINS, C. ROBERTS, A. SANTOS.

3:15 Treponemal Disease in Early China. K. PECHENKINA, S. CHEN, W. FAN.

3:30 Palatal Destructive Lesions in the St. Jørgen's Medieval Leprosarium: Paleopathological Analysis and Paleopidemiological Inferences. V.M. MATOS, C. MARQUES.


4:00 Utilizing non-weight-bearing bones in archaeological investigations of the evolution of osteoporosis. R. MOUNTAIN.


4:30 Break.

5:00 Long bone growth in a mid-19th century documented sample of the urban poor from Bethnal Green, London, UK. R. IVES, L.T. HUMPHREY.
THURSDAY AFTERNOON SESSIONS

5:15 Can the Timing of Deciduous Tooth Emergence be Partially Accounted for by Mother’s Past or Current Circumstances? J.E. SPENCE, B. FLOYD, D. GUATELLI-STEINBERG, B. PIPERATA.

5:30 Trauma, Stress, and Sociopolitical Change in the Lower Río Verde, Oaxaca, Mexico. A.T. MAYES, A. JOYCE, S. BARBER.

5:45 Interpersonal violence during the Andean Early Intermediate Period and Middle Horizon. E.A. SHARP, R.E. BRIA.

6:00 A Pact of Not Forgetting: Understanding Medellin’s Violent Past Through a Modern Documented Skeletal Collection. J.E. ROTHWELL.

6:15 Number of battle deaths scale with population size rather than differential proclivities for violence among humans living in nonstate and state societies. D. FALK, C. HILDEBOLT.

6:30 The costs of conquest: Detecting changing environmental stress in the transition from Iron Age to Roman England. A.R. TOBIN, C.A. ROBERTS.

Session 21

Diversity, Variation, and Paleoecology: A View of Hominin Complexity from the Middle Pliocene of Eastern Africa
Invited Poster Symposium
Organizers/Chairs: Amy L. Rector, Denise F. Su, Kaye E. Reed
Studio 7

Hominin fossil discoveries in the last two decades have dramatically increased the taxonomic diversity of hominin species from the middle Pliocene (~4-3 Ma) of eastern Africa. Detailed morphological, geological, and paleoecological studies show that this increase in diversity is not limited to taxonomic representation, but also to habitat, diet, and locomotion. This symposium brings together experts in hominins, paleoecology, and geology to synthesize the data from the last twenty years and examine the implications for our understanding of early hominin evolution.

2:30 Individual poster presentations (Odd posters).

3:30 Individual poster presentations (Even posters).

6:00 Discussants: William Kimbel and Carol Ward.

1 Hominin Adaptation and Variation within a Paleoecological Context: An Integrative Approach. A.L. RECTOR, K.E. REED, D. SU.

2 A Stable Oxygen Isotope Mosaic Index: Implications for Reconstructing Hominin Paleoenvironments in East Africa. M.M. BEASLEY, M.J. SCHOENINGER.

3 Warm pools, upwellings, and an early glacial. Are “mid-Pliocene” climate transitions reflected in the eastern African records? C.J. CAMPISANO, K.E. REED.


5 Pliocene African Cercopithecid Evolution, Turnover and Diversity. S.R. FROST.
THURSDAY AFTERNOON SESSIONS


7 Australopithecus afarensis habitat diversity: a unique perspective from Laetoli, Tanzania. D.F. SU, T. HARRISON.

8 Paleoenvironments and Dietary Adaptation of Australopithecus afarensis: A Synthesis. Z. ALEMSEGED, J.G. WYNN, W.H. KIMBEL.

9 Comparing the habitats of 3.5–3.2-million-year-old hominins at Woranso-Mille and Hadar, Ethiopia. Y. HAILE-SELASSIE.

10 Plio-Pleistocene hominid diversity interpreted through the genetic mechanisms that pattern the dentition. M.F. BRASIL, T.A. MONSON, C.A. SCHMITT, L.J. HLUSKO.

11 Evaluating the utility of extant reference samples for modelling hominin taxonomic variation. J. PLAVCAN.

12 Defining Homo or identifying Homo? The role of the genus in hominin taxonomy. B.A. VILLMOARE.

Session 22

Foreign Affairs: Bioarchaeological Approaches to Ethnicity, Identity, and Interaction in The MENA Region

Invited Poster Symposium

Organizers/Chairs: Margaret A. Judd, Lesley A. Gregoricka

Studio 4/5

Bioarchaeologists working in the Middle East and North Africa (MENA) often face challenges unique to the discipline, from extensive commingling and fragmentation to poor preservation resulting from hyper-arid climates. As a result, the skeletal remains from this region have been understudied despite their rich potential in revealing past human behaviors. Questions of identity and ethnicity are especially critical to contextualizing adaptation, interaction, and mobility - both within and between human groups. Bioarchaeologists are uniquely suited to address such inquiries owing to interpretive frameworks that encompass not only biological assessment of skeletal material but that also link funerary archaeology, material culture, historical documents, and social theory. Such a holistic approach facilitates a more nuanced understanding of the ways in which communities and agents throughout this region maintained and negotiated their own identities and ethnicities amidst changing forms of both internal social organization and external political and/or economic influences. Moreover, given current events in MENA that threaten the lives, livelihoods, and histories of so many ethnic groups and communities today – from the refugee crisis to the destruction of cultural heritage – it is important for bioarchaeologists to pursue questions of identity in the region. The goal of this session is to bring together scholars working throughout the MENA region to more critically evaluate how identity, ethnicity, and past interaction might be re-approached using current methodologies and multiple lines of evidence coupled with explanatory theoretical models.

3:00 Individual poster presentations.
THURSDAY AFTERNOON SESSIONS

4:00  Discussant: Megan Perry.
1  Lineage and Lifestyle in Early Bronze Age Jordan: A Biogeochemical Investigation of Charnel House Human Remains. L.A. GREGORICKA, S.G. SHERIDAN.
2  The monastic mosaic at Mount Nebo, Jordan. M.A. JUDD, L.A. GREGORICKA, D. FORAN.
3  States of Being: Exploring Nabataean Nationality. J. WALKER.
4  Between Land and Sea – Bioarchaeological Dynamics at Middle Bronze Age Sidon, Lebanon. H. SCHUTKOWSKI, N. SPEITH.
5  Bodies in Motion: Migration and Identity in Bronze Age Cyprus. A.J. OSTERHOLTZ.
6  Manipulation of the dead: exploring delayed burial practices at Neolithic Çatalhöyük. E.M. SCHOTSMANS, S.D. HADDOw, M.A. PILLOUD, M. MILELLA, B. GLENnCROSS, B.J. BETZ, C.J. KNÜSEL.
9  Class and Continuity in a Roman/Parthian Period cemetery at Tall Šēḫ Ḥamad, Syria. J.G. KENNEDY, D. MERRIWETHER.
10  Commingled, Disarticulated, and Eroded... Oh My! Navigating Bioarchaeology in the Arabian Peninsula. A.C. CAINE.
11  Two Potential Cases of Eunuchism from a Ptolemaic-Roman Cemetery in the Western Delta of Egypt: Differential Diagnosis and Social Implications. S.D. HADDOw, S. ZAKRZEWSKI, J. ROWLAND.
12  Preservation poor—data rich: bioarchaeology of the Neolithic peoples from Gebel Ramlah, Western Desert, Egypt. J.D. IRISH, A. CZEKAJ-ZASTAWNY, J. KABACIŃSKI.
13  Kin structure of the Amarna South Tombs Cemetery. W.C. SCHAFFER, C.M. STOJANOWSKI, J.C. ROSE, J.E. BUIKSTRA.
14  Morphological Changes and Expansion in New Kingdom Egypt and the Levant. K.E. SANDERS.
15  Mortuary Patterns and Health in New Kingdom Juvenile Burials from Tombos. K.M. WHITMORE, M.R. BUZON, S.T. SMITH.
17  Foreign Exchange in the Fourth Cataract Region of Ancient Nubia. B.J. BAKER.
Islands are excellent laboratories to study how ecological factors affect species size, shape, and development. Organisms’ historical bauplans are shaped into functional phenotypes within island ecosystems. Darwin (1859) observed this process in the adaptive radiation of finches on the Galapagos. While island evolution and ecology are regularly used to understand organismal diversity in non-human biological disciplines, fewer anthropologists have subscribed to this lens for understanding primate diversity. Understanding how island evolution and ecology applies to primates is important for several reasons: over half of all primate taxa on earth inhabit islands, unique island fossils (such as specimens associated with *Oreopithecus* and *Homo floresiensis*) have perplexed paleoanthropologists for years, and humans on islands exhibit extraordinary adaptations in isolated environments. Further, recent climate change and biodiversity crises necessitate more research on how primates survive in stressful environments along with environments that restrict migration, two factors which can accelerate and exaggerate evolutionary processes. The purpose of this symposium is to highlight the importance of current research about insular organisms in order to better understand primates that inhabit island ecosystems. A wide range of presenters have been asked to present their research that encompasses pertinent island topics ranging from: paleontology, genetics, archaeology, primatology, and ecology. Presenters will highlight how their island research is important for understanding primate evolution and diversity. Further, they will make suggestions for future research that will deepen our understanding of island theory and its applications to hominins.

5:00 Discussant: Agustin Fuentes.


2. **High brachial and crural indices in Island Foxes: analysis of island fox and human populations and applications for understanding the pygmy body type.** C.B. Young, L.W. Cowgill.

3. **External Auditory Exostoses and their Relationship to Aquatic Activities on Santa Cruz and San Miguel Islands, California.** B.M. Lucero.


5. **Dietary Differences of Two Sympatric Folivorous Indriids as a Mechanism for Niche Separation in a Highly Seasonal Island Environment.** L.K. Oliver.


Primate Ecology and Conservation
Contributed Poster Presentations
Chair: Irene E. Smail
Acadia

1. The Number of Male and Female Simakobus (*Simias concolor*) on the Pagai Islands, West Sumatra, Indonesia. L.M. PACIULLI, A. SHARMA, K. ALTABET.


4. Behavior of Red Uakaris in a Heterogeneous Landscape in Northeastern Peru. R.M. HORÉS, S.M. FORD.

5. Homerange and sleeping site use by the Critically Endangered Cat Ba langur (Trachypithecus poliocephalus). R.L. HENDERSHOTT, Am BEHIE, B.M. RAWSON.


7. Mixed Effects of Modern Climate, Pleistocene Climate, and Anthropogenic Activity on Global Primate Diversity Patterns. J.J. ROWAN, I.E. SMAIL, K.E. REED.

8. The Effect of Forest Disturbance on the Feeding Ecology and Behavior of *Varecia variegata* in Ranomafana National Park. M. DONOHUE, P.C. WRIGHT.

9. Meet me at the airstrip: Fission-fusion dynamics and ranging patterns in a kinda-chacma hybrid baboon group. M.M. MCDONALD.


12. Coping with low-quality habitat: white-handed gibbons (*Hylobates lar*) alter diet and activity patterns where fig trees are scarce. L.E. LIGHT.


14. The Effects of Human Surrogacy on Hair Cortisol Levels in Orphaned Baboons (*Papio ursinus*). M.T. WALLER, S. SKINNER, S. FARDI, R.M. BERNSTEIN, H. YOUNG.


THURSDAY AFTERNOON SESSIONS


18 Cultural Attitudes Toward Primate Conservation. S. Gursky.


20 Tree preference and coexistence of white-faced capuchins and mantled howler monkeys in a Costa Rican forest fragment. R.M. Schlaht, A.L. Schreier.


Session 25

**Human Biology and Genetics I**

**Contributed Poster Presentations**

*Chair: Noah D. Simons*

**Acadia**

1 Diet and health in 18th to 20th century Copenhagen. M.S. Jørkov, D.R. Gröcke.


3 Uncoupling Protein 1 (*UCP1*) and Selection in Warm and Cold Climates. L. Nevell.


5 The value of understanding intraspecific relationships in comparative analyses. L. Yao, H. Li, C.S. Moreau, R.S. Malhi, R.D. Martin.

6 The Shape of Selection on Human Life Histories. J. Jones.

7 Internal craniofacial morphology of high-altitude Tibetans may reflect unique adaptations to hypoxic environments. L.N. Butaric, R. Klocke.


10 Megalencephaly and Macrocephaly Genes are Associated with Comparative Variation in Primate Brain Size. A.R. Decasien, A. Yim.
11 Host immune gene expression and viral infection status from whole blood transcriptomes in the Ugandan red colobus. N.D. SIMONS, G.N. EICK, M.J. RUIZ-LOPEZ, C.A. CHAPMAN, T.L. GOLDBERG, K.N. STERNER, N. TING.

12 A comparative analysis of wild non-human primate gut microbiomes. R.M. AUSTIN, K. SANKARANARAYANAN, C. WARINNER, C. LEWIS JR.

13 Sex differences in dimorphic dental trait heritability in Saguinus fuscicollis. Am HARDIN.


16 FOXP2 Variation in Great Ape Populations offers potential Insights into Variation in Communication. N. STAES, C.C. SHERWOOD, M.D. MONTERO, J.J. ELY, W.D. HOPKINS, B.J. BRADLEY.

17 Ancient hybridization between Papio and Theropithecus detected at a non-coding region of the X-chromosome. A.J. TOSI, C.M. BERGEY, A.S. BURRELL.

18 Genome Partitioning and Telomere Length in Primates and other Mammals. A.R. KLEGARTH, D.T. EISENBERG.

19 DNA barcodes and the identification of extant and extinct primates. V. NIJMAN, T. ROBBINS.

20 The New Genus Paragalago Suggests Convergent Dwarfism in the family Galagidae. L. POZZI, J.C. MASTERS.


24 Violence and Prostate Cancer Risk: Chronic Health implications of the Challenge Hypothesis for the Southern American Culture of Honor. L.C. ALVARADO.

25 Evidence of an ancient origin for contemporary chronic disease risk in South Asia. E. POMEROY, V. MUSHrif-TRIPATHY, J.T. STOCK, J.C. WELLS.

26 Effects of Genetics and the Nuclear Family Environment on Shodagor Health. M.H. AHSAN, K.E. STARKWEATHER.

27 Suicidal Behavior as a Costly Signal of Apology. K.L. SYME, E.H. HAGEN.

THURSDAY AFTERNOON SESSIONS


Session 26

Paleoanthropology: Late Homo
Contributed Poster Presentations

Chair: P. Thomas Schoenemann
Acadia

1 Mechanical Properties of the Masticatory System in Recent Northern Chinese populations. Q. WANG, Q. ZHANG, T. HAN, Z. SUN, M.J. KESTERKE, H. ZHU, P.C. DECHOW, Q. ZHANG.

2 Is Broca's cap really larger on the left in modern humans? Contradictory evidence via Non-rigid diffeomorphic mapping methods. L.M. KITCHELL.

3 Diploic patterns and vascular morphometrics in fossil specimens. G. RANGEL DE LAZARO, E. BRUNER.


5 Using a mouse model to understand the relationship between skeletal and ectodermal trait variation in mammalian hybrids. R.A. HUMPHREYS, T. RITZMAN, K. WARREN, C.J. PERCIVAL, B. HALLGRIMSSÓN, R.R. ACKERMANN.

6 Human remains and artefacts from Romualdo's cave, Istria, Croatia. I. JANKOVIĆ, J.C. AHERN, D. KOMŠO, S. MIHELIĆ, F.H. SMIT.

7 Dolichocephaly and occipital hemi-bun development in extant humans. M.E. KARBAN.

8 The database of Worldwide Instances of Symbolic Data Outlining Modernity. M. KISSEL, A. FUENTES.


10 The origin of our species: an ancestral morphotype for modern humans. A. MOUNIER, M. MIRAZÓN LAHR.

11 Modern Human Variation in Brain Size: Implications for the Dmanisi Hominins and other Fossil Taxa. P. SCHOELENEMANN, R.L. HOLLOWAY.


13 Neanderthal Dental Remains from Chagyrskaya cave, Altai Mountains, Siberia. B. VIOLA, S.V. MARKIN, N. RUDAYA, S. VASILYEV, K. KOLOBOVA.

14 Craniofacial Variation in Middle Pleistocene Hominins. S. WHITE, S. HILLSON, C. SOLIGO.

15 Comparison of Neandertal Mandibular First Molar Occlusal Outlines using Elliptical Fourier Function Analysis. F. L'ENGLE WILLIAMS, J.K. BROPHY.
THURSDAY AFTERNOON SESSIONS

16 Virtual cranial restoration of Qafzeh 6 by new methodology using photogrammetry. D. COUTINHO NOGUEIRA, B. DUTAILLY, F. COMTE, A. TILLIER, H. COQUEUGNIOT.

17 Paleoenvironmental Reconstruction of the Koanaka Hills Pleistocene Fossil Locality in Botswana. Z.W. PIERCE, T.L. CAMPBELL, P.J. LEWIS.


19 The impact of shared evolutionary history on the observed morphological differences in the femoral mid-shaft between archaic and modern humans. B.L. MOODY.

20 Examination of Neandertal maxillary first molar occlusal outlines using Elliptical Fourier Analysis. W.G. ANDERSON, F. WILLIAMS.


22 Finite Element Modeling of Talar Loading in Modern Humans with Application to the Hominin Fossil Record. Z.S. SWANSON, N.M. WEBB, H. PONTZER, J.M. DESILVA, W.E. HARCOURT-SMITH.

Bioarchaeology and Paleopathology: Stress, Frailty, and Inequality
Contributed Poster Presentations
Chair: Larissa Collier
Acadia


2 The Impact of Multiple Skeletal Stress Markers on Survivorship and Longevity. J.D. MINSKY-ROWLAND.

3 Subadult Stress: continental Croatia vs Adriatic coast. M. KLJAJIC LUKACEVIC, M. WOJCINSKI, M. SLAUS.

4 A characterization of nutritional stress among early Medieval subadult females of the central Dalmatian region of Croatia. L.J. THORSON, V. VYROUBAL, M. ŠLAUS.

5 Stressful times: Investigating childhood health in urban and rural medieval Britain. E.R. DOVE, J.D. IRISH, C. ELIOPOULOS, I. DE GROOTE.

6 Stress in Transylvania: Utilizing macroscopic skeletal analysis to track metabolic and nutritional stress between Late Antiquity and Middle Ages in Romania. K.D. CROWDER, C.A. ROBERTS.

7 Assessing skeletal indicators of childhood stress amongst 20th century northeastern (Isan) Thais. M. PANAKHYO, N. TECHATAWEEWAN.

8 Childhood and Famine in Medieval London. S.L. YAUSSY, S.N. DEWITTE.

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THURSDAY AFTERNOON SESSIONS

Session 28

Human Dental Anthropology: Health, Disease, and Other Cool Stuff with Teeth
Contributed Poster Presentations
Chair: Christina L. Fojas
Acadia


5. Regional Variation of Dental Microwear in the English Late Bronze Age and Iron Age. R.L. Perash.


7. Something To Chew On: Comparing Dentin Exposure in Ancient Egyptians and Dental Age Estimation Standards. C.L. Kirkpatrick.


15. Prenatal crown formation time of human deciduous central incisors in a pre-industrial population. A. Nava, P.F. Rossi, L. Bondioli.
THURSDAY AFTERNOON SESSIONS


17 Growing up in Çatalhöyük: enamel hypoplasia and history houses. E. BOCAEGE, A. CLEMENT, S. HILLSON.

18 A lesson in stressin’: A comparison of linear enamel hypoplasias in children from the prehistoric Ohio Valley. E. MOES, S. BLATT.

19 Linear enamel hypoplasia incidence in bush-dwelling and village Hadza from Tanzania. P.S. UNGAR, A.N. CRITTENDEN, J.C. ROSE.

20 Climate Change and Enamel Defects: Interpreting the Childhood Stress of Early Levantine Agriculturalists. T.V. WILSON.

21 Tooth size, trait expression, and nutritional stress. E.C. BLANKENSHIP-SEFCZEK, D. GUATELLI-STEINBERG, A.H. GOODMAN.

22 Sex-Related Differences in Dental Caries Prevalence in the Prehistoric American Southwest. R.T. WINEINGER.

23 Dental Health and Diet at Tell el-Amarna: A Comparison of Carious Lesions, Dental Wear, and Antemortem Tooth Loss in Dynastic Egypt. E.L. MOREY.


26 Heterogeneity in Oral Health in Middle Tennessee during the Mississippian Period. C.L. FOJAS.

27 A large-scale analysis of the prevalence of dental caries and calculus over time, from the Bronze Age to the Post-medieval period in Britain. C.S. HIRST.

28 Disease and dental wear on the upper Texas coast: Cross-era comparison of Native American Health at site 41GV66. E.A. EDWARDS.

29 A new perspective on the population history of the pre-Incan South Central Andes through analysis of dental morphological data. A. CUCINA, A. COPPA, C. ARGANINI, F. CANDILIO.

30 Dental Modification and Human Sacrifice at Midnight Terror Cave. C. VERDUGO, K. ZHU, L. FEHREN-SCHMITZ.

31 Refining a Traditional Method in Dental Wear Analysis for Greater Application. E.M. LAGAN.

32 An assessment of oral health in prehistoric Ancón, Peru. C. MONESMITH.

33 Ethnic diversity in a 19th Century Colorado Insane Asylum: what the teeth tell us. E. HUBBARD, F. ERBIL, M. GLANTZ, A. MAGENNIS.

34 Hutchinson's dental criteria diagnose congenital syphilis in pre-Columbian Old World. S. IOANNOU, R.J. HENNEBERG, M. HENNEBERG.
8:00 Differences in Adult Female Human True Pelvis Morphology with Respect to Age are Not Due to Selection. B.M. AUERBACH.

8:15 Combining functional and forward genomics to explore the evolutionary developmental regulation of primate long bone length variation. T.D. CAPELLINI, M. HILLER, J. WILLEN, A.W. WOHNS, H. DINGWALL.

8:30 High Fat, High Protein Diet Increases Bone Density in Cold-exposed Mice: Implications for Humans. M.J. DEVLIN, A.E. ROBBINS, M.N. COSMAN, L.M. SHIPP, T.R. BRASH.

8:45 Worldwide modern human morphological variation: exploring the association between morphological modules and climate and geographic distances. K.I. DOWNEY, B. HERRERA, M. HUBBE.

9:00 Geography More than the Chronological Depth Explains the Structure of the Human Cranial Diversity. D.V. BERNARDO, T.F. DE ALMEIDA, T.C. CAMPOS, W.A. NEVES.

9:15 Integration Between the Lower Face and the Dentition throughout Ontogeny. A. NESBITT.

9:30 Integration between the cranium and mandible in recent humans. D.C. KATZ, M.N. GROTE, T.D. WEAVER.

9:45 Cranial integration is a major determinant of endocranial and brain shape. C.P. ZOLLIKOFER, T. BIENVENU, M.S. PONCE DE LEÓN.

10:00 Break.

10:30 Midline Bony Landmarks are Poor, but better than Soft Tissue Landmarks, for Estimating Population Affiliation in Unknown Individuals. H.J. EDGAR, K. GWIN, K. RUSK.

10:45 Evaluating the Limitations of Biological Distance Models of Gene Flow in Ancient Human Populations. A.M. MALLARD, J.T. WATSON, B.M. AUERBACH.

11:00 Social network analysis of cranial shape among Moquegua Tiwanaku-affiliated communities: a regional approach to kinship analysis. K.M. JOHNSTON.

11:15 Can diaphyseal (cross-sectional) properties of arm and leg bones detect among-population genetic relationships? G. AGOSTINI, B. HOLT.

11:30 Comparative performance of deciduous and permanent dental morphology in reconstructing biological kinship. K.S. PAUL, C.M. STOJANOWSKI.

11:45 Population continuity and replacement in the pre-contact Valley of Mexico. C.S. RAGSDALE, H.J. EDGAR.

12:00 Defining the "Outsiders": a biodistance analysis of Ottoman communities in Hungary and Romania. K. GROW ALLEN, N. VON CRAMON-TAUBADEL.
FRIDAY MORNING SESSIONS

Session 30

Paleoanthropology: Early Homo
Contributed Podium Presentations

Chair: Shelby S. Putt
Bissonet

8:00  Bovid locomotor traits track land cover and mean annual precipitation: using an
ecometric approach to reconstruct paleoenvironments in the Shungura Formation (Plio-

8:15  Exploring the Utility of Carbon Isotope Analyses of Small Mammal Tooth Enamel as an
Environmental Proxy.  J.N. Leichliter, P. Sandberg, M.J. Spoinheimer, B. Passey, N.
Avenant, O. Paine, D. Codron, J. Codron.

8:30  Hybridization and reticulation in hominin evolution.  J.R. Gautney, T.W. Holliday.

8:45  New insights into locomotion and posture in hominoid evolution: integration of the skull
and cervical vertebrae.  C.I. Villamil.

9:00  Relative fibular strength and locomotor behavior in OH 35 and KNM-WT 15000.  C.M.

9:15  Virtual reconstruction of the pelvic remains of KNM-WT 15000 Homo erectus from
Nariokotome, Kenya.  C. Fornaí, M. Haeusler.

9:30  Homo naledi's frontal lobe: Modern in form, ancestral in size.  S.D. Hurst, R.L.
Holloway, H.M. Garvin, T. Schoenemann, W.B. Vanti, J. Hawks, L.R. Berger.

9:45  Homo naledi posterior endocasts and their significance for understanding brain reor-
ganization.  R.L. Holloway, S. Hurst, H.M. Garvin, T. Schoenemann, W.B. Vanti, J.
Hawks, L. Berger.

10:00 Break.

10:30  Functional Neuroimaging Insights into Acheulian Cognition and Hominin Brain

10:45  A morphometric assessment of Homo naledi deciduous molar teeth from Dinaledi
Chamber, Rising Star cave system, South Africa.  J.K. Brophy, S.E. Bailey, J. Moggi-

11:00  Metric Variation in Homo naledi Molars.  L.K. Delezene, J.D. Irish, M.W. Skinner, J.
Brophy, J. Hawks, L.R. Berger.


11:45  Hamadryas baboons as analogs for social evolution in early Homo.  L. Swedell, T.
Plummer.

12:00  A deformation-based approach to the frontal lobe morphology in OH9, UA 31 and Bodo.
A. Beaudet, E. Bruner.
FRIDAY MORNING SESSIONS

Session 31

Primate Ecology, Cognition, and Conservation
Contributed Podium Presentations
Chair: Fernando A. Campos
Studio 1/2/3

8:00 Pairing Feeding Observations with Stable Isotope Data from Bonobo (Pan paniscus) Fecal Samples from the Lomako Nature Reserve, Democratic Republic of the Congo. J.E. LOUDON, H.M. KIMEL, M.T. WALLER, M.L. WAKEFIELD, A. HICKMOTT, F.J. WHITE, M. SPONHEIMER.

8:15 Patch-use Decisions in Geladas: Effects of Body Size and Food Type. L. CHRISTOPHER, V.V. VENKATARAMAN, J.T. KERBY, N. NGUYEN, P.J. FASHING.

8:30 I Did it My Way!: Three Nocturnal Lemur Species show Intraspecific Inter-individual Variation when Solving a Multi-destination Route. J.A. TEICHROEB, A.Q. VINING.

8:45 Comparative foraging strategies of Neotropical frugivores: Do primates forage ‘smarter’? M.C. CROFOOT, R. MAREST, D. CAILLAUD, R. KAYS, B. HIRSCH.

9:00 The ontogeny of manipulation complexity within 26 primate species. S.A. HELDSTAB, J.M. BURKART, C.P. VAN SCHAID, K. ISLER.

9:15 BRAAAINS!!! Chimpanzees at Gombe consume monkeys head-first. I.C. GILBY, D. WAWRZYNIAK.


10:00 Break.


10:45 Ranging patterns and behaviour of Javan slow lorises in a dynamic agroforestry landscape in West Java. A.I. NEKARIS, S.A. POINDEXTER, K.D. REINHARDT, M.A. SIGAUD, V.J. NIJMAN.

11:00 Fifteen Years of Forest Fragmentation in Southeastern Madagascar: Making sense of Fragmented Results. K.J. KLING, Z. ANDRIANDRASANA, A. DEHGAN, P.C. WRIGHT.

11:15 Quantifying Microcebus Habitat Loss Due to Roads. M.S. RAMSAY, A. RAZAFINDRAKOTO, R.H. RAVELONJANARAY, S.M. LEHMAN.

11:30 Abrupt decline in mantled howlers (Alouatta palliata) but not in sympatric white-faced capuchins (Cebus capucinus imitator) in a tropical dry forest conservation area in Costa Rica. F.A. CAMPOS, K.M. JACK, L.M. FEDIGAN.

11:45 Variation in prey choice and hunting efficiency by season and technology among indigenous Waiwai hunters in Guyana. C.A. SHAFFER, C. YUKUMA, E. MARAWANARU, P. SUSE, M.S. MILSTEIN.
FRIDAY MORNING SESSIONS

12:00 Strontium Isotope Ratios Indicate Mobility, Behavior Patterns in Modern Fauna from Kibale National Park, Uganda. M.I. HAMILTON.

Session 32

Human Biology: Evolutionary Perspectives on Reproduction, Development, and Health

Contributed Podium Presentations

Chair: Aaron D. Blackwell

Studio 8/9/10

8:00 Innate food aversions and culturally transmitted food avoidances in pregnancy: separate systems to protect the fetus? E.H. HAGEN, C.D. PLACEK.

8:15 The "cliff edge model" of human obstetric selection. P. MITTEROECKER.

8:30 Excessive gestational weight gain and birth outcomes among American Indians and Alaska Natives. K.G. ANDERSON, P. SPICER, M.T. PEERCY, G. SKREPNEK.

8:45 Paternal grandmothers increase and maternal grandmothers decrease fertility of couples they reside with. G. JASIENSKA, M. JASIENSKI, A. GALBARCZYK, I. NENKO, M. KLIMEK.

9:00 Maternal and paternal anthropometry influences on body size, body shape and obstetric capacity in growing girls. S. DECRUSAUS, J.T. STOCK, M.S. FEWTRELL, J.E. WILLIAMS, J.C. WELLS.


9:30 Opportunity costs from potential nighttime activities trade off against time allocated to sleep behavior among Tsimane hunter-horticulturalists. G. YETISH, H. KAPLAN, M. GURVEN.

9:45 Divisions of Labor at Daily Timescales among Batek Hunter-Gatherers. V.V. VENKATARAMAN, T.S. KRAFT, K.M. ENDICOTT.

10:00 Break.


11:00 Human parasitism in a comparative context: Are humans exceptionally parasitized? C.R. AMOROSO, C.L. NUNN.

11:15 Unwelcome Guests: Human-rodent Commensalism and its Implications for Zoonotic Disease Transfer. C.M. MCCABE, H.S. YOUNG, S.B. WEINSTEIN, C.L. NUNN.
FRIDAY MORNING SESSIONS


11:45 The Importance of Ethnographic Data and Social Network Structures in Determining Infection Risk for Individuals in Rural Communities of Bangladesh and Uganda. L.S. BLOOMFIELD, A. HAZEL, J.H. JONES.

12:00 Remoteness Influences Access to Sexual Partners and Drives Patterns of Viral Sexually Transmitted Disease Prevalence among Nomadic Pastoralists. A. HAZEL, J. HOLLAND JONES.

Session 33

Here Comes the Sun: Evolutionary Responses to Solar Exposure
Invited Poster Symposium
Organizers/Chairs: Ellen E. Quillen, Nina G. Jablonski
Studio 7

Throughout human evolution and recurrently in diverse environments, pigmentation genes have undergone some of the strongest intervals of selection found in the genome. Selection and genetic drift have shaped local genetic variation in striking ways. This symposium focuses on recent work on the genetics of skin pigmentation with a particular focus on distinct manifestations of overlapping allelic variation among populations. Comparison with our non-human primate relatives provide deeper perspectives on the evolutionary history of pigmentation variation while studies of more recent gene flow and admixture have generated novel interactions between genes influencing constitutive skin color within populations. Variation in constitutive pigmentation informs, but is insufficient to explain, variation in response to ultraviolet radiation. Increasingly, the genetic architectures of facultative pigmentation (tanning), vitamin D production, and epidermal thickening in response to solar exposure are being elucidated with both classic pigmentation genes and novel alleles influencing these biomedically and forensically important traits. By considering both constitutive pigmentation and these labile traits, which are heavily influenced by both genetics and the environment, we seek a more complete picture of variation in human skin.

8:00 Introduction: Ellen E. Quillen.

8:05 Individual poster presentations (Posters #1-7).

10:30 Individual poster presentations (Posters #8-12).

11:15 Discussant: Nina G. Jablonski.

1 Pigmentation variation in the presence of strong UVR: genetic and phenotypic variation in Island Melanesia. H.L. NORTON, L. BOWSER, J.S. FRIEDLAENDER.

2 Genetics of pigmentation in East Asia: The role of OCA2 polymorphisms. L. RAWOFI, M. EDWARDS, S. KRITHIKA, N. MURRAY, H.L. NORTON, E.J. PARRA.

3 Rapid Evolution of Lighter Skin Pigmentation in Southern Africa. B.M. HENN, M. LIN, A.R. MARTIN, R. SIFORD.
FRIDAY MORNING SESSIONS


5 Variation in skin reflectance and pigmentation genes in young adults of Xhosa and Cape Mixed ancestry from the Western Cape, South Africa. N.G. JABLONSKI, T. LASISI, A. ABHIMANYU, A.K. COUSSENS, C.E. NAUDE, G. CHAPLIN, L.N. PEARSON, R. GOLIATH, M.D. SHRIVER, R.J. WILKINSON.


9 The prediction of human pigmentation phenotypes from DNA for forensic and anthropological usage. S. WALSH, K. BRESLIN, R. ELLE, R. MURALIDHARAN, E. POSPIECH, L. CHAITANYA, A. WOLLSTEIN, F. LIU, W. BRANICKI, M. KAYSER.


11 The role of FZD6 in the evolution of tanning response in the Americas. E.E. QUILLEN, J. FOSTER, A. SHELDRAKE, N.G. JABLONSKI, M.D. SHRIVER.

12 Complex adaptive forces shape skin barrier evolution in humans. Y. LIN, M. EAASWARKHANTH, P. PAJIC, D. MU, M. RZHETSKAYA, M. HAYES, R. BLEKHMAN, N. JABLONSKI, O. GOKCUMEN.

Session 34

Adaptation: Identifying Form-Function Relationships in the Fossil Record

Invited Poster Symposium

Organizers/Chairs: Marisa E. Macias, Kari L. Allen

Studio 4/5

A primary goal of paleoanthropology is to understand the relationship between form and function in extinct taxa. Interpretation of the form/function relationship requires an unambiguous definition of adaptation and a formalized set of criteria for the identification of this in the fossil record. Best practices involve a combination of indirect - comparative method using extant taxa - and direct - observation of the fossil record - approaches. In the the last few decades, we have seen an explosion of new methodology for evaluating associations between morphology and function using phylogenetic, morphometric, and evolutionary modeling approaches. Researchers have
necessarily specialized in these approaches, creating discrete subfields within paleoanthropology. The aim of this symposium is to facilitate the synthesis of disparate methods and theoretical approaches for a more nuanced and holistic understanding of functional adaptations in primate evolution. This session will bring together researchers with a deep interest and expertise in 1) the construction of theoretical framework from which to assess the presence of adaptation in fossil taxa, 2) novel techniques in testing for adaptive evolution, and 3) the application of adaptive theoretical framework to a specific anatomical system, ecological variable, or primate clades. This session highlights a broad range of focuses, covering functional systems throughout the body, as well as across evolutionary time to discuss best practices for incorporating explicit theoretical framework into the understanding of the form-function relationship within the primate fossil record.

10:30 Discussant: Richard F. Kay.

1 Combining Indirect and Direct Evidence for the Coevolution of Brain Size and Diet in Primates. K.L. ALLEN.


3 New specimens of Stirtonia from the La Victoria Formation, La Venta, Colombia and the evolution of alouattin dental and mandibular form. S.B. COOKE, A. VANEGAS, A. LINK, B.M. SHEARER, L.K. STROIK, M. TALLMAN.


5 You are how you eat: elucidating chewing patterns through 3D shape analysis of fossil primates. K.P. MCNULTY, R.P. KNIGGE, C.J. VINYARD.

6 Testing hypotheses about early hominin feeding adaptations. D.S. STRAIT.

7 The role of experimental approaches to the interpretation of form-function relationships in the fossil record. S.G. LARSON.

8 Inferring hominoid locomotor adaptation from bones: insights from the torso skeleton. C.V. WARD, E.R. MIDDLETON.

9 Adaptations in the upper limb of Australopithecus. M.E. MACIAS, M. GRABOWSKI.


11 Primate femoral condyle curvature: linking shape and locomotion. A.D. SYLVESTER.


13 Primate Communities: Behavior and Morphology. J.G. FLEAGLE, K.E. REED, N. NAQVI, J. SMAERS.
FRIDAY MORNING SESSIONS

Session 35

Anthropological Stories of Bone Histology and Remodeling: An Invited Session in Honor of Samuel D. Stout
Invited Poster Symposium
Chair: Sabrina C. Agarwal
Studio 6

Sam Stout pioneered the early work on bone histomorphometry in ancient bone, and over the past decades his work has established the significant methodological and scientific contribution of histological studies to biological anthropology. He has examined some of the most fundamental aspects of skeletal variation including patterns in bone remodeling with disuse, taphonomy, population variation, biomechanical loading, bone remodeling in early hominids, and changes with disease and aging. He has continued to develop new microscopic age estimation methods and push our understanding of intra-skeletal variation in bone mass and microstructure. This session brings together the research of his colleagues and the students he has mentored to celebrate the stories and new trajectories from this work that have served to clarify the fundamentals of bone biology for generations of scholars in skeletal biology, forensic anthropology, paleoanthropology and bioarchaeology.

8:00 Introduction: Sabrina C. Agarwal.
10:30 Participant Discussion.

1 An analysis of infant bone composition using Raman Spectroscopy. M.E. SOTO MARTINEZ, C.M. CROWDER, X. BI.

2 After 25 years, revisiting clavicle histology. R.R. PAINE.

3 Applications of bone histomorphometry in bioarchaeology, forensic anthropology, and clinical studies. H. CHO.


5 Histological indicators of stress. E. RAGUIN, M.A. STREETER, M.S. DRAPEAU.

6 You win some, you lose some: variation in bone growth, gain and loss across the skeleton. P. BEAUCHESNE, S.C. AGARWAL.

7 Mechanotransduction in bone: lessons from mice. A. ROBLING.

8 Distributions of secondary osteon collagen/lamellar morphotypes are important in avoiding stress fractures: A new hypothesis for the etiology of stress fractures. J.G. SKEDROS.


11 From Neandertals to modern subadults. M.A. STREETER.
FRIDAY MORNING SESSIONS

SESSION 36

Primate Social Behavior II
Contributed Poster Presentations

Chair: Monica L. Wakefield

Acadia

1. Visitor effects on Western Lowland Gorillas (*Gorilla gorilla gorilla*). A. Kirwen.


5. The Use of Color Cues in Within-group Competition over Food Resources by Tufted Capuchin Monkeys. A. Colosimo, C.J. Scarry.

6. Should I stay or should I go? Using Hinde's proximity index to understand changing social relationships in Hyllobatid groups as offspring mature. A.C. Sheldon, G. Skollar.


FRIDAY MORNING SESSIONS

Session 37
Human Biology and Genetics II
Contributed Poster Presentations

Chair: Kirsten A. Ziesemer

Acadia


2. Interpreting the Penutian migration through Genetics: Ancient human DNA analysis from Central California. F.A. VILLANEA, C. MONROE, R. CAMBRA, A. LEVENTHAL.

3. Paleogenomic investigations of human remains from Rapa Nui. L. FEHREN-SCHMITZ, K.M. HARKINS, C.L. JARMAN.


6. Comparative Sub-Regional Population Structure within South America using MtDNA and Y-Chromosome DNA. B.C. HERRERA, M. HUBBE.


10. Comparison of southwestern US Hispanic populations to Mexican Hispanic populations using immunoglobulin haplotypes. M.S. SCHANFIELD.

11. Insights into the Cahokian Sphere of Influence through Ancient DNA Evidence. J.L. HARRISON, F.A. KAESTLE.


13. The effect of mobility and modernization on co-residence patterns in Batek hunter-gatherers: a longitudinal analysis. T.S. KRAFT, V.V. VENKATARAMAN, K.M. ENDICOTT.


15. Three-dimensional analysis of facial aging and asymmetry from juvenile to old age. J. VELEMÍNSKÁ, E. HOFFMANNOVÁ, J. KOUDELOVÁ, J. DUPEJ.

16. Age-progression and age-regression face modelling in Czech girls from 6 to 15 years based on three-dimensional longitudinal data. E. HOFFMANNOVÁ, J. KOUDELOVÁ, J. DUPEJ, J. VELEMÍNSKÁ.
FRIDAY MORNING SESSIONS

17 Neonatal hair cortisol in rural Gambian infants. S. FARDI, S. DRAMMEH, A. DOEL, Am PRENTICE, S.E. MOORE, R.M. BERNSTEIN.


19 Postnatal Neuron increase in the Human Amygdala is more Extensive than in other Hominids. N. BARGER, M.V. VARGAS, T.A. AVINO, K. SEMENDEFERI, C.M. SCHUMANN.

20 Greater variability in within-section cortical thickness among men relative to women and its effects on the accuracy of periosteally-derived cross-sectional geometry estimates. A.A. MACINTOSH, C.N. SHAW, T.M. RYAN, J.T. STOCK.

21 Breast milk macronutrient content in rural West African mothers is impacted by season of infant birth and maternal energy balance. M.A. GRUCA, S.E. MOORE, M.K. DARBOE, Am PRENTICE, R.M. BERNSTEIN.

22 An Evolutionary Perspective on Elective Cesarean Section. K.R. ROSENBERG, W.R. TREVATHAN.

23 Growth and reproduction in adult women: understanding the interactions of evolution and culture in American and rural Brazilian populations. A.C. RIVARA, S.G. PAIVA.

24 First case of cd39 β-thalassemia found in a Sardinian man from 2000 years ago. C. VIGANÒ, G. AKGUL, F. RÜHLI, A. BOUWMAN.


26 Using Mitogenomes to Understand Dog Population History in the Americas. K.E. WITT, R.S. MALHI.


29 Community Support Buffers Psychosocial Stress in Mothers of Infants. B.N. EVANS, B.L. TURNER.

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Session 38

Functional Anatomy: Ontogeny
Contributed Poster Presentations
Chair: Jacqueline Runestad Connour
Acadia


2 Functional morphology of the occipital condyles in anthropoids. A.C. NISHIMURA, P.J. FERNÁNDEZ, J.S. GUERRA, G.A. RUSSO.
FRIDAY MORNING SESSIONS

3 A three-dimensional geometric morphometric evaluation of shape variation in the hybrid baboon cranium. T.B. RITZMAN, D.C. KATZ, K.E. WILLMORE, J. CHEVERUD, J. ROGERS, R.R. ACKERMANN.

4 Integration of the Anthropoid Skull: An Ontogenetic Perspective with Insights into Jaw Fusion. R.P. KNIGGE.


6 Relationship of Turbinal Surface Area and Nasal Cavity Volume in Primates. M.C. MARTELL, T.D. SMITH, V.B. DELEON.

7 Energetics of the Nasal cavity: The impact of Total Energy Expenditure on Cranial Airway Morphology. V.N. MASON, R.S. SCOTT, S. CACHEL.


9 Variation in osteon size in the cercopithecoid femur and its implications for bone fracture toughness. S.E. LAD, W. MCGRAW, D.J. DAEGLING.

10 Cancellous bone density in age-sorted atelines. J. RUNESTAD CONNOUR, K.M. NIDA, K.E. GLANDER.


12 Population-level Ontogenetic Variation in Gorilla and Pan. J.S. MASSEY, K.P. MCNULTY.


15 Skeletal aging in mountain gorillas. C.B. RUFF, M. BURGESS, A. MUDAKIKWA, S. MCFARLIN.

16 Trauma, Growth, and Death: An analysis of Gorilla gorilla life history from specimens at the Yale University Peabody Museum of Natural History. R.T. MCRAE, G.P. ARONSEN.


18 Possilbe idiopathic scoliosis in a bonobo. C.A. KIRCHHOFF, H.S. LLOYD.

19 Growth of the Catarrhine Ectotympanic Tube. E.E. FRICANO, V.B. DELEON.

20 Muscle proportions and body composition in an infant gorilla. D. BOLTER, C. UNDERWOOD, A. ZIHLMAN.

21 Middle phalanx morphology reflects postural differences of primate grooming and nail-bearing digits. S.A. MAIOLINO.

FRIDAY MORNING SESSIONS

Session 39

**Primates: Methods and Morphology**

**Contributed Poster Presentations**

*Chair: Julia Arias-Martorell*

*Acadia*

1. A novel approach to anatomical complexity: Random Forest Analysis applied to jaw morphology in Homininae. **J. Lawrence, M. Sóskuthy.**

2. Correlated Responses to Selection among Elements of the Cranium and Appendicular Skeleton between Large-Bodied and Small-Bodied Tamarins. **E.R. Agusto, B.M. Auerbach.**


4. A 2D Geometric Morphometric Analysis of Cercopithecoid Mandibular Symphysis Outline Shape: Implications for Taxonomy and Systematics. **C.M. Kimock.**

5. Distinguishing locomotor adaptation of non-human primates and hominoids using ulnar diaphyseal curvature. **C.E. Taylor, Y. Haile-Selassie.**


7. Brain size as an evolutionary constrain on facial form. **A. Pettit, B. Villmoare.**

8. Evolutionary Implications of Variability and Rates of Change in the Primate Lumbosacral Plexus. **B.M. Shearer.**


10. Combining 3DGM analyses from multiple anatomical regions improves phylogenetic interpretations of phenetic data in Platyrrhini. **J.T. Gladman, G.S. Yapuncich, S.B. Cooke.**

11. Morphometric analysis of the chimpanzee maxillary and ethmoid sinuses. **S.B. Boren, D. Durand.**


13. Paleobiogeography of the Colobinae. **S. Carnation.**

FRIDAY MORNING SESSIONS

Session 40

Forensic Anthropology and Bioarchaeology:
Collections, Ancestry, and Age at Death
Contributed Poster Presentations

Chair: Kyra Stull
Acadia

1. The Shallow Biohistory of Recently-acquired Skeletal Material by the Louisiana Department of Justice. C.L. Halling, R.M. Seidemann.


8. 3D reconstructions of cortical canal network is an efficient method to differentiate human from animal fragmentary bones. C. Rittemard, O. Dutour, H. Coqueugniot.


FRIDAY MORNING SESSIONS

17 Estimating ancestry of patients from the Colorado State Insane Asylum from 1879-1899 using geometric morphometric software. R. PEREZ, A.H. ROSS.

18 Understanding the Degree of Cranio- metric Variation in South Texas Migrants. C.P. MCDANIELD, T.P. GOCHA, C.C. SIEGERT, R.M. STRAND, L.E. BAKER, M. SPRADLEY.


20 A critical review and classification of juvenile age estimation methods. L.K. CORRON, F. MARCHAL, S. CONDEMI, P. ADALIAN.

21 Estimating age at death in subadults from metapophyseal width of lower limb longs bones. C. ROSSETTI, M. LICATA, G. ARMOCIDA, A. VERZELETTI, A. TOSI.


24 The effects of epiphyseal fusion asymmetry on juvenile age estimation. K.E. STULL, L. CORRON.


26 Cortical Thickness as a Supplement to Osteon Population Density to Estimate Age at Death. T.P. GOCHA, M.M. MURACH, Am AGNEW.

27 A retrospective study of age estimation method performance on positively identified forensic cases. C.C. CATALDO-RAMIREZ, M.J. RUE, H.M. GARVIN.

28 Skeletal Midshaft Diameters as Estimators of Age at Death in Subadults. M.T. KETCHUM, S. NAWROCKI.

29 Quantitative assessment of age-related topographic changes in the pubic symphysis. M.K. STOCK, P.E. MORSE, C. VILLA.


33 Revised Transition Analysis: Validation on a Historical Sample and the First Archaeological Application of the New Procedure. S.M. GETZ, G.R. MILNER, J.L. BOLDSEN.

34 Data standardization in anthropology: Curation and access. A.E. KENDELL, N.L.GESKE.

35 Data standardization in anthropology: methods and best practice. N.L. GESKE, A.E. KENDELL.

36 Experiences in the application and attendance of human skeletal biology graduate programs. N.V. PASSALACQUA, H.M. GARVIN.
FRIDAY MORNING SESSIONS

37 Application and Accuracy of 3D Scanned Postcranial Bones. V. HARRINGTON, H. MCKILLOP.

38 A quantitative analysis of iodine stained CT (DiceCT) measurements in physical and digital dissection. J. LEVY, P.J. LEWIS, A. HARTSTONE-ROSE.

39 The Statistics of Tiny Samples: The Utility of ACTUS, an Alternative Method of Contingency Table Analysis Using Simulation, in Human Skeletal Biology. V.H. ESTABROOK, D.A. PROSSER.

40 Big Classes, Small Budgets, and Osteometric Lab Equipment: Is cost Commensurate with Quality? L.L. TAYLOR, M. FARALDO, G.A. CARDENAS.

41 Cortical Bone Dynamics and Skeletal Age at Death Assessed from Human Femoral Cortical Histomorphology. R.A. WALKER.

42 Trabecular Bone Morphometrics: A Methodological Appraisal of Software Applications. N.M. WEBB, Y. HU, X. GUO.


44 Alternative instrument bags: assessing the accuracy and precision of the iGaging 8” Digital Outside Calipers. J.M. BERGER, K.E. FAILLACE.
In recent years the field of biological anthropology and the AAPA have taken center stage in national debates concerning sexual harassment, the need for greater integrity and safety in the field and workplace, and sex and gender equality in the sciences. The AAPA has also seen unprecedented efforts to increase diversity in the discipline, including the Committee on Diversity’s Undergraduate Symposium, the Increasing Diversity in Evolutionary Anthropological Sciences (IDEAS) workshop, and the formation of the GAYAPA interest group, among others. These developments have been important for increasing the inclusion of underrepresented groups in science and are crucial to broadening access and increasing justice within biological anthropology. However, while strides have been made towards improving visibility for underrepresented groups and their concerns in the field, less consideration has been given to the intellectual contributions that diversification brings. Such diversity includes new kinds of questions and theoretical perspectives, new approaches to research design and ethics, new insights and interpretations of data — leading to the production of new knowledge within biological anthropology and the sciences more generally. In this symposium we draw on the voices and insights of scholars from within biological anthropology and beyond to highlight how scientists from diverse backgrounds are producing new kinds of knowledge about humans and non-humans, the connections between bodies, biology, and culture, and the politics and practice of science. We show that diversity is not just a question of visibility and representation; it is also about making a new and vital science together. This session will explore how our collective efforts to change “who we are” also involves expanding and reconstituting “what we know”.

2:30 Alterity and Anthropometrics: Blackness, Vulnerability, and Post-Colonial Identities in Biological Anthropology. R.G. NELSON.

2:45 Land of Milk and Honey: Infiltrating Academia to Pursue Overlooked Topics. K. HINDE.

3:00 Belief(s), Identity, and Experience: Navigating Multiple Influences on Knowing in Biological Anthropology. A. FUENTES.

3:15 How subjectivity strengthens research: Developing new approaches to anthropological genetics in the Pacific Northwest. A.C. BADER, R.S. MALHI.

3:30 Marginal perspectives within hegemonic spaces: the marronage of genomic technologies. J. BENN TORRES.

3:45 Undisciplining Desire: Bisexual and Queer Approaches to Science. S.M. ARCHER, T. VILLASEÑOR-MARCHAL, R.W. SMITH.

4:00 The Coloniality of Philosophies of Biology. S. MCLEAN.

4:15 Dead end evolutionary lineage, says the White man: the evolution of Homo erectus and Homo sapiens in Asia. S.G. ATHREYA.
FRIDAY AFTERNOON SESSIONS

4:30 Queer developments: LGBTQIA perspectives on ontogeny, growth and development, and ranges of variation in human and nonhuman primates. C.A. SCHMITT, C.M. ASTORINO, S.L. MEREDITH.

4:45 How social justice perspectives expose hidden exclusions in science. D.N. LEE, K.B. CLANCY.

5:00 Minority Rules: Social Capital, Scientific Obligations, and the Struggle to Decolonize Biological Anthropology. V.R. PÉREZ.

5:15 Discussant: Alan H. Goodman.

5:30 Discussant: Kim TallBear.

Session 42

Signals in Evolutionary and Ecological Context
Invited Podium Symposium
Organizer/Chair: Michael P. Muehlenbein
Bissonet

Evolutionary signals are hypothesized to represent phenotypic traits that influence the behaviors of others. These signals develop through the mechanisms of natural and sexual selections, resulting from complex interactions between individuals within a variety of ecological contexts. Such traits have been studied extensively in a variety of taxa, with much recent work in human and nonhuman primates. The present symposium includes new and established experts in human and nonhuman primate signaling systems to review the present state of research on evolutionary signals in a variety of species across the order Primates (including humans, macaques, lemurs, and others). Drawing from concepts in sexual selection and life history theory, and a growing body of both field and laboratory observations and experiments, these presentations include discussion on skin and hair coloration, sexual swellings, pheromones, body and face size and shape, vocalizations, physiological performance, and even religious rituals and parenting behaviors as signals. Discussion is focused primarily within the context of mate selection (signaling between the sexes), although social status (signaling within the sexes) is also considered. The potential costs behind these ‘viability-indicators’ are reviewed, especially the immunological and physiological correlates of coloration and other physical traits.

2:30 Co-evolution of Male and Female Primate Sexual Signals, the Example of Crested Macaques. A. ENGELHARDT.


3:00 Female and male rhesus macaque red skin coloration in evolutionary context. C. DUBUC, J.P. HIGHAM.

### FRIDAY AFTERNOON SESSIONS

#### 3:30 - 6:00

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<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>3:30</td>
<td>How selection shapes primate major histocompatibility complex polymorphism.</td>
<td>L.A. KNAPP.</td>
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<td>3:45</td>
<td>Condition-dependent scent signals in strepsirrhine primates.</td>
<td>C.M. DREA.</td>
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<td>4:00</td>
<td>Are sexual swellings reliable indicators?</td>
<td>C.L. FITZPATRICK, J. ALTAMANN, S.C. ALBERTS.</td>
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<td>4:15</td>
<td>Are human voices honest signals of condition?</td>
<td>D.A. PUTS.</td>
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<td>4:30</td>
<td>Sizing up Strangers: Sexual Selection and Vocal Signals in Male Geladas (<em>Theropithecus gelada</em>).</td>
<td>M.E. BENÍTEZ, T.J. BERGMAN, J.C. BEEHNER.</td>
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<tr>
<td>4:45</td>
<td>Cardiovascular fitness as a signal of reproductive potential.</td>
<td>D. LONGMAN, J.C. WELLS, M.K. SURBEY, J.T. STOCK.</td>
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<td>5:00</td>
<td>Evidence for specialized processing of facial kinship cues.</td>
<td>L.M. DEBRUINE, E. TURNER, R. GORDON, B.C. JONES.</td>
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<td>5:30</td>
<td>Behaviors, Badges, Bans, and Babies: Religious Commitment Signaling and Unwed Motherhood in American Samoa.</td>
<td>C.D. LYNN, M.E. HOWELLS.</td>
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<td>5:45</td>
<td>Signaling human fathering potential.</td>
<td>P.B. GRAY.</td>
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<td>6:00</td>
<td>Discussant: Jo Setchell.</td>
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### Session 43

**Human Skeletal Biology: Mobility, Isotopes, Diet**

**Contributed Podium Presentations**

*Chair: Bethany L. Turner*

**Studio 1/2/3**

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<th>Time</th>
<th>Title</th>
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<tr>
<td>2:30</td>
<td>Mobility and trabecular bone variation in the human foot.</td>
<td>J.P. SAERS, C.N. SHAW, T.M. RYAN, J.T. STOCK.</td>
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<td>3:00</td>
<td>Femoral metaphyseal morphology as a predictor of locomotor behavior.</td>
<td>P.A. STAMOS, Z. ALEMSEGED, A.J. CHAUDHARI, T.D. WEAVER.</td>
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<td>3:15</td>
<td>Horticultural activity predicts later localized limb status in a contemporary pre-industrial population.</td>
<td>J. STIEGLITZ, B. TRUMBLE, H. KAPLAN, M. GURVEN.</td>
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<tr>
<td>3:30</td>
<td>Roving Romans: Biomechanical and Fracture Evidence for Sex-related, Intensified Mobility at Vagnari, Italy.</td>
<td>R.J. GILMOUR, T.L. PROWSE, E. JURRIAANS, M.B. BRICKLEY.</td>
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<td>4:00</td>
<td>Subsistence and mobility at Hellenistic New Halos, Greece: as reconstructed from stable carbon, nitrogen, oxygen and strontium isotope analysis.</td>
<td>H.A. SPARKES, S. GARVIE-LOK, M. HAAGSMA.</td>
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FRIDAY AFTERNOON SESSIONS

4:15 Utilizing Isotope Analysis to Assess the Origins of Axis Combatants from World War II. K.E. KOLPAN, I. HANSON, G. KAMENOV, J. KRIGBAUM.

4:30 Early Spanish Colonialism in Northern Guatemala: Identifying Itza Mayas at the Mission San Bernabé using Strontium, Carbon, and Oxygen Isotope Assays and Biodistance Analyses. C. FREIWALD, K. MILLER WOLF.


5:00 Gender, ethnicity, and diet in the Late Intermediate Period, Colca Valley, Peru: A study of carbon and nitrogen isotope ratios from bone collagen. M.C. VELASCO, T.A. TUNG.

5:15 Isotopic analysis of pre-Columbian Groups from the Brazilian coast. M.Q. BASTOS, A. LESSA, R.V. SANTOS, C. RODRIGUES-CARVALHO.

5:30 Spanish Colonial Impacts on Foodways and Diet in the Zaña Valley of Peru: A Multi-Isotopic Reconstruction. B.L. TURNER, P. VANVALKENBURGH, B.J. SCHAEFER.


6:00 Biological continuity over the transition to food production in Eastern Africa: human dental evidence from early pastoralists. E. SAWCHUK.

Session 44

Primate Genetics and Adaptation
Contributed Podium Presentations
Chair: C. Eduardo Amorim
Studio 8/9/10

2:30 An unsteady molecular clock in primates. P. MOORJANI*, C.G. AMORIM*, P. ARNDT, M. PRZEWORSKI.


3:00 Tarsier Phylogenetic Inference using Museum Skin Samples. L.C. MATTHEWS.


3:30 Evidence of frequent hybridization in guenons (tribe Cercopithecini) from phylogeny with genome-wide markers. C.M. BERGEY, A.S. BURRELL, A.J. TOSI.
FRIDAY AFTERNOON SESSIONS


4:00 A phylogeny of the CHIA gene in the context of insectivory. M.C. JANIAK, M.E. CHANEY, A.J. TOSI.


5:00 Relationship between Reproductive status and Gut Microbial Community Composition in White-faced Capuchins (*Cebus capucinus*). E.K. MALLOTT, P.A. GARBER, R.S. MALHI, K.R. AMATO.

5:15 Evidence for elevated diversity in genes linked to facial diversity in apes supports the hypothesis that individual facial recognition is important across hominoids. M.E. STEIPER, N.T. GRUBE, C.M. GAGNON.


5:45 Genomic analyses of *Mycobacterium leprae* strains from naturally infected nonhuman primates. T.P. HONAP, L. PFISTER, A.C. STONE.

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**Session 45**

The Evolution of Form and Function in the Hominin Pelvis

*Invited Poster Symposium*

**Organizers/Chairs:** Karen L. Baab, Ashley S. Hammond, Matthew O’Neil

**Studio 7**

The pelvis conveys information about ape and hominin paleobiology, including phylogenetic history, body size and shape, development and locomotor capabilities. The past decade has seen a rapid increase in the number of hominin fossil pelvic remains, which has expanded our knowledge about pelvis evolution, while simultaneously raising many new and important questions. This new material has led researchers to reconsider long-standing ideas about the Pan-Homo last common ancestor, the earliest hominins and the origins of bipedalism (*Ardipithecus ramidus*), raised new questions about locomotor capabilities in australopiths and early Homo (e.g. *Australopithecus sediba*), and ignited new debates about size, shape and adaptation in Homo erectus (Gona pelvis). Recent work has also highlighted both stasis and mosaicism in pelvis evolution during the last 500,000 years of hominin evolution (*H. floresiensis*, mid-Pleistocene *Homo*), and has generated new ideas about the relative role of neutral genetic evolution and
climate-driven selection in shaping modern human pelvic variation. This symposium will explore how integrative methodologies and new data can address questions presented by the more complete paleontological record for the pelvis. Contributors use methods as diverse as functional genomics, experimental biomechanics, musculoskeletal modeling, 3D morphometrics, comparative analyses and population genetics to explore morphological variation and the underlying factors driving this variation. A particular focus will be paid to pelvic remains described in the past decade. This symposium brings together diverse analytical approaches to better trace the key modifications in pelvis size and shape throughout hominin evolution, as well as provide new insights into the functional implications of these modifications.

3:00 Individual poster presentations and discussion led by Carol V. Ward.


3. Pelvic height, lumbar entrapment, and their effects on upper body stability during bipedalism. N.E. THOMPSON, M.C. O’NEILL, B. DEMES.


6. Defining Lateral Iliac Flare in Hominins. C. VANSICKLE.

7. Functional analysis of lower ilium shape and robusticity in Plio-Pleistocene hominins. K.L. LEWTON.

8. The functional significance of iliac buttressing in the genus Homo. S.E. CHURCHILL.


12. Modern Variation in the Shape of the Birth Canal and the Effects of Climate and Population History. L. BETTI, A. MANICA.
The vertebral spine and the thorax are vital for existence. Their main role is to protect the spinal cord, the cardiovascular and respiratory systems as well as parts of the digestive tract. The axial skeleton with its muscles and joints provides stability for the attachment of the head and limbs and at the same time enables the mobility required for breathing and for locomotion. Despite its great importance the axial skeleton is often over looked by researchers mostly because: a) vertebrae and ribs are fragile in nature, which makes their fossilization a rare event; b) they are metameric (seriated and repeated elements) that make their anatomical determination and thus, their subsequent study difficult; and c) the plethora of bones and joints involved in every movement or function of the axial skeleton makes the reconstruction of posture, breathing mechanics and locomotion extremely difficult. It is well established that the axial skeleton has changed dramatically during human evolution. Spinal curvatures, spinal load transmission and thoracic shape of bipedal humans are derived among hominoids. Yet, there are many debates as to how and when these changes occurred and what their functional and pathological implications are. In recent years, renewed interest arose in the axial skeleton. New and exciting findings mostly from Europe and Africa as well as new methods for reconstructing the spine and thorax have been introduced to the research community. Gait analysis of primates also adds to our understanding of the axial skeleton. This symposium explores the new models and new data, including recent fossil, morphological, biomechanical, and theoretical advances regarding the axial skeleton.

3:00 Individual poster presentations.

5:00 Discussants: Liza J. Shapiro and Ella Been.

1 Intraspecific variation in hominoid vertebral morphology: effects of column position and locomotor adaptation. L.J. SHAPIRO, A.D. KEMP.

2 Total numbers of vertebrae clarify the ancestral vertebral formula of African apes and humans. S.A. WILLIAMS, D. PILBEAM.

3 The Evolution of Foramen Magnum Position and Orientation in Anthropoids. G.A. RUSSO, E. KIRK, J.S. GUERRA, J.B. SMAERS.

4 Functional inferences from vertebral morphology and torso shape in anthropoids. E.R. MIDDLETON, C.V. WARD.

5 A comparative and ontogenetic analysis of zygapophyseal facets along the thoracolumbar transition in apes and humans. T.K. NALLEY, J. WOOD, C.V. WARD.

6 How did early hominins hold their heads? New evidence on head posture from the australopith cervical spine. M.R. MEYER, S.A. WILLIAMS.

FRIDAY AFTERNOON SESSIONS

8  The vertebral column of the Gran Dolina-TD6 and Sima de los Huesos hominins: new remains and new results. A. GÓMEZ-OLIVENCIA, J. ARSUAGA, J. BERMÚDEZ DE CASTRO, E. CARBONELL.

9  The vertebral column of La Chapelle-aux Saints: the evidence of spinal osteoarthritis for Neanderthal spinal curvature. M. HAEUSLER, C. FORNAI, N. FRATER, N. BONNEAU.

10 Reconstruction of the spinal curvatures in hominins, where do we stand? E. BEEN, A. GÓMEZ-OLIVENCIA, A. BARASH.

11 Lordosis variability and shock attenuation in the hominin lumbar spine. E.R. CASTILLO, D.E. LIEBERMAN.

12 Sexual dimorphism of lumbar lordosis: a case for joint laxity. J.F. BAILEY, E. BEEN, P.A. KRAMER.

13 Bilateral Variation in Human Lumbar Zygapophyses. K. WHITCOME.

Session 47

Biological Investigations of Nomads: Developments and Innovations
Invited Poster Symposium
Organizers/Chairs: Selin E. Nugent, Mark Hubbe
Studio 6

Nomadic people have historically been marginalized when compared to more sedentary populations. Nomads were frequently represented at the periphery of major developments in human history, such as cities, states, and empires, while present-day nomads face political and economic pressures that threaten their mobile lifestyles. However, mobility has characterized the vast majority of our history as a species, thus understanding the nature of nomadic lifestyles and their relationships with other populations, and to their environment has significant implications for both the study of our past as well as understanding of modern human variation. Because mobile lifestyles leave distinct marks on the human body that may not be noticeable in material or social contexts, biological anthropology through bioarchaeology and human biology is well positioned to broaden our understanding of the complexities of nomadic populations and their dynamic relationships to sedentary populations. This has become especially true when seen through the lenses of the innovative and constantly developing applications of isotopic, genetic, morphological, and biocultural analyses. The objective of this session is to unite scholars in biological anthropology studying both ancient and extant nomadic populations to present novel methods and analyses that highlight the utility of biological perspectives in elucidating the lives of mobile people. Our goal is to facilitate the exchange and development of innovative and interdisciplinary approaches that will help bring nomads out of the shadows of their sedentary counterparts and promote understanding of their lives to better serve their needs in the present.

5:00 Discussant: William R. Leonard.

1  Socio-cultural influences on genetic variation in nomadic populations of northern Eurasia. T.G. SCHURR.

2  Identifying the effects of diverse ecological and biological variability in Bronze-Iron Age Inner Asian steppe populations. M. MACHICEK, J.T. ENG.
FRIDAY AFTERNOON SESSIONS

3 Intra-tooth Isotopic Variation and Implications for Reconstructing Seasonal Diet and Mobility in Ancient Nomadic Populations. S.E. NUGENT.

4 Moving across the desert: Investigating the remains of travelers who died traversing the Chilean Atacama. C. TORRES-ROUFF, W.J. PESTLE, G. PIMENTEL, K.J. KNUDSON.

5 Mobility patterns among pre-historic shell-mound builder populations from coastal Brazil. M. HUBBE, C. CHEVERKO, M. OKUMURA, W.A. NEVES.

6 Limb biomechanics and terrestrial mobility among Pleistocene and Holocene foragers and herders in northern, eastern, and southern Africa. M.E. CAMERON, J.T. STOCK.

7 Global Environmental Change: Effects on East African Pastoral Mobility and Biology. K. GALVIN, T. BEETON.

Session 48

Primate Cognition and Ecology
Contributed Poster Presentations
Chair: Colin M. Brand
Acadia

1 Examining Heavy Metal Concentrations in Hair of South African Vervet monkey (Chlorocebus pygerythrus) to access Anthropogenic Impacts. A.E. LEWIS, J.E. LOUDON, J.E. PENDER, J.C. ANDREWS, M.E. HOWELLS, J.P. GROBLER, T.R. TURNER.

2 Evidence for Euclidean maps in wild western gorillas (Gorilla gorilla). R. SALMI, A. PRESOTTO, D.M. DORAN-SHEEHY.

3 Collective-Decision Making and Social Foraging Behavior in White-Faced Capuchins (Cebus capucinus). G.H. DAVIS, M.C. CROFOOT.

4 Quantifying Countershading in Eulemur Using Eigencoats. A.N. SPRIGGS, B.J. BRADLEY, J.M. KAMILAR, A.D. GORDON.

5 Evidence for handedness in termite fishing among Gombe chimpanzees. M. FERRY, L.F. MARCHANT, R.C. O’MALLEY.

6 The Effects of Age and Sex on Long-term Spatial Memory. M.D. GONZALEZ, M. JANAL, R. WOLK, E. CUNNINGHAM.


10 Sleep tree use by emperor and saddleback tamarins during the dry season: A test of food resource exploitation as a driving factor. M. DE VRIES, M. WATSA, G. ERKENSWICK.
FRIDAY AFTERNOON SESSIONS

11 Crossing Structure Design and Effectiveness for Primate Conservation. I.J. BROCK, L.E. GOTOACO, C.M. BRAND, U.S. STREICHER, L.R. ULIBARRI.

12 Long-term spatial memory in *Eulemurs* and effects of learning schedules. R. WOLK.

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**Session 49**

**Human Biology and Genetics III**

**Contributed Poster Presentations**

*Chair: Theresa E. Gildner*

**Acadia**

1 A Woman’s World: Rate of Morphological Dilemmas in Romano-British Childbirth. C. MCGOVERN.

2 Patterns of mtDNA Diversity in Central Asia Reveal a Complex Population History. B.M. CHRISTY.

3 Whole Mitochondrial Genomes Reveal the Maternal Origin of the Bronze Age Xiabandi Population in Xinjiang, Northwest China. C. NING, Y. CUI.

4 Characterizing blood composition in mothers and newborns: Implications for epigenetic studies. C. HSIAO, N.C. RODNEY, J. QUINLAN, C.J. MULLIGAN.


6 One Generation Evolutionary Signal from Human Whole-exome Sequencing Data. T. FERREIRA DE ALMEIDA, D. VICENsOTTO BERNARDO, M.R. SANTOS PASSOS BUENO.

7 New Problems with an Old Idea: Is Human Genetic Variation really Clinically Distributed? J.A. HODgSON.

8 Simulating effect of starting configuration on diversity in the context of range expansion. N.J. ANGAL, C.R. TILLQUIST.

9 Genome variation across the Bantu to Nilo-Saharan linguistic boundary in Uganda. R.L. RAAUM, D. ISABIRYE.


11 Genetic variation of southern Africa hunter-gatherers and the impact of admixture with farming and pastoralist populations. M. VICENTE, P. EBBESEN, M. JAKOBSSON, C. SCHLEBUSCH.

12 Human races are not the same as dog breeds: Dismantling a powerful popular metaphor as an educational exercise. H. DUNSWORTH, A. BIGHAM, H. NORTON, L. PEARSON, E. QUILLEN.

FRIDAY AFTERNOON SESSIONS


16 Does menstrual phase affect the relationships between catecholamines and perceived environmental stress? G.D. JAMES.

17 Evidence of Coastal New Guinea Population Geneflow and Implications for the Southern and East Asian Migration Route Hypotheses. S. RAGSDALE, H. MARSH.

18 A Study of Structural Variants in Ancient Genomes and their Introgression into Modern Humans. S. RESENDEZ, D. XU, J. BRADLEY, O. GOKCUMEN.

19 Modeling the Effects of Multiple Transmission Pathways on the Spread of Enteric Pathogens. J. DIMKA, J. TROSTLE, J.N. EISENBERG.

20 Sex-related Connectivity Differences in the LSCN. I.D. GEORGE, K. ALDRIDGE.

21 Human sickness behavior not expressed in response to the rabies vaccine. E.C. SHATTUCK, M.P. MUEHLLENBEIN.


23 Early Life Influences on Dual-Hormone Output in Fathers When Playing With Their Children. M.S. SARMA, S. BECHAYDA, L.T. GETTLER.

24 Variation in dietary intake and DNA methylation: The possibility of a remnant thrifty epigenotype in populations remaining at risk for seasonal food shortages. M. MOSHER, A.J. WILLIAMS.

25 Maternal environment and the composition of breast milk immune proteins in mothers from urban and rural Poland. L.D. KLEIN, E. GOONATILLEKE, A. GALBARCZYK, A. KOTLINSKA, C. LEBRILLA, G. JASIENSKA, K. HINDE.

26 Skewed Pattern of X Chromosome Inactivation in Brazilian Women. S.F. OLIVEIRA, D.L. BRANDÃO, A. PIC-TAYLOR, J.F. ARAÚJO.

27 Central Asian Turkic and Indo-Iranian Genetic, Linguistic, and Geographic Differentiation. A.G. KITTOE, F. MANNI, É. HEYER, P. MENNECIER.

28 Men's status and reproductive success in 33 non-industrial societies: effects of subsistence, marriage system, and reproductive strategy. C.R. VON RUEDEN, A.V. JAEGGI.


30 Pregnancy and the upper volumetric expansion of the barrel-shaped ribcage in Hylobates and Homo. J. UY, K. O'BRIEN, J. HAWKS.

31 Ancient Yersinia pestis genomes provide novel insights into the phylogeographic history of Plague. M.A. SPYROU, R.I. TUKHIBATOVA, M. FELDMAN, A. HERBIG, K.I. BOS, J. KRAUSE.
FRIDAY AFTERNOON SESSIONS

Session 50

Paleoanthropology: Early Hominins II
Contributed Poster Presentations
Chair: Zachary Cofran
Acadia

1. Dental microwear textures of an expanded sample of *Australopithecus africanus* from Sterkfontein Member 4. E.F. ABELLA, F.E. GRINE, M.F. TEAFORD, P.S. UNGAR.

2. Paleoenvironmental reconstruction at Kanapoi through use of rodent dental microwear. J.H. BURGMAN, F. MANTHI, J. PLAVCAN, C.V. WARD, P.S. UNGAR.


4. Modularity and the evolution of the human canine. Z. COFRAN.


7. An assessment of variation and its causes in the face of *Paranthropus*. N.M. HLAZO, T.D. RITZMAN, R.D. ACKERMANN.


9. DNH 32: A distal humerus of *Paranthropus robustus* from Drimolen, South Africa. M.R. LAGUE, C.G. MENTER.


11. Re-examining the Peroneal Trochlea of the StW 352 Calcaneus. E.J. MCNUTT, A.G. CLAXTON, K.J. CARLSON.


13. Dental microwear textures of *Paranthropus robustus* from Kromdraai, Drimolen, and an enlarged sample from Swartkrans. A.S. PETERSON, F.E. GRINE, M.F. TEAFORD, P.S. UNGAR.

FRIDAY AFTERNOON SESSIONS

15 Plio-Pleistocene paleoenvironments of the Shungura Formation based on bovid dental adaptation and abundance analysis. W.H. REDA, Z. ALEMSEGED.


17 Navigating peaks of speciation and extinction: Did prime movers or random effects lead to the composition of the South African fossil record? D.C. PEART, J. MCKEE.

18 Taphonomic characterization of the honey badger, an actualistic first. B.F. COHEN, J.M. KIBII.

19 A technological study of the lithic artefacts from the Earlier Stone Age site of Maropeng in the Cradle of Humankind, South Africa. R. MOLL, K. KUMAN, D. STRATFORD.

20 “Rogue” taxa and hominin phylogeny. M. DEMBO, A. MOOERS, M. COLLARD.

21 Large mammal community structure and habitat variability in eastern and southern African Paranthropus. K.D. O’NEILL, A.L. RECTOR, C. STEININGER.


23 New Field Research at Galili, Afar State, Ethiopia. S.W. SIMPSON, J. QUADE, H. SAID.

Session 51

Human Skeletal Biology: Morphology, Variation, and Environment
Contributed Poster Presentations
Chair: Meghan Shirley
Acadia

1 Shape differences in the proximal femur of a cadaver sample based on different classifiers of obesity. R.A. JOHNSTON, L.W. COWGILL, T. PASKOFF.

2 Estimation of individual body mass from the femur: insights from a CT-based analysis of body composition. A. LACOSTE JEANSON, J. DUPEJ, J. BRŮŽEK.


4 The effect of activity on the reliability of body mass estimated from long bone cross-sectional area. V. SLADEK.


6 From form to function: insights into tooth function through the study of variation in tooth root size and shape. C.L. FERNEE, K.R. BROWN, A. DICKINSON, C. WOODS, S.R. ZAKRZEWSKI.

7 Raccoons, humans and Allen’s rule in eastern North America. T. STEEGMANN, R. STEEGMANN.

8 Climatic adaptation in Japanese macaques (Macaca fuscata) as a model for calibrating human intraspecific variation. L.T. BUCK, I. DE GROOTE, Y. HAMADA, J.T. STOCK.
FRIDAY AFTERNOON SESSIONS


12 Statistical shape analysis using statistical shape models - comparing surface to outline data in the human zygomatic structure. S. Schlager, A. Rüdeell.


15 Generalised Procrustes Analysis on an ontogenetic series clarifies the two-bandage cranial modification technique in Migration Period Hungary. P.R. Mayall, V. Pilbrow.


17 Cranial Vault Modification as a Possible Ethnic Marker in the Middle Cumberland Region. G.J. Wehrman.


20 The Use of Geometric Morphometrics to Identify Distinct Mortuary Components at Koster Mounds. L. Sacks.


22 Exploration of craniometric variation along the Nile River. C.R. Bennett, A.H. Ross.


24 Osteon circularity variation with femur size and anatomical region in archaeological humans. P. Fuente García, J.J. Miskiewicz, C. Deter, P. Mahoney.


27 Does the shape of the talus predict first metatarsal abduction? S.G. Lautzenheiser, A.D. Sylvester, P.A. Kramer.

28 Evaluation of the covariation in markers of robusticity in the locomotor skeleton. T.E. Dunn.
FRIDAY AFTERNOON SESSIONS

29 Ontogenetic trajectories of talo-crural joint shape among the two species of *Pan, Pan troglodytes* and *Pan paniscus*: Life history and behavioral correlates. K. TURLEY, E.A. SIMONS, S.R. FROST, F.J. WHITE.

30 Comparison of fluctuating asymmetry level between normal and pathological specimens from modern Thai skeletal group. H. JUNG, E. WOO, N. VON CRAMON-TAUBADEL.

31 Sacral variability in tailless species: *Homo sapiens* and *Ochotona princeps*. R.G. TAGUE.

32 Similarities in Pelvic Dimorphism Across Populations. H. DELPRETE.

33 Divided Zygomata in Neolithic and Dynastic Northern Chinese Populations. Q. ZHANG, P.C. DECHOW, Q. ZHANG, Q. WANG.

34 A 3D geometric morphometric study of the ilium during growth and the influence of habitual activity in the Later Stone Age foragers of southern Africa. H. KURKI, L. HARRINGTON.

35 Developmental limb element asymmetry across three Native North American populations. E.B. WAXENBAUM, K.A. SIRAK.

36 An analysis of upper and lower limb cross-sectional properties in the Lake Nitchie skeleton from southwestern New South Wales, Australia. E.C. HILL, O.M. PEARSON, A.C. DURBAND.

37 Finding the Volume of the Femoral Intercondylar Fossa from a 3D Scanning Image Using CAD Modeling Software. B.E. HERNDON, S.K. BECKER.

38 The effect of temperature and population history on the shape of the distal and proximal epiphyses of the tibia. P. IBÁÑEZ-GIMENO, T.G. DAVIES, J.T. STOCK.


41 Patterns of Handedness Among Human Populations from the Late Pleistocene to the Holocene. Y. SIEW, E. NIKITA, A.A. MACINTOSH, M.A. GASPERETTI, E. POMEROY, J.T. STOCK.

42 Juvenile skeletal sexual dimorphism under poor environmental conditions. S. REEDY.

43 Differences between the endosteal surface of human and non-human long bones: a potential feature to assist with identification. S.L. CROKER.

Tiny yet ubiquitous, microbiota play a major role in biological diversification throughout evolution. Symbiosis is not a new concept, having been popularized nearly half a century ago, yet the inclusion of prokaryotes, archaea, and viruses (microbiota) within this conceptual framework has only recently crystallized into the study of the human microbiome. Current research links the microbiome with myriad host physiological functions such as immunity, metabolism, growth, development, reproduction, and behavior. The exact role of the microbiome as a primary epithelial interface between host and environment and the extent of its physiological relevance remains an open area of investigation. Human evolutionary research must therefore consider the communities and activities of associated microbiota to fully understand the selective factors that shaped the human species. Host-microbe associations have likely enabled many key evolutionary transitions over time, as microbial functions can confer adaptive faculties directly to hosts, and hosts mediate microbial colonization and survival through a multitude of physiological and biochemical pathways. This shared selective and adaptive platform challenges notions of a macroscopic singular “self,”- rather, humans can be considered as “holobionts,” or the sum of their host and microbial interdependent parts. The advent of massively parallelized sequencing, meta-omics functional assays, and increasingly sophisticated computational models have facilitated the interrogation of human microbiota at an unprecedented level of detail, revealing microbial functions, mechanisms of molecular information exchange, and genetic variability. This symposium brings together expertise from human evolutionary ecology, immunology, microbiology, and genetics to motivate open discourse about ways in which microbiome research can be effectively used to answer core anthropological questions about the selective factors that shaped human evolution and how this knowledge can be used to inform on contemporary human health issues.

8:00 Introduction: Stephanie Schnorr.

8:15 The Microbial Organ is Unlike any Other – Evidence for Conflict in Human-Microbiome Co-Evolution. J. ALCOCK, R. KRAJMALNIK-BROWN, J. MALDONADO, A. AKTIPI, C. HAN.


8:45 Creating context: Using non-human primates to understand the relationship between gut microbes and human diet, physiology, and health. K.R. AMATO, C.A. SCHMITT.

9:00 The role of host genetics in determining human gut microbiome composition. E.R. DAVENPORT.

SATURDAY MORNING SESSIONS

9:30  Beyond the exclusive presence of Treponema and Bifidobacterium in the gut microbiota of hunter-gatherers and Western populations: new insights in microbes-host co-evolution. S. RAMPPELLI, S. TURRONI, M. CANDELA.

9:45  Food and its Form: Cooking Shapes the Gut Microbiome. R.N. CARMODY, P.J. TURNBAUGH.

10:00 Break.


10:45  The Global Diversity of the Human Oral Microbiome. A. HÜBNER, M. STONEKING.

11:00  The Evolution of Host-microbiome Interactions in Humans. R. BLEKHAM.

11:15  Three Years of Sampling the Gut Microbiota of Free-ranging Capuchin Monkeys (Cebus capucinus imitator) in a Tropical Dry Forest. J.D. ORKIN, S.E. WEBB, A.D. MELIN.

11:30  Ecology of the Human Gut Microbiome: An Evolutionary Perspective and its Implications for Health. J. WALTER.


12:00  Discussant: Meagan Rubel.

Session 53

Primate Reproduction, Parentage, and Life History
Contributed Podium Presentations

Chair: Brian M. Wood
Riverview 1

8:00  Infant handling in mountain gorillas: establishing its frequency, function and (ir)relevance for life history evolution. C.C. GRUETER, J. HALE, R. JIN, D.S. JUDGE, T.S. STOINSKI.


8:30  Male-infant Relationships in Wild Woolly Monkeys (Lagothrix lagotricha poeppigii). L.A. ABONDANO, K.M. ELLIS, A. DI FIORE.

8:45  Female Olive Baboons (Papio anubis) Signal Sexual Interest in Socially Stable Males. J.T. WALZ, D.M. KITCHEN.

9:00  Evidence of higher maternal investment for sons in wild chimpanzees at Ngogo, Kibale National Park, Uganda. I. BADESCU, Am KATZENBERG, D.P. WATTS, D.W. SELLEN.

9:15  Attachment to older siblings can buffer the negative consequences of decreased maternal investment in wild infant olive baboons (P. anubis) in Laikipia, Kenya. C.A. MOST, S.C. STRUM.
SATURDAY MORNING SESSIONS

9:30  Insulin it to Win It: Patterns, Causes, and Consequences of Insulin Production during the Marmoset Monkey Pregnancy. J. RUTHERFORD, L. RIESCHE, T. ZIEGLER, C. ROSS, A. SILLS, D. LAYNE COLON, V. DEMARTELLE, S. TARDIF.

9:45  Triangulating weaning in wild geladas (Theropithecus gelada) using observational, isotopic, and gut microbial evidence. A. LU, L.J. REITSEMA, J.C. BEEHNER, T.J. BERGMAN, N. SNYDER-MACKLER.

10:00 Break.

10:30 Characterizing Non-Maternal Infant Care in a Communally Breeding Primate, Varecia variegata. A.L. BADEN.


11:00 Differences in Endocrine Fluctuations between Geriatric Pan troglodytes and Homo Sapiens. K.H. MACDOWELL, C.T. CLOUTIER BARBOUR, D.C. BROADFIELD.

11:15 Rank Differences in Male Bonobo (Pan paniscus) Reproductive Strategies. C.M. BRAND, A.J. HICKMOTT, K.J. BOOSE, F.J. WHITE.


11:45 Menopause is Common among Wild Female Chimpanzees in the Ngogo Community. B.M. WOOD, K.E. LANGERGRABER, J.C. MITANI, D.P. WATTS.

12:00 Countering infanticide: chimpanzee mothers are sensitive to the relative risks posed by males on differing rank trajectories. N.E. NEWTON-FISHER, A. LOWE.

Session 54

Functional Anatomy of the Pelvis, Limbs, and Jaws
Contributed Podium Presentations

Chair: Marcia S. Ponce de León

Studio 1/2/3

8:00 Linking manipulative abilities to hand morphology in bonobos. E.E. VEREECKE, M. VANHOOF.

8:15 Obstetric and Non-obstetric Determinants of Pelvic Sexual Dimorphism in Hylobatids. M.S. PONCE DE LEÓN, M. SCHERRER, C.P. ZOLLIKOFER.

8:30 The Effect of Obstetric Demand on the Magnitude of Sexual Dimorphism in the Birth Canals of Anthropoid Primates. E.A. MOFFETT.

8:45 Functional adaptations of primate forearm and leg muscle fiber architecture. A. HARTSTONE-ROSE, C.L. LEISCHNER, F. PASTOR, D. MARCHI.

9:00 Highly Protrated Hindlimbs and a Forward Foot Placement Increase Stability when Walking on Arboreal Substrates. A. ZEININGER, M.C. GRANATOSKY, D. SCHMITT.

9:15 Modifying Descent Behaviors in Response to Support Steepness in Primates. B.A. PERCHALSKI.
SATURDAY MORNING SESSIONS


9:45  Three-dimensional Subastragalar Rotation in Macaca using XROMM. S. KUO, N.J. GIDMARK, C.V. WARD.

10:00 Break.

10:30  Trabecular bone structural variation in the hominin femoral head. T.M. RYAN, K.J. CARLSON, L.J. DOERSHK, A.D. GORDON, T. JASHASHVILI, C.N. SHAW, J.T. STOCK.

10:45  Variation in the trabecular bone structure of the proximal humerus in four human populations. L.J. DOERSHUK, J.P. SAERS, J.T. STOCK, C.N. SHAW, K.J. CARLSON, T. JASHASHVILI, T.M. RYAN.

11:00  Feeding and Locomotor Systems Differ in Joint Excursions. C.F. ROSS, M.C. GRANATOSKY, A.B. TAYLOR, J. IRIARTE-DIAZ, E. MCELROY.

11:15  Cross-sectional geometry of the mandibular corpus and food mechanical properties in extant primates. S. COINER-COLLIER, A.C. PASQUINELLY, M.J. RAVOSA.

11:30  Dynamic chewing: A novel approach to analyzing three-dimensional motion sequences. M.F. LAIRD, P. O’HIGGINS.

11:45  Hard food for stiffer jaws: A comparative Finite Element Analysis of different primate jaws. J. MARCÉ-NOGUÉ, T.A. PÜSCHEL, T.M. KAISER.

12:00  Game of bones: intracranial and hierarchical perspective on dietary plasticity in mammals. E.M. FRANKS, J.E. SCOTT, J.P. SCOLLAN, K.R. MCABEE, M.J. RAVOSA.

Session 55

Later Homo Evolution
Contributed Podium Presentations
Chair: Libby W. Cowgill
Studio 8/9/10


8:15  How the origin of curiosity may have boosted hominin cultural evolution. C. VAN SCHAIK, S. FORSS, L. DAMERIUS.

8:30  Characterizing early Pleistocene paleohabitats in Eastern Europe: Results from four years of research in the Olteţ River Valley of Romania. S.C. CURRAN, D.L. FOX, N. GARRETT, A. PETCULESCU, C. ROBINSON, M. ROBU, C.E. TERHUNE.


9:00  Utility of deciduous lower first molar crown outlines in diagnosing Homo sapiens and Homo neanderthalensis. S.E. BAILEY, S. BENAZZI, J. HUBLIN.
SATURDAY MORNING SESSIONS

9:15  Rodeo Riders Revisited: A second look at Neandertal patterns of trauma. J. BAIN, L.W. COWGILL.


9:45  What we know (and don't) about human sinus variation and climate. T.C. RAE, L.T. BUCK, T. KOPPE.

10:00 Break.

10:30  The dynamics of fundamental niche parameter fluctuation for late Neandertals and Upper Paleolithic humans in Western and Central Europe. R.C. BIBLE.

10:45  Of hybrid mice and hominins: disintegration key to understanding hominin hybrid morphologies. K.A. WARREN, C.J. PERCIVAL, T. RITZMAN, B. HALLGRIMSSON, R.R. ACKERMANN.

11:00  The zygomatic root in recent and fossil hominids. G.W. WEBER, V.A. KRENN.

11:15  Khoe-San and the origins of modern human cranial diversity. P. GUNZ, S.E. FREIDLINE, J. HUBLIN.

11:30  The evolution of modern human endocranial shape. S. NEUBAUER, P. GUNZ, J. HUBLIN.

11:45  The evolution of human altriciality and brain plasticity in comparative context. A. GÓMEZ-ROBLES, J.B. SMAERS, C.C. SHERWOOD.

Session 56


Invited Poster Symposium

Organizers/Chairs: Sharon N. DeWitte, Rebecca Ferrell, Corey Sparks, Bethany Usher

Studio 7

James W. Wood’s 40+ year career in anthropology has taken him from the highlands of Papua New Guinea to the cliffs of the Orkney Islands, and his research has examined a variety of topics related to the biodemography of mortality and reproduction, population ecology, historical demography, and paleodemography. Regardless of topic, Dr. Wood has consistently emphasized analytical and theoretical rigor and creativity and has encouraged the same in his students and colleagues. He has thus directly and indirectly advanced the field in innovative ways. This poster symposium brings together Dr. Wood’s colleagues and former graduate students to present specific research projects and syntheses of work that represent the ways that he has helped shape and answer important questions in biological anthropology and other fields. The breadth of topics included in this session demonstrates the interdisciplinary nature of his work and the widespread influence he has had and will continue to have on the field of biological anthropology.
SATURDAY MORNING SESSIONS

9:00  Individual poster presentations (Posters #1-8).
10:30 Individual poster presentations (Posters #9-16).
1  Developmental effects on ovarian function. G.R. BENTLEY.
2  Disentangling Fecundability and Fetal Loss: Implications for Age-specific Fertility. D.J. HOLMAN.
3  More than just menopause: Processes of female reproductive aging. K.A. O’CONNOR, R.J. FERRELL, D.J. HOLMAN.
4  It ain’t necessarily “so”: James W. Wood, just so stories and the triumph of the proximate determinants approach in human reproductive ecology. D.P. TRACER.
5  Risk sensitive fertility behavior in historic Orkney, Scotland. C.S. SPARKS.
7  Household demography and land-use in a rice-farming village in Laos from 1971 to 2013. S. TOMITA, D.M. PARKER.
8  Households, Intensification and Well-being: James Wood and the Anthropology of Landscape. T.M. MURTHA.
9  Households at the edge of Europe: A reexamination. J.A. JENNINGS.
10 Parallel tracks: Cross-fertilization in studies of mortality and fertility throughout human history. L. SATTENSPIEL.
11 Experiments with extensions of the Siler model. T.B. GAGE, J.S. NAPIERALA.
12 James W. Wood’s contribution to the “Rostock Manifesto”. L.W. KONIGSBERG, S.R. FRANKENBERG.
14 Hidden Heterogeneity in Mortality – Perhaps not so Hidden. J.L. BOLDSEN, G.R. MILNER.
15 Sex differences in pre- vs. post-Black Death trends in survivorship. S.N. DEWITTE.
16 Short Children, Short Lives: Selective Mortality in Preindustrial and Prehistoric Communities. C. VIOLARIS, B.M. USHER.
SATURDAY MORNING SESSIONS

Session 57

Skeletal Standards: Documentation Software, Databases, and Online Digitization Resources Available to Researchers
Invited Poster Symposium
Organizers/Chairs: J. Christopher Dudar, Felix Engel, Leslie Williams
Studio 4/5

Standardization of traditional osteological research data and evolving digitization capture is increasingly in demand by physical anthropology for a variety of reasons, such as international repatriation claims reducing institutional collections, or study of remains excavated in the field and subsequently rendered inaccessible by other legislation/policies. In addition, large-scale research projects require the compilation of coherent and accessible data sets from different sources in the scientific community. Since the publication of “Standards for Data Collection from Human Skeletal Remains” (Buikstra & Ubelaker 1994), various infrastructures for coding and managing digital resources have been developed. Despite these efforts, a common system for making data available has not yet evolved in Physical Anthropology. In order to have a positive impact on research, digital data and digitization standards must meet a number of requirements. Specific capture protocols must be established to reduce inter-observer error and ensure the accuracy, reliability and therefore the comparability of data and imaging compiled. All digital documentation should be coded according to unified standards, which serve as exchange formats when pooling data from different sources. The resulting datasets must then be archived in a way that data structures will be understood and remain accessible into the future. These requirements might imply a rigid separation of standards and software to make data compatible between different systems and applications. However, software development has often accompanied the formulation of data collection standards and plays a key role in advancing their use. In particular standardized data is advantageous only in the presence of digital infrastructures, connecting otherwise separate research endeavors. This session reviews current approaches to data and digitization standardization and related issues, addressing the following questions: how can data and imaging standardization keep pace with methodological innovation? Who should define standards? What prevents large-scale adoption of digital data infrastructures?

8:30 Authors of even numbered posters present.
9:00 Software demonstrations.
10:30 Authors of odd numbered posters present.
11:00 Comments by discussant George Milner followed by discussion.


SATURDAY MORNING SESSIONS

4 Combining Multiple Osteological Recording Standards in a Single Database: Applications for International Research. L.L. WILLIAMS.

5 Make research explicit using RDFBones, an extensible digital standard for research data. F. ENGEL, S. SCHLAGER.

6 VIRT.OS: virtual osteological library for research, education and heritage preservation. H. COQUEUGNIOT, A. COLOMBO, B. DUTAILLY, J. BERNARD, P. DESBARATS, O. DUTOUR.

7 The On-line IMPACT Radiological Mummy Database: the quest for standardization in mummy studies. A.J. NELSON, A.D. WADE.


Session 58

Broadening Forensic Anthropology: Bringing East and Southeast Asia to the Forefront

Invited Poster Symposium

Organizers/Chairs: Matthew C. Go, Sean D. Tallman

Studio 6

While forensic anthropology has expanded considerably in its theoretical and methodological scope as a discipline, it is nevertheless limited by an over-reliance on data from North America and Europe. Current methods largely developed from American skeletal collections that were established in the late 19th to early 20th centuries have become standards in forensic anthropology. However, it is unlikely that these methods developed on individuals of African, European and Native American descent can be accurately applied to worldwide populations. This is especially true when considering the wide range of human skeletal variation and the increasingly diverse biocultural demographics that exist in modern metropolises globally. In particular, Asian individuals make up approximately 60% of the global population, and East and Southeast Asia represent two of the largest sources of contemporary diasporic communities (approximately 6% of U.S. and 8% of Canadian populations); however, such groups are significantly under-represented in forensic anthropological literature. Additionally, mass disasters, human rights violations, and armed conflict further necessitate the need for Asian-specific biological profile methods. The increasing number and availability of skeletal collections throughout Asia enables the development of forensic anthropological methods for these understudied populations, thereby addressing this mismatch between classic standards and the call for more representation from East and Southeast Asia. This symposium aims to highlight the diverse research on modern human skeletal variability in East and Southeast Asia that is ameliorating this problematic research gap. Thematic contributions include: the investigation of understudied collections in East and Southeast Asia; the establishment of novel and vital collections; the development of population-specific methods; and the evaluation and applicability of existing techniques. Taken together, these papers push forward the boundaries of current forensic anthropology theory, method, and practice by creating a more inclusive discipline that better reflects modern global demographics and better benefits local and global communities.

10:30 Discussant: Hallie R. Buckley.
SATURDAY MORNING SESSIONS


2. A large modern Southeast Asian skeletal collection from Thailand. N. TECHATAWEEWAN, P. TUAMSUK, Y. TOOMSAN, M. NAMKING, P. AMARTTAYAKONG, S. RATANASUWAN, N. TAYLES.


7. Understanding population-specific age estimation using documented Asian skeletal samples. J. KIM.


SATURDAY MORNING SESSIONS

Session 59

Human Biology and Genetics IV
Contributed Poster Presentations

Chair: Melanie A. Martin
Acadia

1. Genetic structure of populations from six cities in Iraq based on 15 STRs. S.D. ALDEN, M. SABBAH, M.H. CRAWFORD.


7. Exploring the Use of Wrist-based Fitness Monitors in Network Creation. T. JASKOWIEC, M.V. FLINN.

8. Fosterage on Adult Strength and Body Fat in Himba Women. S. PRALL, B. SCHELZA.


12. Overweight and obesity prevalence and tracking after 2 years follow up study in children and adolescents from Havana, Cuba. V. VAZQUEZ, J. GÁLVEZ, M. DÍAZ, D. NIEBLA.

13. Water Soluble Nutrient Intake and Leptin Phenotypes in the Kansas Mennonite. C.E. BARRETT, M. CRAWFORD, M. MOSHER.


15. Stable isotope analysis of hair from three peoples in modern Ethiopia shows clear differences among isotopic signatures related to subsistence regimes. C.G. COOPER, K. LUPO, A. ZENA, M.P. RICHARDS.

SATURDAY MORNING SESSIONS

17 Modern human hair, nail and breath isotopic signals and their relevance to diet assessment in the past. M. CORREIA, R. FOLEY, T. O’CONNELL, F. RAMÍREZ-ROZZI, M. MIRAZÓN LAHR.


20 The effects of high speed and weighted walking on head pitch and knee forces. J.T. WEBBER, D.A. RAICHLEN.


23 Differences between Human and Chimpanzee Costo-vertebral Joint Anatomy. W.É. CALLISON, D.E. LIEBERMAN.

24 Cranial and Mandibular Variation Preceding the Emergence of Agriculture in Eastern Europe and Western Asia. M. GALLAND, A. GROMOV, V. MOISEYEV, S. VASILYEV, E. VESELOVSKAYA, R.M. PINHASI.

25 The Neolithic transition at the Western edge of Europe. G.M. GONZALEZ FORTES, T. FRANCESCA, G. SILVIA, H. KIRSTIN, H. MICHAEL, B. GUIDO.

26 Harnessing the Power of the Genographic Project Database to Research Migrations in War-Torn Regions: Mitochondrial DNA Diversity in Afghanistan. M.G. VILAR, G. VILSHANSKY, D. MERRIWETHER, M. SHAMMOON POUR.

27 The Center on American Indian and Alaskan Native Genomics Research: Engaging Ethical, Legal, and Social Issues. J. LUND, S. KETCHUM, P. SPIKER, A. COBB-GREEATHAM, V. HIRATSKA, C.M. LEWIS.

28 Agent-Based Modeling of Geographic Barriers and Gene Flow in Fuego-Patagonia. V.M. BATTISTA.


31 Assessment of Cortical Thickness as a Non-Specific Indicator of Stress in Bone: An Experimental Animal Model. T.M. FRASIER, M.P. ALFONSO-DURRUTY, D. HEADLEY.

32 Population genetics analysis of Southeast Asian Ovalocytosis in a cohort of individuals from Island Melanesia. E.A. WERREN, H.L. NORTON, A.W. BIGHAM.
SATURDAY MORNING SESSIONS

Session 60

Fossil Primates and Environments
Contributed Poster Presentations

Chair: Mary T. Silcox
Acadia


5. Molar Size and Shape Variation in a Large Sample of Niptomomys (Microsyopidae, Primates) from the Paleocene-Eocene Thermal Maximum: One Species or Two? R.S. FELIBERT, P.E. MORSE, S.G. STRAIT, D.M. BOYER, J.I. BLOCH.


13. Now they're Everywhere: New Fossil Primate Remains from Bukwa, Uganda, Demonstrate that Catarrhine Primates are ubiquitous at East African Early Miocene Fossil Sites. S. COTE, L. MACLATCHY.


15. Experimental Study of Sheep (Ovis aries) Bone Weathering Under UV-B Light. S. HAILESELA SSE.
SATURDAY MORNING SESSIONS

16 Zygomaxillary morphology of *Macaca* cf. *robusta* (Middle Pleistocene, South Korea) and its phylogenetic and evolutionary implications. T. ITO, Y. LEE, T.D. NISHIMURA, M. TAKAI.


19 Proximal Humeral Evidence for Partitioning of Locomotor Substrates by four Catarrhine Species from the Middle Miocene of Maboko Island, Kenya. M.L. MCCROSSIN, B.R. BENEFIT.

20 Paleoclimate and Paleoenvironmental Reconstruction of the Early Miocene Fossil Site Koru 16 (Nyanza Province, Western Kenya) and Its Implications for Hominoid Evolution. K. OGINGA, D. PEPE, W. LUKENS, J. LUTZ.

21 New Material of *Turkanapithecus* and *Simiolus* from West Turkana, Kenya. J.B. ROSSIE, S. COTE.

22 Ecomorphology of the fossil monkey community of the Hadar and Ledi-Geraru sites, Afar Region, Ethiopia. M. VERGAMINI, A.L. RECTOR, K.L. LEWTON.

23 *Oreopithecus bambolii* is still an “enigmatic anthropoid”. C. ZANOLLI, D.M. ALBA, M. DEAN, J. FORTUNY, R. MACCHIARELLI, L. ROOK.

24 Taxonomic Diversity among Central European Miocene Hominids. D.R. BEGUN, M. BÖHME.


26 Three-dimensional analysis of the distal humerus in catarrhines with implications for Miocene locomotor diversity. F. MCGECHIE, S. KUO, C.V. WARD.

27 Tracking hylobatid taxonomic diversity from molar morphometrics. A. ORTIZ, C.I. VILLAMIL, C.M. KIMOCK, K. HE, T. HARRISON.


29 Discerning Hominid Taxonomic Variation in the Southern Chinese, Peninsular Southeast Asian, and Sundaic Pleistocene Dental Record. T.R. AVALOS.

30 Cranial Variation and Taxonomic Diversity among Late Miocene Hominoids from Yunnan, China. J. KELLEY.

31 Intraspecific Variation Among Plio-Pleistocene Primates of South Africa. R. STUDER-HALBACH.
SATURDAY MORNING SESSIONS

Session 61

Bioarcheology and Paleopathology: Violence, Activity, Infection, and Congenital Conditions

Contributed Poster Presentations

Chair: Lori A. Tremblay Critcher
Acadia

1 Analysis of central american machete cut marks: an application of microprofilometry and micro-computed tomography. S. MITCHELL, A. NOVOTNY, P. LEWIS.

2 Bioarchaeological Analysis of Weapon-related Trauma in an Early Medieval Population from Central Europe. L. HOSEK.


4 Infantile Cortical Hyperostosis or Disseminated Hematogenous Osteomyelitis? The Case of a High Status Child from Huanchaco, Peru. K.E. TSCHINKEL, G. PRIETO, J. VERANO.

5 A proposed method for scoring subadult enthesal morphology. J.L. PALMER, A.L. WATERS-RIST, A. LIEVERSE.

6 An Analysis of Gender Constructs in an Early Bronze Age Population Through Principal Coordinates Analysis of Scored Enthesal Changes. M. TOUSSAINT, P. WŁODARCZAK.

7 Testing the Coimbra Method: Discovering Possible Causes of Fibrocartilaginous Enthesal Change. K.C. JORGENSEN, E.F. KRANIOTI.


9 Biological Stress Indicators Among Historically Documented Populations (1913-1935): An analysis of Enthesal Changes and Degenerative Joint Disease. A.P. ALIOTO.


11 An Examination of Sex Differences in Pathological Conditions of the Spine in a Historic Population from Milwaukee, Wisconsin. L.A. TREMBLAY CRITCHER.

12 Functional associations between Osteoarthritis and Vertebral Osteophytosis in Prehistoric Atacama Oases, Chile. R. LOPEZ BARRALES, V. LLAGOSTERA, W. NEVES, M. HUBBE.

13 Comparative analysis of osteoarthritis and implications for division of labor in two prehistoric skeletal populations. A.L. STANCO.

14 Palaeopathological Indicators of Mounted Pastoralism during the Mongolian Bronze Age. S.K. KARSTENS, J. LITTLETON, B. FROHLICH, T. AMGALUNTUGS, P. KRISTEN.

15 Bioarchaeology of Violence and Disease at Forbush Creek, North Carolina. S. BERGER, D. HUTCHINSON.

16 Approaching studies of multiple traumata from the leg up: An examination of the effect of prior injury location on patterns of subsequent injury in 18th and 19th century London. D.A. BOYD, C.F. MILLIGAN.
SATURDAY MORNING SESSIONS

17 Patterns of Trauma and Violence among Nomadic Pastoralists at the Nileke Site (500-221 BCE), Northwestern Xinjiang Province, China. C. LEE, A. BELTRAN-BURGOS, M. ALVAREZ, A. TORRES.

18 Evidence for violence along the Silk Road (206 BCE-420 CE), in Xinjiang Province, China. M. JOHNSON, M. SANTOS, A. GARCIA, C. SEPULVEDA, C. LEE.

19 Violence in 18th and 19th Century London: Analyzing Trauma Prevalence by Cemetery, Age, and Sex. P. BANKS, D. MILLER.

20 Conflict and warfare at the Chandman site (700-400 BCE), in northwestern Mongolia. D. FORNELLI, Y. GONZALEZ, P. ANG, C. CHICKANIS, C. LEE.

21 Building America on Broken Bones: Comparative Analysis of Antemortem Fracture Patterns of Three Contemporary American Poorhouse Cemeteries. J.F. BYRNES.

22 Trauma Prevalence among Enslaved African Males and Females between the 17th and 19th Centuries in the United States. K. WILLIAMS.

23 Evidence of an Iron Age Massacre at the Sandby borg Ringfort. C. ALFSDOTTER, A. KJELLSTRÖM.


25 Osteomas on the cranial vault: Survey of presence and frequency. Erin N. Hall1 and David R. Hunt2. 1Department of Anthropology, Catholic University, 2Department of Anthropology, Smithsonian Institution. E. HALL.


27 Ace in the Hole: Investigating High Levels of Glenoid Fossa Pathologies in Comparative Samples from the Americas. D.L. NEIDICH, S.A. JOLLY.

28 Effects of age, activity, and obesity on osteoarthritis in a modern European-American skeletal sample. A.P. WINBURN.

29 Limb Joint Degenerative Joint Disease Prevalence in German Populations from the Little Ice Age (AD 1300-1850). E.J. WADDLE, K. WEINRICH, L.L. WILLIAMS.


31 Evidence for Cancer and Syphilis in a Prehistoric Native American Population from North Carolina. C.N. WAMSER, C.A. JUAREZ.

32 The case of a primary malignant bone tumor in a pre-Columbian skeleton from Cerro Brujo, Bocas del Toro, Panamá. N.E. SMITH-GUZMÁN, J.A. TORETSKY, R.G. COOKE.

33 Unidentified, multifocal joint disease from the Slovenian Kranj skeletal series. V. VYROUBAL, M. ŠLAUS, Ž. BEDIĆ, A. PLETERSKI, B. ŠTULAR.

34 The Effect of Leprotic Infection on the Risk of Death in Medieval Rural Denmark. K.S. KELMELIS, M.H. PRICE, J.W. WOOD.

35 Growing Pains: Developmental origins of tuberculosis and periodontal disease in Lisbon’s working poor during the turn of the 20th century. J.C. WHITE.

SITURDAY MORNING SESSIONS

37 An Examination of the Osteological Distribution of Leprosy Lesion Types: Results from a Meta-analysis on the Paleopathological Literature on *Mycobacterium Leprae*. M.A. SCHREIER.


41 Differential Diagnosis of a Possible Endocrine Disorder in an Ancient Maya Skeleton from the Chan Site, Belize. A. NOVOTNY, S. MITCHELL.


44 Craniosynostosis and Inheritance: A Bioarchaeological review in the Middle Tennessee River Valley. B.S. THOMPSON.

45 Sixth Lumbar Sacralization and Familial Relatedness among Tiwanaku Individuals Buried at M70 in Moquegua, Peru. S.K. BECKER, B.E. HERNDÓN, G. TORRES MORALES, P.S. GOLDSTEIN.

46 Pre-Axial Polydactyly in a Mid-Holocene Human Skeleton from Gobero, Niger. S.E. BURNETT, C.M. STOJANOWSKI.

47 The Incidence and Variance of Metopism in Three Medieval British Populations. C.L. BURRELL, S. GONZALEZ, J.D. IRISH.

48 Extraction of cortical area thickness profiles from CT-scanned femurs. J. DUPEJ, A. LACOSTE JEANSON, J. BRŮŽEK, J. PELIKÁN.

49 The Effect of Mobility Impairment on Femoral Trabecular and Cortical Bone Structure. D.S. GLEIBER, D.J. WESCOTT.

50 Eastern States Mental Hospital: Does the Presence of Heavy Metals as Evidenced by pXRF in the Bone and Teeth Indicate use of “Heroic Medicine”? P.E. KILLORAN.

51 Age, Exposure, and Disease: An Osteological Analysis of Three Juvenile Individuals from the Helton Site in the Lower Illinois River Valley. A. ROSSILLO.

52 Identification of *Mycobacterium tuberculosis* in dental calculus from the Smithsonian's Huntington Collection. S.E. YOUNG, A.L. WARNER-SMITH.

53 Prevalence of Degenerative Joint Disease and Schmorl’s nodes in Little Ice Age German populations. K. WEINRICH, E. WADDLE, L.L. WILLIAMS.

54 Assessment of the thoracolumbar transition in modern humans. E.O. CHO, T.K. NALLEY, E.R. MIDDLETON, C.V. WARD.
Primates and Dietary Ethanol: Evolutionary Outcome, or Modern Accident?
Invited Podium Symposium
Organizers/Chairs: Nathaniel J. Dominy, Robert Dudley
Bissonet

Increasing recognition of the natural occurrence of ethanol within fruits and nectar has prompted speculation concerning the extent of dietary ingestion of this substance by various animals, including primates. Many animals (including modern humans) exhibit sensory and behavioral responses to ethanol-containing foods, but the broader ecological significance as well as evolutionary origins of these responses remain remarkably unstudied. Paleogenetic reconstruction of ethanol-metabolizing enzymes, demonstrable fermentation of sugars within fruits and nectar, and behavioral responses of some primes to ethanol are all consistent with ancestral exposure of hominids, and possibly all primates, to this most widespread of the psychoactive compounds consumed by humans today. Low-level alcohol consumption may thus characterize all nectarivores and frugivores. This symposium will review recent empirical evidence for the natural ingestion of ethanol by primates, the origins of directed fermentations, and assess the possible consequences for routine drinking behavior in modern humans, including excessive consumption.

2:30  Are frugivores and nectarivores boozers too? R. DUDLEY.
2:45  Toxin Evolution for Organismal Defense: Is Ethanol a Special Case? R. SULLIVAN.
3:00  Aliphatic esters in primate-consumed fruits: a reliable cue for fruit quality? O. NEVO, K. VALENTA.
3:15  Spider monkeys and the functional ecology of olfactory sensitivities to alcohol. L. HERNANDEZ-SALAZAR, M. LASKA.
3:30  The 'Drunken Monkey' Hypothesis and spider monkeys (Ateles geoffroyi): Further Evaluation. C.J. CAMPBELL, V.R. WEAVER, R. DUDLEY.
3:45  Hominids adapted to metabolize ethanol long before human-directed fermentation. M.A. CARRIGAN.
4:00  Nectar and the genetic basis of ethanol metabolism in Euarchonta. A.D. MELIN, G. DUYTSCHAEVER, K. WELLS, P. ONG, N.J. DOMINY.
4:15  Some Strepsirrhines Prefer Alcohol. N.J. DOMINY, S.R. GOCHMAN.
4:30  Wild chimpanzees consume alcohol using tools. K.J. HOCKINGS, T. MATSUZAWA.
4:45  Origins of yeast domestication, as revealed from wine. J. LEGRAS.
5:00  Discussant: Erin R. Vogel.
A major challenge to scientific researchers is effectively disseminating and communicating their work to diverse audiences. If we are to motivate change, human understanding, or explain the importance of our research to funding bodies and public policy makers, we must find ways to communicate complex concepts and findings to non-specialists. In this session, all speakers have agreed to the rules of the Up Goer Five challenge - to describe their research using only the top 1,000 most common words in the English language. Presentations will be followed by a moderated discussion about the role of language in physical anthropology and science communication.

4:45 Dogs go places they are not from and eat weird animals in their homes: Reasons for fewer weird animals. K. VALENTA, Z.J. FARRIS, S. ZOHDY.

4:50 How to tell people who are from a place and people who are not from that place by how they are put in the ground after death and from things in their teeth. M.A. KATZENBERG, Am OFFENBECKER.

4:55 Why Eating Flies and other very tiny Animals was Probably Important to No-longer-living, Human-like Animals. J.J. LESNIK.

5:00 How Much Food do Animals Need to Walk, Run, and Climb? This Much. H. PONTZER.

5:05 Tiny Old Dead Human-Like Animals Found in Rocks and What They Tell Us about How Life Changes Over a Long Time. A.L. ATWATER, E.C. KIRK.

5:10 Are jumping tree animals getting smaller over time because humans catch and eat the larger ones? A.P. SULLIVAN, L.R. GODFREY, R. LAWLER, T. RYAN, G. PERRY.

5:15 The relationship between the soft pink things and the hard white things. K.N. RABEY, R. MOSKAL, K.G. HATALA, E. WILLIAMS-HATALA.

5:20 Little Green Men, Huge Angry People, and Across the Water Visits: Very Wrong Things People Say about Old Times in the New World. R.W. SMITH, J.A. RAFF.

5:25 Which tree animal types live in areas together, and why? In part because of people things. K.H. BANNAR-MARTIN.
SATURDAY AFTERNOON SESSIONS

Session 64

Human Adaptive Variation/Integrative Approaches
Contributed Podium Presentations
Chair: Courtney L. Meehan
Riverview 1


3:15 Deflating the “Good Genes Hypothesis”: Asymmetry may not be an honest indicator of genetic quality in humans. J.D. White, A.A. Zaidi, C.M. Bergey, T. Gonzalez-Zarzar, P. Claes, M.D. Shriver.


SATURDAY AFTERNOON SESSIONS

Session 65

Primate Evolutionary Morphology
Contributed Podium Presentations

Chair: Kimberly Congdon
Studio 1/2/3

2:30 Estimating primate morphological ancestors: Implications for the analysis of hominoid cranial evolution. N. VON CRAMON-TAUBADEL, L. SCHROEDER.


3:00 Processes that generate modularity in the mammalian skull: implications for primate skull evolution. N. SINGH, R.H. REEVES, J.T. RICHTSMEIER.

3:15 Trait Variation, Convergence, and Ecogeographic Patterns in Macaca Crania. S.J. WILLIAMS, B.M. AUERBACH.

3:30 The evolution of hominoid cranial diversity: a quantitative genetics approach. L. SCHROEDER, N. VON CRAMON-TAUBADEL.

3:45 Running behavior predicts brain size in primates. Am DELOUIZE, F.L. COOLIDGE.

4:00 Functional Morphology of the Hominoid Ankle Joint: Locomotor Activity and Shape Variation of the Tibial Plafond. M.A. FRELAT, T. JASHASHVILI, K.J. CARLSON.

4:15 Trabecular anisotropy in the primate lower ilium reflects locomotor mode. D. SHAPIRO.

4:30 Locomotor mode and kinematics of the head, neck, and trunk in Varecia variegata. N. GRIDER-POTTER, A. ZEININGER.

4:45 Does increased contact with an arboreal substrate result in decreased digital grasping pressures? K.A. CONGDON.

5:00 Automatic segmentation of morphological structure into biologically corresponding features: implications for systematics and ecomorphology. E.L. FULWOOD, T. GAO, I. DAUBECHIES, D.M. BOYER.

5:15 Which Tooth Best Predicts Diet using Dental Complexity in Fossil Primates? S. PINEDA-MUNOZ, I.A. LAZAGABASTER.

5:30 The role of the hypocone in primate diversification: a test of the key-innovation hypothesis. J.E. SCOTT.

5:45 Dietary properties, chewing patterns and cyclical loading: It's wicked hard always being tough. M.J. RAVOSA, S. COINER-COLLIER, K.R. MCAbee, A.L. FLING.

6:00 Exudate-feeding in Lorisidae: Evolutionary divergence in the toothcomb and lower molar. Am BURROWS, A. HARTSTONE-ROSE, L.T. NASH.
In 1977 Elwyn Simons moved from Yale University to become the Director of the Duke Primate Center. At that time he also established the Division of Fossil Primates (DFP) in order to enable and promote the study of primate evolutionary history at Duke University. When Simons arrived in Durham he already had an established field program in the Fayum Depression in Egypt where 30-37 million year old iconic fossils related to anthropoid origins were being found. Subsequently, in 1983 he initiated field work in Madagascar seeking subfossil specimens to document the giant lemurs that had once inhabited the island. In addition, whenever possible Simons augmented the collections at the DFP by trips to Wyoming to collect early Eocene fossil primates from the Willwood Formation. Also, occasional trips to India in search of Miocene monkeys and apes were interspersed along the way. All told, Simons and his trusted colleague Prithijit Chatrath led expeditions that amassed nearly 60,000 specimens over a 40 year history – of these over 35,000 are now housed at the DFP while the rest are stored in Cairo, Haritalyangar and Antananarivo. The DFP collections are unique and represent by far the most complete collection documenting the origination and radiation of early anthropoid primates anywhere in the world. Additionally, the collections from Madagascar are large and wide-ranging rivaled only by the collections at the American Museum of Natural History in New York, the Museum National d'Histoire Naturelle in Paris and those in Madagascar. Over 200 students and colleagues have been involved with field work over the past 40 years. This symposium features some of the students and professionals who have been directly responsible for amassing and studying the DFP collections over the years and highlights the discoveries that have influenced and advanced the sciences of primate paleontology and paleoanthropology.

4:00 Discussants: John G. Fleagle and Laurie Godfrey.


3. A multi-isotope investigation of extinct monkey lemurs (Archaeolemur) from Antsirondoha cave, Madagascar. B.E. CROWLEY.


8 The impact of fossil data on inferences of lemur biogeographic history. J.P. HERRERA.
9 Are there any African Platyrrhines? R.F. KAY, B.A. WILLIAMS.
10 Evaluating Ecological Change in Western Madagascar: A Paleontological Perspective. K.M. MULDOON.
12 Covariation in life history, body and brain size, and molecular substitution rate across the diverse radiation of extant and extinct (megafaunal) lemurs. G. PERRY, L. KISTLER, G.T. SCHWARTZ, L.R. GODFREY, L. ORLANDO.
14 Exploring an Undersampled Interval in Primate Evolutionary History: Insights from the Late Oligocene Nsungwe Formation of Tanzania. N.J. STEVENS, E.M. ROBERTS, P.M. OCONNOR.
15 Bayesian Tip-dating of Caviomorph Rodent Phylogenies provides New Age Estimates for South America's oldest Platyrhines. D. DE VRIES, E. SEIFFERT.

Session 67

The Paleobiology of Upper Paleolithic/Later Stone Age Humans
Invited Poster Symposium
Organizers/Chairs: Erik Trinkaus, Sébastien Villotte
Studio 4/5

The past few decades of paleoanthropological research has seen a focus on the human paleobiology (and mortuary analysis) of the Upper Paleolithic / Later Stone Age (~40 – ~10 ka). These people have been increasingly viewed in terms of dynamic and culturally complex forager populations in a changing global climate, instead of being studied merely in terms of the establishment of modern versus archaic human biology. These analyses have been concerned with trends through this period in shifting body proportions, reflections of activity levels, growth and development, changing levels and patterns of paleopathology, aspects of dental structure and wear, skeletal reflections of diverse mortuary behaviors, patterns of population diversity and dispersal, and adaptations to diverse environments. The research has been greatly augmented by detailed reassessments of long-known important human skeletal samples, combined with the analyses of newly discovered remains. This symposium brings together an international group of paleoanthropologists addressing these issues with new data, new analyses and new fossils. It is designed to foster discussion on the biology and behavior of these Late Pleistocene early modern humans, the people who reflect both the heyday of highly successful global hunter-gatherers and provided the background for the increased sedentism of the early Holocene.

2:30 Introduction: Erik Trinkaus and Sébastien Villotte.
5:00 Discussant: Brigitte Holt.
1 Upper Paleolithic and recent human brain variation and evolution. A. BALZEAU, D. GRIMAUD-HERVÉ, L. ALBESSARD.
SATURDAY AFTERNOON SESSIONS

2 Dental developmental patterns and tooth internal structure in European Upper Paleolithic humans. P. BAYLE, M. LE LUYER.

3 Late Pleistocene modern human diversity in Central Africa. I. CREVECOEUR, A. BROOKS, I. RIBOT, P. SEMAL.

4 Effects of technology on Upper Paleolithic human diet. S. EL ZAATARI, F.E. GRINE, P.S. UNGAR, J. HUBLIN.

5 Later Stone Age infant remains from the Grotte des Pigeons at Taforalt. L. HUMPHREY, A. FREYNE, A. BOUZOUGGAR, N. BARTON.

6 Evidence for Subsistence Shifts in the Late Upper Paleolithic of Europe: Caries and Antemortem Tooth Loss. S.A. LACY.

7 Dental remains of Late Pleistocene European foragers: external and internal characterization. M. LE LUYER.

8 Variation among inferred habitual activity in Upper Pleistocene modern humans. O.M. PEARSON, E.C. HILL, V.S. SPARACELLO.

9 The Upper Paleolithic human remains from the Troisième caverne of Goyet (Belgium). H. ROUGIER, I. CREVECOEUR, A. GÓMEZ-OLIVENCIA, P. SEMAL.

10 Infracranial variability among the Magdalenian people of southwestern France. M. SAMSEL, C.J. KNÜSEL, S. VILLOTTE.

11 Paleobiology, Competition and Migration in Late Pleistocene Southeast Asia. A. ZACHWIEJA, L.L. SHACKELFORD.


13 Late Upper Paleolithic funerary behavior at Arene Candide Cave (Finale Ligure, Italy). V.S. SPARACELLO, S. ROSSI, P. PETTITT, C.A. ROBERTS, J. RIEL-SALVATORE, V. FORMICOLA.

14 Early and Middle Epipalaeolithic human remains from Jordan: implications for understanding late Pleistocene population and foraging complexity in the Levant. J.T. STOCK, E. POMEROY, T. DAVIES, T. RICHTER, L. MAHER.

15 Population movements throughout northern Africa during the Pleistocene-Holocene transition. C.M. STOJANOWSKI, R. BOOKMAN, C.L. CARVER.

16 Puzzling Pairs from Pavlov: Mortuary Manipulation in the Mid Upper Paleolithic. E. TRINKAUS, P. WOJTAL, J. WILCZYNSKI, S. SAZEOVA, J.A. SVOBODA.

17 Gravettian human remains from Gargas (Hautes-Pyrénées, France). Implication for biological diversity and mortuary practices during the Upper Paleolithic. S. VILLOTTE, P. BAYLE, S. NATAH, C. VERCOUTÈRE, C. FERRIER, C. SAN JUAN-FOUCHER, P. FOUCHER.

18 Biological and Cultural Factors influencing Non-masticatory Dental Wear in Early and Late Upper Paleolithic Humans. J.C. WILLMAN, K.L. KRUEGER.
SATURDAY AFTERNOON SESSIONS

Session 68

Stable Isotope Advances in Studies of Stress and Disease
Invited Poster Symposium
Organizers/Chairs: Sammantha N. Holder, Laurie J. Reitsema
Studio 6

This session explores recent advances and future prospects in the application of stable isotope data to human paleopathology. Stable isotope analysis of human remains is widely used in anthropology to reconstruct past diet and migration, based on the adage “You are what you eat.” In addition to diet, pathological conditions and physiological stress affecting fractionation, uptake, and distribution of isotopes throughout the body also create isotopic variation in tissues. Although this additional source of isotope variation complicates dietary reconstructions, it provides novel opportunities for studying past stress and health in archaeological remains. The last 10 years have seen a surge in research exploring the utility of stable isotope ratios as indicators of malnutrition, stress, and disease. This symposium assembles some of this research into in vivo fractionation and distribution of isotopes, and addresses a persistent question: How may stress-induced fractionation and stable isotope variation shed light on questions of past health, when the tissues sampled are relatively inert? Subjects of particular interest include sampling strategies, tissue turnover, theoretical issues of health and disease, and individuals or groups with known histories of ill-health.

2:30 Individual poster presentations and discussion led by Anne Katzenberg.


4 The Impact of Caloric Restriction on Tissue Isotopic (Nitrogen, Carbon and Oxygen) Values. N.C. TUROSS.

5 Early Life Stress at the Mission Santa Catalina de Guale: Combining Enamel Defects and Incremental Isotope Analysis of Dentin to Explore Nutrition as a Source of Stress. C.J. GARLAND, L.J. REITSEMA.

6 Sub-seasonal oxygen isotope variations in human bone reflect changes in drinking water. C.M. MAGGIANO, C. WHITE, R. STERN, F.J. LONGSTAFFE.
SATURDAY AFTERNOON SESSIONS

Session 69

Functional Anatomy of the Limbs
Contributed Poster Presentations

Chair: Aidan A. Ruth
Acadia


Intrinsic manual proportions affect the biomechanics of suspension. K.R. RAMIREZ, H. PONTZER.

Morphological Correlates of Locomotor Mode in the Volar Pads of Strepsirrhine Primates. A.K. KINGSTON.

Hand and foot postures during vertical clinging and grasping: implications for digit length in primates. L.E. JOHNSON, D. SCHMITT.

Callebute trabecular structure in terrestrial and arboreal primates and marsupials: implications for the locomotor behaviour of the extinct wombat, Phascolomys mitchelli. D.A. SFORZIN, V.C. PILBROW, D.C. ACKLAND.

Laterization in the Slow Loris (Nycticebus spp.) 'Venom Pose'. S.A. POINDEXTER, K. NEKARIS.

Geometric morphometric analysis of variation in human hallux metatarsal periosteal and endosteal shape in rural and urban populations. L.A. WILSON, I. DE GROOTE, L.T. HUMPHREY.

A geometric morphometric analysis of pollical metacarpal shaft morphology in Gorilla, Pan, and Homo. L.A. BOWLAND, J.E. SCOTT, B.A. PATEL, M.W. TOCHERI, C.M. ORR.


Walking in their shoes: A multidisciplinary approach to understanding tarsal coalition in Medieval Exeter. M.E. ALBEE.

Kinematic Effects of Body Size Differences during Walking. M.C. FOX, K.K. WHITCOME, J.D. POLK.

Ontogenetic Changes and Adult Variation in Human Metatarsal Torsion. A.N. HEARD-BOOTH, A.D. KEMP.

Incorporating Spatial Analysis into a Whole-epiphysis Approach to Studying Trabecular Bone Structure in the Distal Femur of Homo, Pan, Pongo, and Papio. S.M. SUKHDEO, T.M. RYAN.

Session 70

Human Skeletal Biology: Population History and Beyond

Contributed Poster Presentations

Chair: Molly K. Zuckerman

Acadia

Two recently excavated Megalithic gallery graves in Erwitte-Schmerlecke (North Rhine-Westphalia) from the Wartberg Culture (3500-2800 BC) with focus on the investigation of their builders. S. KLINGNER, M. SCHULTZ.
2 Reconstructing the monastic lifestyle: Bioarchaeological investigation of living conditions in a religious community based on human skeletal remains from el-Ghazali, Sudan. J.A. CIESIELSKA, R.J. STARK.

3 Mortality Effects of Discrimination in Post-Medieval Ireland. M.A. CLARK.

4 Skeletal Height Estimation in Medieval Bioarchaeological Collections from Piedmont, Italy. N.M. WEISS, G. VERCOLLOTTI, R. BOANO, M. GIROTTI, S.D. STOUT.

5 Implementing Intersectionality in Bioarchaeology: A Study of Sex and Status at Roman Winchester. L. AVERY, T.L. PROWSE, M.B. BRICKLEY.

6 The Rise of an Empire, the Decline of its People: Stature and body proportion in Roman Britain. L.J. WALTHER, R.L. GOWLAND.


8 An Interdisciplinary Project on the Neolithic Population of Modern Switzerland. I. SIEBKE, A. FURTWÄNGLER, A. HAFNER, J. KRAUSE, S. LÖSCH.

9 Anthropological and bioarchaeological approaches to two medieval populations from Reigoldswil (Switzerland). V. TRANCIK PETITPIERRE, A. HAFNER, S. LÖSCH.

10 Keep your head high - Mesolithic crania mounted on stakes at Kanaljorden, Sweden. A.S. KJELLSTRÖM, S. GUMMESSON, F. HALLGREN.

11 Urbanization's Impact: Health and Survivorship Patterns in Medieval Poland. T.K. BETSINGER, S. DEWITTE.

12 Preliminary findings on relationships among neural canal dimensions, terminal adult stature, and risk of death in a medieval Polish sample at Bezlawki. A. GRUENTHAL-RANKIN, M. RAMSIER, A. KOPERKIEWICZ, M. POLCYN.

13 Sexual dimorphism of the upper face, mandible and palate in elite of early medieval population from the Central Europe. Š. BEJDOVÁ, J. DUPEJ, J. VELEMÍNSKÁ, L. POLÁČEK, P. VELEMÍNSKÝ.


15 Bio-cultural analysis of an early 18th century noble family in Transylvania, Romania. K. ZEJDLIK, Z. NYÁRÁDI, R. SANDQUIST, A. GONCIAR.


17 Biological distance between flexed and supine burials at the ancient Greek city of Himera using dental nonmetric data. J. CZAPLA, B. KYLE, S. VASSALLO, P. FABBRI, L.J. REITSEMA.

18 The Bioanthropology of the inhabitants of the Late Middle to Early Late Bronze Age at Megiddo, southern Levant. M. FAERMAN, M. MARTIN, P. SMITH.

19 Assessing the role of migration during a cultural transition (fourth century BC to AD sixth century): Strontium isotope results from Samtavro cemetery, Central Georgia. N. LANGOWSKI, V. PILBROW, R. MAAS.
SATURDAY AFTERNOON SESSIONS

20 Are the socially recognized ethnic groups of northern Pakistan meaningful biological entities for reconstruction of population histories? A dental morphology investigation. M. TARIQ, H. AHMAD, B. HEMPHILL.

21 Historic era immigrants to northern Pakistan? A dental morphology investigation of Pathans, Gujars and Kohistanis. I. ULLAH, H. AHMAD, B.E. HEMPHILL.

22 Fetal Remains in Bioarchaeology: A Case Study from the 19th Century Spring Street Presbyterian Church. M.A. ELLIS.

23 Perinatal death - a multitude of fetal and neonatal burials at the churchyard of Michelberg, Austria. M. BERNER, A. STADLMAYR, D. PANY-KUCERA, E. RAMMER, E. LAUERMANN.

24 Biological and cultural evidence for social maturation at Point Hope, Alaska: Integrating data from archaeological mortuary practices and human skeletal biology. L. JUSTICE, D.H. TEMPLE.

25 Age Related Changes in Trabecular Bone Structure in a Sample of Early Agriculturalists. D.J. KLEBECK, T. RYAN.

26 Anterior femoral curvature tracks decreasing mobility from Woodland to Mississippian. A.Y. ABU DALOU.

27 Postcranial Robusticity of Two Precolonial Brazilian Coastal Shellmound Builders Groups Relative to Differences on Daily Activities and Mobility. A.D. SALLES, M. KONS KIER, E.T. TONOMURA, A. LESSA.

28 From the Shenks Ferry people to the Susquehannocks: Inferring population history in the Lower Susquehanna Valley from dental morphology. D.E. EHRLICH.

29 Bioarchaeological Assessment of Childhood Morbidity during the Coles Creek Period in the southern Lower Mississippi Valley. G.A. LISTI.

30 Steele: An Examination of Early Archaic Cre mations from Southern Indiana. R. QUATAERT, C.W. SCHMIDT, C. TOMAK.

31 Historic and Skeletal Mortality of the Mississippi State Asylum. Am PLEMONS, M.L. DAVENPORT, N.P. HERRMANN.


36 The Bioarchaeology Field and the Study of Ancient Egypt - Development and Characteristics of Academic Publications. L.B. FARIA.

37 Lost and Found: Forgotten Cemeteries Under the City of Milwaukee. S.A. BONCAL.

38 Ave Imperium! Mortui te salutamus: Bioarchaeological Research in the Roman Period Black Sea Region, Turkey. K.E. MARKLEIN.
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39 Does the Number of Nuclear Microsatellite Loci affect Genetic Distances? Implications for Bioarchaeological Studies. A.R. HUBBARD.


42 Craniometric variation of Early Horizon Native Californians: New perspectives on the Howells Cranio-Facial Database. W.B. REINER, L.J. HLUSKO.

43 Intra- and inter-population affinities among the Medieval English: a preliminary cranio-metric study. S. VALORIANI, J.D. IRISH, S. GONZALEZ, M. BORRINI.


45 The Biological Embodiment of Public Health Values: A Case Study from Two Working Class English Populations. S.A. MATHENA-ALLEN.


47 Mobility at Neolithic Çatalhöyük: Temporal and Ontogenetic Context. E.M. GAROFALO, C.B. RUFF, C.S. LARSEN.

Session 71

Forensic Anthropology and Bioarchaeology: Sex, Comingling, Postmortem Interval, and Decomposition

Contributed Poster Presentations

Chair: Nicholas P. Herrmann

Acadia

1 Measuring bacterial communities in the humerus to estimate PMI. S.E. BIVENS, E. DAVID, N. RUBLE.

2 A metric approach to assessing sex in the Erie County Poorhouse Collection. B.A. KENYON, S.E. BAUMGARTEN, J.E. SIRIANNI.

3 The accuracy of tibial nutrient foramen vs. midshaft measurement location for sex determination. A.C. DAFOE, D. HUNT.


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6 Estimation of Sex in Fragmentary Archaeological Populations: A Test of Post-Cranial Estimation Methods. M.C. STEWART, G. VERCELLOTTI.


8 Are metacarpals handy indicators of sex? The applicability of metacarpal metrics in sex determination. K.A. ROBINSON, T.K. BETSINGER, J.M. ULLINGER, D.R. TARQUINIO.


11 Postcranial Sectioning Points Derived from the Terry Collection for Utility in Sex Estimation in Historical Contexts. D.D. GRAHAM, A.K. COSTELLO, K.E. BRUN.

12 Reevaluating morphological sex estimation methods for the creation of a free user database. A.R. KLALES, S.J. COLE.


14 Historical Bioarchaeology and DVI: Data Integration of the Mississippi State Asylum Burial Sample and Archival Records. N.P. HERRMANN, M.L. DAVENPORT, Am. PLEMONS, G.L. HARLEY, A.D. SHAEFER, M.K. ZUCKERMAN.

15 Sorting Out the Past: An evaluation of MNI Methods. S. KUISMANEN.

16 Harlyn Bay: A Case Study in the Analysis of a Curatorially Commingled Skeletal Collection. Am. JORDAN.


18 Retrospective correspondence analysis of a commingling event. J.L. CAMPBELL.

19 Joint articulation in resolving commingled human remains: Osteometric analysis of the acetabulo-femoral and tibio-femoral articular surface areas. E.W. PARKINSON, E. CRAIG-ATKINS.

20 Bacterial Succession in Bone Marrow as a Potential Tool for Estimating PMI. C.T. FAKHRI, L. SPOONIRE, N. RUBLE.

21 The Use of the Pelvic Microbiome for PMI Estimation. L. RUDIE, M. MANN, N. RUBLE.

22 The Effects of Body Composition on Human Decomposition. S.T. AMMER.

23 An application of structure from motion to document the decomposition of hacking wounds. C.D. CARLTON, S. MITCHELL.

24 Seasonal Differences in Accumulated Degree-days on the Rate of Human Decomposition. S.L. GARZA, D.J. WESCOTT.

25 Initial in situ bone decomposition after short inhumation times: New insights from experimental degradation assays. N. HOKE, A. ROTT, M. HARBECK.

26 Exploring provision of care for disabled individuals in prehistoric alabama. D.S. SIMPSON.

27 Influence of body size on sexual dimorphism. H. HORBALY.
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29 Arsenic fed piglets: Assessing arsenic levels in decomposing pig tissue and soil samples. C.L. BROWN, R.R. PAINE.

30 A comparative study of the effects of river flow rate on decomposition. M. NEUMAN.

31 Microbiome of Bone Marrow during Human Decomposition. N. RUBLE, P. LEWIS, A. LYNNE.

32 Sexual dimorphism in absolute and relative sizes of pubis dimensions from a documented human osteological collection. B.N. THOMPSON, F.L. WILLIAMS.

33 Using Bacterial Communities From Human Femora To Determine Post Mortem Interval. S.A. BAKER, S.N. MESA, M.N. RUBLE.
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