

AAPA 87th Annual Meeting Program

Activity	Room	Time	Session #	Type
Monday, April 9, All Day				
Paleopathology Association				
Paleopathology Association Pre-Meeting Excursion	Hyatt Lobby	10 a.m.-6 p.m.		
Paleopathology Association Registration	Hyatt Lobby	6 p.m.-9 p.m.		
Tuesday, April 10, All Day				
American Association of Physical Anthropologists				
IDEAS Faculty Reception (invitation required)	President's Suite	8 p.m.-10 p.m.		
Human Biology Association				
Human Biology Association Executive Committee (closed session)	Marriott Room 308	6 p.m.-10 p.m.		
Paleoanthropology Society				
Paleoanthropology Registration	Texas Foyer	7:30 a.m.-5 p.m.		
Paleoanthropology Podium Presentations	Texas I	9 a.m.-12:15 p.m.		
Paleoanthropology Society Posters	Texas Foyer	noon-6 p.m.		
Paleoanthropology Lightening Presentations	Texas I	12:15 p.m.-2 p.m.		
Paleoanthropology Podium Presentations	Texas I	2 p.m.-4 p.m.		
Paleopathology Association				
Paleopathology Association Registration	Texas Foyer	7:45 a.m.-5 p.m.		
Paleopathology Association Workshop 1 (requires PPA meeting registration)	Texas II	8:30 a.m.-11 a.m.		
Paleopathology Association Workshop 2 (requires PPA meeting registration)	Texas III	8:30 a.m.-11 a.m.		
Paleopathology Association Podium Presentations (requires PPA meeting registration)	Texas II/III	1:30 p.m.-5 p.m.		
Paleopathology Association Student Action Committee (requires PPA meeting registration)	Texas II/III	5 p.m.-6:30 p.m.		
Paleopathology Association Banquet and Business Meeting (ticketed event)	Texas I	6:45 p.m.-10 p.m.		
Wednesday, April 11, All day				
American Association of Physical Anthropologists				
AAPA Executive Committee (board members only)	Foothills Ballroom I	8 a.m.-5 p.m.		
COD IDEAS Workshop (pre-registration required)	Foothills Ballroom II	8 a.m.-5 p.m.		
Speaker Ready/Press Room	Big Bend A	9 a.m.-5 p.m.		
Dental Anthropology Association				
Dental Anthropology Association Workshop	Hill Country B-C	9 a.m.-4:30 p.m.		
Human Biology Association				
Human Biology Association Registration	Marriott Lone Star West Foyer	8 a.m.-5 p.m.		
Paleoanthropology Society				
Paleoanthropology Registration	Zilker Foyer	7 a.m.-5 p.m.		
Paleopathology Association				
Human Biology Association Posters (requires HBA Meeting registration)	Marriott Griffin Hall	8 a.m.-5 p.m.		
Paleopathology Association Podium Presentations (requires PPA Meeting registration)	Texas II/III	8:30 a.m.-5 p.m.		

Paleopathology Association Posters and Silent Auction (prequires PPA Meeting registration)

Texas I

9 a.m.-4 p.m.

Wednesday, April 11, Morning

American Association of Physical Anthropologists

AAPA Workshop: 3D Morphology with Open-Source Software (pre-registration required) Texas VII 8 a.m.-noon

Human Biology Association

AJHB Editorial Board (board members only)	Marriott Room 308	7:30 a.m.-9 a.m.
Human Biology Association Breakout Session 2 (requires HBA Meeting registration)	Marriott Lone Star A	11:30 a.m.-12:30 p.m.
Human Biology Association Breakout Session 1 (requires HBA Meeting registration)	Marriott Lone Star B	11:30 a.m.-12:30 p.m.

Paleoanthropology Society

Paleoanthropology Podium Presentations Zilker 4 9 a.m.-12:15 p.m.

Paleopathology Association

Paleopathology Association Registration Texas Foyer 8 a.m.-noon

Wednesday, April 11, Afternoon

American Association of Physical Anthropologists

AJPA Editorial Board Lunch (board members only)	Big Thicket	noon-1:30 p.m.
AAPA/AAAS Workshop: Science communication and Engagement with Religious Publics (pre-registration required)	Hill Country D	noon-2 p.m.
AAPA Executive Committee and IDEAS Lunch (invitation required)	Zilker Terrace	noon-1:30 p.m.
AAPA Workshop: Social Network Analysis using R (pre-registration required)	Texas VII	1 p.m.-5 p.m.
AAPA Registration	Zilker Foyer	2 p.m.-7 p.m.
Student Volunteer Training	Hill Country D	3:30 p.m.-4 p.m.
Student Committee Meeting	Zilker Terrace	4 p.m.-5 p.m.
Student/Early Career Mixer	Zilker Terrace	5 p.m.-6 p.m.

American Association of Anthropological Genetics

AAAG Educational Event: Managing Large Datasets	Texas V/VI	noon-2 p.m.
AAAG Members Speed Networking Event	Texas V/VI	2:30 p.m.-4 p.m.

Human Biology Association

Human Biology Association Plenary Session and Pearl Memorial Lecture (requires HBA Meeting registration)	Marriott Lone Star A-C	1 p.m.-6 p.m.
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Paleoanthropology Society

Paleoanthropology Lightening Presentations	Zilker 4	12:15 p.m.-2 p.m.
Paleoanthropology Podium Presentations	Zilker 4	2 p.m.-6:30 p.m.

Wednesday, April 11, Evening

American Association of Physical Anthropologists

Opening Reception	Marriott Grand Ballroom	8 p.m.-11 p.m.		
IDEAS Alumni Symposium: Creating and Supporting Diverse Communities within the AAPA	Marriott Grand Ballroom Foyer	8 p.m.-11 p.m.	1	Poster
Education in anthropology	Marriott Grand Ballroom Foyer	8 p.m.-11 p.m.	2	Poster

Human Biology Association

Human Biology Association Reception and Banquet (ticketed event)

Marriott Lone Star D 6:30 p.m.-9:30 p.m.

Thursday, April 12, All day**American Association of Physical Anthropologists**

AAPA Registration	Zilker Foyer	7 a.m.-5 p.m.
Speaker Ready/Press Room	Big Bend A	7:30 a.m.-5 p.m.
Camp AAPA - An adventure for kids (childcare)	Big Bend D	7:30 a.m.-7 p.m.
Exhibits	Zilker 1/2/3	9:30 a.m.-6 p.m.
AAPA Silent Auction	Zilker Foyer	10 a.m.-7 p.m.

Thursday, April 12, Morning**American Association of Physical Anthropologists**

AAPA Past Presidents' Breakfast (invitation required)	Board Room	7 a.m.-9 a.m.		
Showcasing host country primatologists	Texas V/VI	8 a.m.-11:30 a.m.	3	Podium
The Forgotten Lineage(s): Paleobiology of <i>Paranthropus</i>	Zilker 4	7:55 a.m.-12:15 p.m.	4	Podium
Non-human primate genetics	Foothills Ballroom II	8 a.m.-noon	5	Podium
Methods in Human Skeletal Biology	Texas I	8 a.m.-noon	6	Podium
Primate Postcranial Functional Morphology and Locomotion	Texas II/III	8 a.m.-noon	7	Podium
Malaria in the Past: Current research into one of humanity's oldest plagues	Hill Country B-C	8 a.m.-noon	8	Poster
Reevaluating the meaning of "oral health" in bioarchaeology	Hill Country D	8 a.m.-noon	9	Poster
Thinking Computationally about Forensics: Anthropological perspectives on advancements in technologies, data and algorithms	Texas VII	8 a.m.-noon	10	Poster
Human variation	Zilker 1/2/3	7 a.m.-1 p.m.	11	Poster
Primate Foraging and Cognition	Zilker 1/2/3	7 a.m.-1 p.m.	12	Poster
Primate Behavior	Zilker 1/2/3	7 a.m.-1 p.m.	13	Poster
Bioarchaeology of the Americas	Zilker 1/2/3	7 a.m.-1 p.m.	14	Poster

Human Biology Association

Human Biology Association Registration	Marriott Lone Star West Foyer	7:30 a.m.-8:30 a.m.	
Human Biology Association Podium Presentations (requires HBA Meeting registration)	Marriott Lone Star A/B	8:30 a.m.-11:45 a.m.	

Thursday, April 12, Afternoon**American Association of Physical Anthropologists**

Yearbook of Physical Anthropology Editorial Board Meeting (board members)	Big Bend C	noon-2 p.m.
AAPA COD LGBTQQIAA Meeting	Foothills Ballroom I	noon-2 p.m.
AAPA COD - AACT Meeting	Big Thicket	12:15 p.m.-2:15 p.m.
AAPA Ethics Committee sponsored workshop: Professional ethics in biological anthropology: How to approach an ethical dilemma (pre-registration required)	Foothills Ballroom I	12:15 p.m.-2:15 p.m.
AAPA Science Policy Committee Meeting	Hill Country A	12:15 p.m.-2:15 p.m.
AAPA COD sponsored panel discussion: Reflections on the 2017 Symposium and Future Directions for Biological Anthropology	Zilker 4	12:15 p.m.-2:15 p.m.
Primate Interest Group	Texas V/VI	5 p.m.-7 p.m.

AAPA and PPA

Going Beyond the "Biocultural Synthesis": Bridging Theory and Practice in Bioarchaeology	Texas I	2:30 p.m.-6 p.m.	15	Podium
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American Association of Physical Anthropologists

Human population genetics	Foothills Ballroom II	2:30 p.m.-6 p.m.	16	Podium
Human Functional Skeletal Morphology	Texas II/III	2:30 p.m.-6 p.m.	17	Podium
Primate Behavior: Ecology and Hormones	Texas V/VI	2:30 p.m.-6 p.m.	18	Podium
Environment, Diet and Human Evolution	Zilker 4	2:30 p.m.-6 p.m.	19	Podium
Structural Violence in the Industrial Era: A Theoretical Framework for Bioarchaeological Analysis of Social and Socioeconomic Inequality	Hill Country D	2:30 p.m.-6 p.m.	20	Poster
Causes, Context, and Consequences of Human Sexual Dimorphism	Texas VII	2:30 p.m.-6 p.m.	21	Poster
Human nutrition, health, and disease	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	22	Poster
Primate Cranial Morphology	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	23	Poster
Human Skeletal biology: Forensic Anthropology	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	24	Poster
Bioarchaeology and Paleopathology: Violence, Health, and Disease	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	25	Poster

Human Biology Association

Human Biology Association Awards Luncheon (ticketed event)	Marriott Lone Star C	noon-1:15 p.m.
Human Biology Association Podium Presentations (requires HBA Meeting registration)	Marriott Lone Star A/B	1:30 p.m.-4:30 p.m.
Human Biology Association Business Meeting	Marriott Lone Star A/B	5 p.m.-6:30 p.m.

Other

PAWMN Lunch (pre-registration required)	Zilker Terrace	1:15 p.m.-2:15 p.m.
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Thursday, April 12, Evening

American Association of Physical Anthropologists

AAPA Live Auction	Zilker 4	7 p.m.-8:30 p.m.
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American Association of Anthropological Genetics

American Association of Anthropological Genetics Business Meeting	Foothills Ballroom II	7 p.m.-8 p.m.
American Association of Anthropological Genetics Cocktail Hour	Foothills Ballroom II	8 p.m.-9 p.m.

Human Biology Association

Human Biology Association Student Reception (requires HBA Meeting registration)	Marriott Brazos	7 p.m.-9:30 p.m.
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Other

PAWMN Mentoring Happy Hour	Zilker Terrace	6 p.m.-8 p.m.
Journal of Human Evolution Editorial Board (board members only)	Foothills Ballroom I	7:30 p.m.-10 p.m.

Friday, April 13, All day

American Association of Physical Anthropologists

AAPA Registration	Zilker Foyer	7 a.m.-5 p.m.
Speaker Ready/Press Room	Big Bend A	7:30 a.m.-5 p.m.
Camp AAPA - An adventure for kids (childcare)	Big Bend D	7:30 a.m.-5 p.m.
Fossil Casts	Padre Island	8 a.m.-5 p.m.
Exhibits	Zilker 1/2/3	9:30 a.m.-5 p.m.

Friday, April 13, Morning

American Association of Physical Anthropologists

AAPA COD WIN Committee meeting	Big Thicket	7:30 a.m.-9 a.m.		
AAPA COD AACT sponsored workshop: Teaching in the 21st Century (pre-registration required)	Big Bend B/C	8 a.m.-10 a.m.		
Biological Anthropology and Dialogue with Diverse Publics	Zilker 4	8 a.m.-12:15 p.m.	26	Podium

Primate Anatomy and Evolution	Foothills Ballroom II	8 a.m.-noon	27	Podium
Primate Social Behavior	Texas I	8 a.m.-noon	28	Podium
Skeletal Biology of Health and Nutrition	Texas II/III	8 a.m.-noon	29	Podium
<u>AAPA and HBA</u>				
Health, disease and life history	Texas V/VI	8 a.m.-noon	30	Podium
<u>American Association of Physical Anthropologists</u>				
A Community of Care: Expanding Bioarchaeology of Care to Population Level Analyses	Hill Country D	8 a.m.-noon	31	Poster
The necessity of experimental research in primate functional morphology: an homage to the Stony Brook Primate Locomotion Laboratory	Texas VII	8 a.m.-noon	32	Poster
Human genetic variation and population genetics	Zilker 1/2/3	7 a.m.-1 p.m.	33	Poster
Hominin Environments	Zilker 1/2/3	7 a.m.-1 p.m.	34	Poster
Primate Teeth and Jaws	Zilker 1/2/3	7 a.m.-1 p.m.	35	Poster
Early Hominins	Zilker 1/2/3	7 a.m.-1 p.m.	36	Poster
Human Skeletal Variation, Function and Biomechanics	Zilker 1/2/3	7 a.m.-1 p.m.	37	Poster

Other

<i>Evolutionary Anthropology</i> Editorial Board Meeting (board members)	Foothills Ballroom I	7 a.m.-9 a.m.
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Friday, April 13, Afternoon

American Association of Physical Anthropologists

AAPA COD Ideas Luncheon Meeting	Big Bend B/C	noon-1 p.m.
AAPA Ethics Committee meeting (open meeting first half hour; committee members only thereafter)	Big Thicket	12:15 p.m.-2:15 p.m.
AAPA Workshop: Wikipedia Editing for Biological Anthropology	Board Room	12:15 p.m.-2:15 p.m.
AAPA Career Development Panel: How to get funding in anthropology? A workshop on grant writing with the NSF, Leakey Foundation and Wenner-Gren Foundation	Foothills Ballroom I	12:15 p.m.-2:15 p.m.
AAPA COD WIN workshop: Open Forum on the development of a formal AAPA mentoring program (pre-registration required)	Hill Country A	12:15 p.m.-2:15 p.m.
AAPA COD WIN sponsored panel: Balanced: A Panel on Family Life and Careers in Academia (pre-registration required)	Texas I	12:15 p.m.-2:15 p.m.
AAPA COD Steering Committee meeting (members only)	Big Bend B/C	1 p.m.-2:30 p.m.
AAPA COD AACT Panel on Career Paths	Foothills Ballroom I	2:30 p.m.-4:30 p.m.
Education Committee	Board Room	5 p.m.-6 p.m.

AAPA and AAAG

Genomic Diversity in South Asia and Its Implications for the Population History of Modern Humans	Texas I	2:30 p.m.-5:30 p.m.	38	Podium
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American Association of Physical Anthropologists

The false meritocracy of choice within social constructs of health	Texas V/VI	2:30 p.m.-5:30 p.m.	39	Podium
Primate Craniodental Functional Morphology	Foothills Ballroom II	2:30 p.m.-5:30 p.m.	40	Podium
Advances in Paleopathology	Texas II/III	2:30 p.m.-6 p.m.	41	Podium
Fossils and Hominin Evolution	Zilker 4	2:30 p.m.-5:30 p.m.	42	Podium
Advances in the Studies of the Communication Systems of Nocturnal Primates	Hill Country B-C	2:30 p.m.-5:30 p.m.	43	Poster
The Poetics of Violence in the Old World: Case Studies in Violent Performance	Hill Country D	2:30 p.m.-5:30 p.m.	44	Poster
Skeletons in His Closet: A Symposium in Honor of Clark Spencer Larsen	Texas VII	2:30 p.m.-5:30 p.m.	45	Poster
Human growth and development	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	46	Poster

Human adaptation	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	47	Poster
Primate Postcrania and Locomotor Biomechanics	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	48	Poster
Primates: Hormones and Disease	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	49	Poster
Human skeletal biology: growth and development	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	50	Poster
Human Dental Anthropology: Dental Variation and Pathology	Zilker 1/2/3	1:30 p.m.-6:30 p.m.	51	Poster

Friday, April 13, Evening

American Association of Physical Anthropologists

AAPA Business Meeting and Awards Presentation (open to all AAPA members)	Zilker 4	6:30 p.m.-8:30 p.m.		
President's Reception (invitation only)	Foothills Ballroom II	9 p.m.-11 p.m.		

Dental Anthropology Association

Dental Anthropology Association Business Meeting (DAA members)	Texas V/VI	8:30 p.m.-9:30 p.m.		
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Saturday, April 14, All day

American Association of Physical Anthropologists

AAPA Registration	Zilker Foyer	7 a.m.-3 p.m.		
Camp AAPA - An adventure for kids (childcare)	Big Bend D	7:30 a.m.-5 p.m.		
Exhibits	Zilker 1/2/3	9:30 a.m.-5 p.m.		

Saturday, April 14, Morning

American Association of Physical Anthropologists

AAPA COD Steering Committee Breakfast (members only)	Hill Country A	7:30 a.m.-9 a.m.		
Speaker Ready/Press Room	Big Bend A	8 a.m.-noon		
AAPA Education Committee K-12 Teachers' Workshop	Foothills Ballroom I	8 a.m.-noon		
AAPA COD International Scholars Committee meeting	Hill Country A	9 a.m.-10 a.m.		
Evolutionary Causes and Consequences of Rising Cesarean Birth Rates	Zilker 4	8 a.m.-noon	52	Podium
Population History, Demography and Affinity	Foothills Ballroom II	8 a.m.-noon	53	Podium
Human Evolutionary Anatomy	Texas I	8 a.m.-noon	54	Podium
Omics of human and non-human primate development, health and disease	Texas II/III	8 a.m.-noon	55	Podium
Primate Behavior: Foraging	Texas V/VI	8 a.m.-noon	56	Podium
Anthropologists Take On Emerging Infectious Diseases: AAPA and AAA joint session	Hill Country B-C	8 a.m.-noon	57	Poster
Tooth Wear in Evolutionary and Biocultural Perspectives	Hill Country D	8 a.m.-noon	58	Poster
New Views on Primate Adaptations and Evolution ““ A Symposium Honoring Richard Kay	Texas VII	8 a.m.-noon	59	Poster
Human demography and epidemiology	Zilker 1/2/3	7 a.m.-1 p.m.	60	Poster
Human reproduction	Zilker 1/2/3	7 a.m.-1 p.m.	61	Poster
Primate Ecology and Conservation	Zilker 1/2/3	7 a.m.-1 p.m.	62	Poster
Genus Homo	Zilker 1/2/3	7 a.m.-1 p.m.	63	Poster
Bioarchaeology of Eurasia	Zilker 1/2/3	7 a.m.-1 p.m.	64	Poster

Saturday, Afternoon

American Association of Physical Anthropologists

AAPA workshop: Families and fieldwork: Navigating work-life balance (pre-registration required)	Texas V/VI	12:15 p.m.-2:15 p.m.		
AAPA Presidential Panel Discussion: Should the AAPA Change Our Name?	Zilker 4	12:30 p.m.-2:15 p.m.		
AAPA Student Awards Committee meeting	Hill Country A	5 p.m.-6 p.m.		
Ventilating Silos: Framing biological anthropology's public message on global climate change	Zilker 4	2:30 p.m.-5:30 p.m.	65	Podium
Human variation and adaptation	Foothills Ballroom II	2:30 p.m.-5:30 p.m.	66	Podium
Human Evolutionary Processes: Biology, Behavior and Systematics	Texas I	2:30 p.m.-5:45 p.m.	67	Podium

Primate Conservation	Texas II/III	2:30 p.m.-5:30 p.m.	68	Podium
Primate Evolution	Texas V/VI	2:30 p.m.-5:30 p.m.	69	Podium
Genomic approaches to understanding regional histories in the Americas	Hill Country D	2:30 p.m.-5:30 p.m.	70	Poster
Macques in the study of human conditions - In celebration of 80 years of Cayo Santiago	Texas VII	2:30 p.m.-5:30 p.m.	71	Poster
Non-human genetic variation and population genetics	Zilker 1/2/3	1:30 p.m.-6 p.m.	72	Poster
Primate Postcranial Functional Morphology	Zilker 1/2/3	1:30 p.m.-6 p.m.	73	Poster
Methods in Human Skeletal Biology and Bioarchaeology	Zilker 1/2/3	1:30 p.m.-6 p.m.	74	Poster
Primate evolution and anatomy	Zilker 1/2/3	1:30 p.m.-6 p.m.	75	Poster

Saturday, Evening

American Association of Physical Anthropologists

AAPA Student Awards and Closing Reception	Zilker 4	6 p.m.-9 p.m.
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Wednesday, Evening sessions.

Session IDEAS Alumni Symposium: Creating and Supporting Diverse Communities within the AAPA
1:

Invited Poster Symposium. Chair: Felicia Gomez, Ripan Malhi, Agustin Fuentes, Susan Antón.

Co-organizers: Ripan Malhi, University of Illinois, Felicia Gomez, Washington University in St Louis, Agustín Fuentes, University of Notre Dame, and Susan Antón, New York University.

Marriott Grand Ballroom Foyer.

The AAPA Committee on Diversity IDEAS (Increasing Diversity in Evolutionary Anthropological Sciences) workshop was developed to increase participation of scholars from racialized minorities traditionally underrepresented in the U.S. academy, the AAPA, and physical anthropology writ large. Although biological anthropology is inherently concerned with human and other primate variation, and therefore should be in an ideal field to attract and nourish the brightest minds from different communities, AAPA membership includes fewer “minority” scholars than the rest of U.S. academia. This is true despite the large percentage of members who are first generation college students. The IDEAS workshop seeks to improve the AAPA’s diversity climate and ultimately our science through targeted mentoring and outreach to underrepresented communities. We do so because diverse teams do better science, as differences in perspective foster academic rigor that results in creativity and innovation. The NSF-funded IDEAS workshop brings together students and faculty in an all-day workshop before the annual AAPA meeting. The IDEAS Alumni Symposium is a research-focused forum to share our scholarship with the AAPA and demonstrate the range and excellence in scholarship the IDEAS students, faculty and postdocs produce. The symposium will showcase research from many sub-disciplines within biological anthropology. The presentations meld molecular anthropology, skeletal biology, human biology, primatology, and identity, and highlight perspectives in dental and paleoanthropology. This symposium serves to build community and generate interdisciplinary ideas, introduce IDEAS Students to the AAPA community, and encourage continued participation in the AAPA. Beyond the scholarship presented, the symposium models careers in biological anthropology for a broader range of students across the AAPA and demonstrates how our unique perspectives shape our research and data interpretation. By expanding the number, viewpoints, and lived experiences of scholars in the AAPA we will create a field that is more inclusive, creative, and representative of the larger society.

- 1 **Genetic Ancestry, Race, and National Belonging in Argentina: Mid-Study Results.** G.S. CABANA, M. MENDOZA, L. SMITH.
- 2 **The Construction of Genetic Identity in the United States.** J. LUND.
- 3 **Depression in African Americans: Using genetic and social network data to investigate variation in symptoms of depression.** K.C. FULLER, C. MCCARTY, C.C. GRAVLEE, C.J. MULLIGAN.
- 4 **Ancient DNA Analysis of Nineteenth Century Pipe Stems Recovered from a Maryland Slave Quarter.** K.E. WITT, J.M. SCHABLITSKY, J. RAMOS MADRIGAL, M.R. ELLEGAARD, H. SCHROEDER, R.S. MALHI.
- 5 **Gibbon phylogeography using museum specimen DNA.** L. YAO, R. DESALLE.
- 6 **Understanding the factors that influence non-human primate genomic data generation.** M. HERNANDEZ, G. PERRY.
- 7 **Identity construction and symbolic association in farmer-vervet monkey (*Chlorocebus aethiops sabaeus*) interconnections in St. Kitts.** K.M. DORE, A.R. ELLER, J.L. ELLER.
- 8 **Human-nonhuman primate interactions through ecotourism in the Philippines.** L.L. FIELDS.
- 9 **The Pliocene Savanna: integrating global climate models and regional stable isotope data from soils with implications for**

hominin ecology. A. VILLASEÑOR.

10 **Craniometric variation and taxonomy in papionin monkeys: the case of *Parapapio*.** A.E. TRUJILLO, C. GILBERT.

11 **Enamel growth in Old World Monkeys.** C. KUFELDT.

12 **The Effect of Life History and Locomotion on Postcranial Growth.** M.E. MACIAS.

13 **A 3D Analysis of the Ontogenetic Patterning of Human Subchondral Bone Microarchitecture in the Proximal Tibia.** J.R. GOLIATH.

14 **Explaining variations in pterion articulation patterns.** N.J. GAMET, J.C. STEVENSON.

15 **The impact of maternal work and received recommendations on infant-feeding practices: A pilot study among Zapotec peoples of Oaxaca, Mexico.** N. PAREDES RUVALCABA.

16 **Physiology at the Final Frontier: The Role of Biological Anthropology in Human-Space Research.** M.S. SARMA.

17 **The AAPA IDEAS program: influence on a science.** S.C. ANTÓN, R.S. MALHI, A. FUENTES.

Session Education in anthropology
2:

Contributed Poster Presentations. Chair: Elizabeth Evangelou and Tessa Somogyi.

Marriott Grand Ballroom Foyer.

Authors present 8:00-9:00 pm

1 **The Human Evolution Teaching Materials Project.** M.C. SELBA.

2 **Best Practices for Introducing Undergraduate Students to Human Remains Processing.** E.A. EVANGELOU, T. SOMOGYI, K.T. NGUYEN, K.A. WILLIAMS, E.A. DIGANGI.

3 **Teaching about primates with documentary film: Examining anthropology instructors' use of films and introducing the Primate Films Database.** C.M. RILEY KOENIG, B.L. KOENIG, C.M. SANZ.

4 **Texas museum displays of human evolution.** S.L. SMITH.

5 **Trends in recent academic job postings for biological anthropology.** N.V. PASSALACQUA.

6 **Action-oriented conservation projects as an instrument for enhancing student engagement and addressing conservation issues.** S.E. WALKER-PACHECO, J.M. LINDER, J.A. SHERMAN.

7 **TEAL of Dreams: If you build technology enabled active learning classrooms, they will come.** S. LUTE, D. VANDERVEEN, D. WELLS.

8 **Gamer's dice and complex traits: Undergraduate classroom activity for increasing comprehension of genetic complexity.** J.J. LESNIK.

9 **How are human remains and digital data perceived by the public: an international survey of museum visitors.** C.C. HIRST, A.L. LOCKEY, S.E. SMITH.

10 **Mummies, Skeletons, and Museums: Representing human remains to the public.** K.C. JORGENSEN.

11 **Next top 3D models - dis/ability and a Romano-British individual with dwarfism from Alington Avenue.** S. EVELYN-WRIGHT, S. ZAKRZEWSKI, A. DICKINSON, C. WOODS.

12 **The Didactic Media in Teaching Human Evolution at Anthropological Museum Montané of the University of Havana (1962-2017).** ARMANDO RANGEL RIVERO, MIGUEL ÁNGEL GARCÍA PIÑERO and CARLOS ARREDONDO ANTÚNEZ.

Thursday, Morning sessions.

Session Showcasing host country primatologists
3:

Invited Podium Symposium. Chair: Jennifer Danzy Cramer, Andrew R. Halloran.

Co-organizers: Andrew R. Halloran, Save the Chimps, Conservation Society of Sierra Leone.

Texas V/VI.

Field anthropologists regularly partner with host country scholars. Collaboration with local scholars is sometimes required by the host government in order to receive permits and permissions. From an ethical and professional standpoint, we discuss in-country collaboration is a best practice yet despite these collaborations that are foundational to the success of western researchers, host country scholars remain underrepresented in literature and at conferences. We need to move beyond including host country collaborators because we have to or need to, without further going out of our way to make a commitment to the recognition and

inclusion of these key scholars. With a growing movement toward a more inclusive and accessible society, we need to recognize the value of indigenous knowledge with host country collaborators providing key intelligence and information that helps us access sites, develop field methods, and collect data and help keep projects alive during our absences from the field. We need to work harder to move away from the “parachute research”• strategy in which privileged, economically advantaged researchers go into a host country and get the materials and resources they need, then leave to use the research for promotion, publication, and other gain, while the local people may be left out of coauthorship and long-term development or promotion opportunities. Host collaborators often face significant economic and logistical barriers in developing their career through international publication and conference attendance. This symposium will pilot virtual talks, making the conference accessible to a larger audience and providing recognition of and development opportunities for under-represented scholars. Presentations will follow the traditional symposium format and use video conferencing tools.Â Talks will be 10 minutes with a 5 minute question period and 5 minute transition period to set up the next speaker. Each scholar will give a presentation focused on his or her current research.

8:00 **Diet Metabarcoding and Conservation of Tonkin Snub-nosed Monkey in Vietnam.** A. ANG, A. SRIVATHSAN, B.T. LUU, Q.K. LE, R. MEIER, H. COVERT.

8:30 **Increasing connectivity through artificial canopy bridge for the gibbons: a case study on the activity budget.** C. SARALAMBA, W. MENPREEDA.

9:00 **State of knowledge on chimpanzee ecology and behavior in the unprotected zone of Diaguiri (Kédougou, Sénégal).** P.I. NDIAYE, S.M. LINDSHIELD, L. BADJI, J.D. PRUETZ.

9:30 **Anthroponotic transmission and evolution of *Staphylococcus aureus* in Green Vervet monkeys from The Gambia.** M. SENGHORE, S.C. BAYLISS, B.A. KWAMBANA-ADAMS, E. FOSTER-NYARKO, J. MANNEH, M. DIONE, H. BADJI, C. EBRUKE, E.L. DOUGHTY, H.A. THORPE, A.J. JASINSKA, C.A. SCHMITT, J.D. CRAMER, T.R. TURNER, G. WEINSTOCK, N.B. FREIMER, M.J. PALLEL, E.J. FEIL, M. ANTONIO.

10:00 **BREAK.**

10:30 **Time and energy budgets and food requirements of the crop raiding Barbary macaques *Macaca sylvanus* in the High Ourika valley, western High Atlas range, Morocco.** N. SALWA, Z. MOHAMMED.

11:00 **Isolation, Antibiotic Resistance and High Co-colonisation of Human Pathogens among Human-Habituated Wild Monkeys in The Gambia.** E. FOSTER-NYARKO, B.A. KWAMBANA-ADAMS, M. SENGHORE, J. MANNEH, M. DIONE, A.J. JASINSKA, C.A. SCHMITT, J.D. CRAMER, T.R. TURNER, G. WEINSTOCK, M. ANTONIO.

11:30 **Discussant: Inza Kone.**

Session The Forgotten Lineage(s): Paleobiology of *Paranthropus*

4:

Invited Podium Symposium. Chair: Paul J. Constantino, Bernard A. Wood.

Co-organizers: Paul J Constantino, Saint Michael's College; Bernard A Wood, The George Washington University.

Zilker 4.

When Robert Broom introduced the taxon *Paranthropus robustus* eighty years ago, he chose the genus name to reflect his belief that there was fossil evidence of a group of hominins that existed “alongside”• the genus *Homo*. We now know that, for at least the first half of its existence, the genus *Homo* shared part of its range, if not its habitat, with one or more lineages of megadont hominins. Interest in this lineage, or lineages, should be greater than it is if only because the more we understand about the hominins that lived alongside our ancestors, the more we will be able to appreciate what is distinctive about our own evolutionary history. It is more than three decades since the last comprehensive review of *Paranthropus*, so this symposium was planned to bring together an international roster of scientists who have spent their careers researching the fossil evidence for, and the context of, the taxa that are conventionally subsumed within the genus *Paranthropus*. They will present and synthesize the latest research about the paleobiology of *Paranthropus*. Among the questions they will collectively explore are the following: What is the extent of any similarities and differences in the habitat and dietary preferences of the species subsumed into *Paranthropus*? What is the functional and adaptive significance of postcanine megadontia? What are new discoveries of *Paranthropus* postcrania revealing about posture, locomotion, and possible tool use in these hominins? Are postcanine megadont hominins monophyletic, or was postcanine megadontia an adaptive response that evolved more than once within the hominin clade? If the latter, what are the evolutionary relationships between the fossil evidence from southern and eastern Africa? Finally, what does our understanding of *Paranthropus* tell us about the evolutionary history of our own genus?

7:55 **Introduction: Frederick Grine.**

8:00 **Geology and uranium-lead (U-Pb) dating of the South African *Paranthropus*-bearing cave deposits.** R. PICKERING.

8:15 ***Paranthropus* paleoenvironments in South Africa.** M. SPONHEIMER, J.N. LEICHLITER, O.C. PAIN, D.J. DE RUITER, J.A. LEE-THORP.

8:30 **A Geological Context for *Paranthropus* in eastern Africa.** C.S. FEIBEL.

8:45 **Robust australopith paleobiology: The biogeography and paleoenvironments of eastern and southern African *Paranthropus*.** A.L. RECTOR, K.D. O'NEILL.

9:00 **The role of DNH 7, a female *A. robustus* skull, in illuminating the evolutionary history of the robust australopiths.** Y. RAK,

W.H. KIMBEL, C. MENTER, C.A. LOCKWOOD.

9:15 **A mechanobiological perspective on the facial skeleton of *Paranthropus*.** D.J. DAEGLING.

9:30 **The role of selection in shaping the crano-mandibular morphology of *Paranthropus*.** N. HLAZO, T.R. RITZMAN, L. SCHROEDER, R.R. ACKERMANN.

9:45 **Teeth on trial: What can dental morphology really tell us about hominin phylogeny?** S.E. BAILEY, L.K. DELEZENE, J. MOGGI-CECCHI, M.M. SKINNER.

10:00 **BREAK.**

10:30 **Below the crown: examining interspecies variation in postcanine enamel thickness, EDJ, and root form in the *Paranthropus* clade.** M.M. SKINNER, S.E. BAILEY, P. GUNZ, W.H. KIMBEL, Z. ALEMSEGED, L.K. DELEZENE, C. MENTER, J. MOGGI-CECCHI, K. KUPCZIK.

10:45 **Dental indicators of *Paranthropus* tooth function.** P.J. CONSTANTINO, P. UNGAR.

11:00 **Isotopic dietary variability distinguishes East African *Paranthropus boisei* from South African *P. robustus*.** J.A. LEE-THORP, S. BLUMENTHAL.

11:15 ***Paranthropus*: A Pleistocene postcranial puzzle.** M.R. LAGUE, C.V. WARD.

11:30 **Postcranial functional anatomy of *Australopithecus (Paranthropus) boisei* and *A. (P.) robustus*.** C.V. WARD, M.R. LAGUE.

11:45 **The systematics of robust australopiths.** D.S. STRAIT, C.S. MONGLE, F.E. GRINE.

12:00 **Synthesis and Discussion: Bernard A. Wood.**

Session Non-human primate genetics
5:

Contributed Podium Presentations. Chair: Kate M. Detwiler .

Foothills Ballroom II.

8:00 **Absence of Y-chromosome gene flow despite high mating success of hybrid males in the *Cercopithecus* hybrid zone at Gombe National Park, Tanzania.** K.M. DETWILER, C. KORCHIA.

8:15 **Evolutionary genomics of Verreaux's sifaka (*Propithecus verreauxi*).** E.E. GUEVARA, T.H. WEBSTER, J. RANAIVONASY, J. RATSIARSON, R.R. LAWLER, B.J. BRADLEY, R.A. HARRIS, Y. LIU, S.C. MURALI, M. RAVEENDRAN, D.S. HUGHES, D.M. MUZNY, A.D. YODER, K.C. WORLEY, J. ROGERS.

8:30 **Population genomics of white faced capuchin monkeys (*Cebus capucinus imitator*) with unbiased fecal genomes.** J.D. ORKIN, M.J. MONTAGUE, A. DOHERTY, J. MAGALHAES, W.C. WARREN, S. KAWAMURA, T. MARQUES-BONET, A.D. MELIN.

8:45 **Patterns of genomic diversity on the X chromosome and autosomes reveal different demographic histories across macaque lineages.** T.H. WEBSTER, B.J. BRADLEY.

9:00 **Genome-wide SNP loci reveal effects of habitat fragmentation on silvery brown tamarin (*Saguinus leucopus*) population structure.** L.M. VALENCIA, Y.A. ACEVEDO-GARCÉS, I.D. SOTO-CALDERÓN, A. DI FIORE.

9:15 **Genome-wide signatures of differential introgression in a Zambian baboon hybrid zone.** K.L. CHIOU, C.M. BERGEY, T.R. DISOTELL, J. ROGERS, C.J. JOLLY, J.E. PHILLIPS-CONROY.

9:30 **Whole genome sequencing reveals ancient hybridization among baboon (*Papio*) species.** J. ROGERS, R. HARRIS, M. RAVEENDRAN, K.C. WORLEY.

9:45 **Development of a taxonomically dense genomic database of anthropoid primate genomes.** A.S. BURRELL, M.C. JANIAK, T.R. DISOTELL, C.M. BERGEY.

10:00 **BREAK.**

10:30 **Characterization of *MHC-DRB* immunogenetic diversity in the wild chimpanzees (*Pan troglodytes schweinfurthii*) of Gombe National Park, Tanzania.** E.E. WROBLEWSKI, S. PHILLIPS-GARCIA, L. GUETHLEIN, P. PARHAM.

10:45 **Ecoimmunology of wild chimpanzees (*Pan troglodytes schweinfurthii*): Does *MHC* genotype or phenotype predict occurrence of respiratory infection?** S. PHILLIPS-GARCIA, M. EMERY THOMPSON, M.N. MULLER, Z.P. MACHANDA, E. SCULLY, E. OTALI, T.L. GOLDBERG, R.W. WRANGHAM, P. PARHAM, E. WROBLEWSKI.

11:00 **Poison, primates, and cytochrome P450s: The evolution of xenobiotic-metabolizing enzymes among primates.** M.E. CHANEY, H. PIONTKIVSKA, A.J. TOSI.

11:15 **Tempo and mode of gene expression evolution in the brain across the primate tree.** C. BABBITT, T.M. ZINTEL, J.J. ELY, M. RAGHANTI, W.D. HOPKINS, P.R. HOF, C.C. SHERWOOD, A.L. BAUERNFEIND.

11:30 **Evolution of regional gene expression in the cerebellum of primates.** A.L. BAUERNFEIND, J.J. ELY, M. RAGHANTI, W.D. HOPKINS, P.R. HOF, C.C. SHERWOOD, C.C. BABBITT.

11:45 **The Evolution of Lifespan and the Epigenome Assessed by CpG Frequency in Conserved Primate Promoters.** A.T. MCLAIN, C. FAULK.

Session Methods in Human Skeletal Biology

6:

Contributed Podium Presentations. Chair: Melissa A. Brown.

Texas I.

8:00 **Exploring death and dying: Investigations of archaeological hair cortisol concentrations in individuals from Kellis, Egypt.** K.E. EAST, L. WILLIAMS, M.J. GREFF.

8:15 **The detection of nicotine in prehistoric skeletal remains using high-performance liquid chromatography-tandem mass spectrometry: A preliminary study.** S. NEWELL, J.A. KARTY.

8:30 **A reliable method to differentiate human from non-human fragmented shafts of limb bones using micro-computed tomography.** B. CORRIERI, N. MARQUEZ-GRANT.

8:45 **Automated extraction of two-dimensional cortical porosity descriptors from histological and micro-computed tomography serial sections.** M.E. COLE, S.D. STOUT.

9:00 **A GIS-Based Analytical Approach to Bone Histology for Age Estimation Purposes.** S. MICHENER, L.S. BELL, D. SWANLUND, N.C. SCHUURMAN.

9:15 **The Perfect Match(es): An Evaluation of Osteometric Pair-Matching in a Commingled Context.** P.V. WOJCIK, Y. CIFUENTES ARGUELLO.

9:30 **Comparing Age-Related Bone Loss Between Archaeological Populations Using Linear Mixed Effects Models: A Control for Diagenesis.** R.V. MOUNTAIN.

9:45 **Evaluating the efficacy of machine learning approaches to the estimation of age-at-death using 3D scans of the pubic symphyseal face.** M.A. BROWN, D. DAUDERT, J. JENKINS.

10:00 **BREAK.**

10:30 **Tracking damage to stable isotope values in bone exposed to x-ray microtomography.** L.E. CIRILLO, G.D. RICHARDS, E.J. BARTELINK, D. PARKINSON.

10:45 **Use of Laser Scanning Confocal Microscopy to Detect Diagenetic Changes in Bone.** A.C. SMITH, L. WATAMANIUK.

11:00 **Evaluating lead isotopes in Mediterranean paleomobility research: A case study in 5th c. BCE Greek Sicily.** K.L. REINBERGER, L.J. REITSEMA, B. KYLE, P. FABBRI, S. VASSALLO, G.D. KAMENOV, J. KRIGBAUM.

11:15 **Cementochronology: too precise to be true or too precise to be accurate?** B. BERTRAND, E. CUNHA, V. HÉDOUIN.

11:30 **Timing of development of the permanent mandibular dentition: new reference values from the Fels Longitudinal Study radiographic database.** M. Å EÅ ELJ, L.W. KONIGSBERG, R.J. SHERWOOD.

11:45 **The Value and Possibilities of Geographic Information Systems (GIS) to Address Bioarchaeological Research Questions.** M.C. STEWART, G. VERCELLOTTI, J.S. FIELD.

Session Primate Postcranial Functional Morphology and Locomotion

7:

Contributed Podium Presentations. Chair: Emily R. Middleton .

Texas II/III.

8:00 **Inside Out: Intrinsic Determinants of Morphological Variation in the Developing Skeleton.** M.J. RAVOSA, S. COINER-COLLIER, N.E. HOLTON, E.M. FRANKS, A.M. LEMKUIL, E.B. MCGOUGH.

8:15 **Plastic and evolved responses to locomotor behavior in the morphology of the cranium.** F. MCGECHIE, K. ALDRIDGE, S.A. KELLY, T. GARLAND, K.M. MIDDLETON.

8:30 **Assessing biomechanical hypotheses about hind-limb elongation in jumping Primates using Longshanks mice.** M.M. BRADLEY, C.P. ROLIAN.

8:45 **Do trabecular properties signal a bipedal loading pattern in a rat model for the quadrupedal to bipedal transition?** A.D. FOSTER, R.W. COOK, B. WHITHORN, J. VALLEY.

9:00 **Gaits gone wild: spatiotemporal kinematics of tree squirrels (*Sciurus carolinensis*) in laboratory and free-ranging environments.** N.T. DUNHAM, A. MCNAMARA, L. SHAPIRO, J.W. YOUNG.

9:15 **Capturing 3-D locomotor kinematics in wild mountain gorillas (*Gorilla beringei beringei*).** K.R. OSTROFSKY, N.E. THOMPSON, S.C. MCFARLIN, M.M. ROBBINS, T.S. STOINSKI, S. ALMÉCJIA.

9:30 **Relationship of hip and knee joint angles to leaping in two African colobine species.** T.A. POLVADORE, F. OUORO, D.J. DAEGLING, W. MCGRAW.

9:45 **Locomotor, phylogenetic, and allometric effects on anthropoid 3D pelvic anatomy.** E.R. MIDDLETON, S.D. MADDUX, C.V. WARD.

10:00 **BREAK.**

10:30 **It's what's on the inside that counts: a comparative analysis of innominate microarchitecture across primates, marsupials, rodents and treeshrews.** N.M. WEBB.

10:45 **Intraspecific variation in limb bone strength in *Pan troglodytes* and *Gorilla gorilla*.** M.N. COSMAN, S. SCHLECHT, K. JEPSEN, L. MACLATCHY, M. DEVLIN.

11:00 **Bone strength properties of the calcaneus and navicular in leaping galagids.** K.L. LEWTON, B.A. PATEL.

11:15 **The role of substrate property in the development of degenerative joint disease in monkeys.** L. BAIGES-SOTOS, P. NYSTROM.

11:30 **Using Machine Learning to predict locomotor behavior from femoral metaphyseal morphology in apes and humans.** P.A. STAMOS, Z. ALEMSEGED, A.J. CHAUDHARI, T.D. WEAVER.

11:45 **Manual joint size contributes to flexor muscle performance in suspensory taxa.** K.R. RAMIREZ, T.C. PRANG.

Session Malaria in the Past: Current research into one of humanity's oldest plagues
8:

Invited Poster Symposium. Chair: Michaela Binder, Michelle Gamble, Tracy Prowse, Stephanie Marciniak.

Co-organizers: Binder, Michaela, Austrian Archaeological Institute; Gamble, Michelle, Austrian Archaeological Institute; Prowse, Tracy, McMaster University; Marciniak, Stefanie, Pennsylvania State University.

Hill Country B-C.

Malaria is assumed to be a disease of considerable antiquity and thus would have likely had significant impact on past human populations through decreased productivity, morbidity, and high levels of mortality. Yet, unambiguous evidence for the presence of the malaria parasite has proven difficult to detect in archaeological human remains; therefore its origins, evolution, history, as well as the consequences for people in the past, remain largely unknown. Finding new ways to identify the presence and epidemiology of the disease would significantly influence our understanding of the past including important historical episodes such as the decline of the ancient civilizations of the Mediterranean. Moreover, in-line with the increasing importance of evolutionary approaches in modern medicine, understanding the evolution of malaria has the potential to provide significant contributions in elucidating the development of the host-pathogen relationship, which may prove crucial for creating a successful solution to the malaria problem. Recent advances in biomolecular approaches in bioarchaeology have also brought about a proliferation of research into malaria in the past leading to first successful identifications of *Plasmodium* DNA in archaeological human remains. This has further been supported by an increased focus on systematic paleopathological analyses of skeletal changes related to secondary symptoms of malaria. This session aims to bring together researchers in bioarchaeology, paleopathology, biomolecular archaeology, and clinical research in order to discuss recent developments in the study of malaria in archaeological human remains, address difficulties of identifying malaria in the past, and to present the latest findings and methodological approaches.

9:00 **Individual Poster Presentations.**

10:00 **BREAK.**

11:00 **General Discussion.**

- 1 'Ague', 'Spring Ill' and 'Fever Terciane': Vivax Malaria and Social Constructions of 'Otherness' in the Anglo-Saxon Fens of England (AD 500-1050). R.L. GOWLAND, L. BRUNDEL, G. WESTERN.
- 2 Distinguishing skeletal lesions of malaria from comorbidities and coexisting metabolic conditions at Amarna, Egypt. N.E. SMITH- GUZMÁN, G.R. DABBS, H.S. DAVIS, A.E. SHIDNER.
- 3 Testing new methods on old bones: Searching for malaria in Archaeological material using a multi-dimensional approach. A. LOUFOUMA, M. GAMBLE, M. BINDER, F. MAIXNER, H. NOEDL, A. ZINK.
- 4 New Excavations of Malaria-Affected Victims at Lugnano in Teverina, Italy. D. PICKEL, D. SOREN, J. INWOOD.
- 5 Malaria in the rural hinterland of southern Italy: A multi-faceted anthropological and genomic perspective from Vagnari (1st-4th c. C.E.). S. MARCINIAK, H.N. POINAR, T.L. PROWSE.
- 6 2000 year old case of β -thalassemia in Sardinia: implications for malaria history. C. VIGANÓ, C. HAAS, F.J. RÜHLI, A.S. BOUWMAN.
- 7 Malaria in the prehistoric Caribbean: The hunt for hemozoin. M.D. COX.

Session Reevaluating the meaning of "oral health" in bioarchaeology
9:

Invited Poster Symposium. Chair: Marin A. Pilloud, J.P. Fancher.

Co-organizers: Fancer, J.P., Texas State University, San Marcos.

Hill Country D.

In 2014, the American Dental Association House of Delegates adopted the following definition of oral health, "a functional, structural, aesthetic, physiologic and psychosocial state of well-being", essential to an individual's general health and quality of life". (<http://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/ada-policy-definition-of-oral-health>). This definition

raises questions about how bioarchaeologists currently use the term, as it is not possible to understand the “psychosocial well-being”* of past populations based only on physical records.Â Traditionally, oral health in bioarchaeology has included analyses of dental caries, antemortem tooth loss, periodontal disease, calculus deposits, dental wear, and periapical lesions (or abscesses).Â These research foci are in line with the World Health Organization definitions of dental disease, which include “dental cavities, periodontal (gum) disease, oral cancer, oral infectious diseases, trauma from injuries, and hereditary lesions”* (<http://www.who.int/mediacentre/factsheets/fs318/en/>).Â While these dental diseases may be relatively straightforward to diagnose in a clinical setting with a well-known patient history and clinical records, similar diagnoses in archaeological populations may be impossible to assess.Â Further, bioarchaeologists may make assumptions about the etiology of these conditions, which may not be appropriate. The goal of this symposium is to bring together scholars in the fields of bioarchaeology, dental anthropology, paleopathology, as well as dentists working in a clinical setting to reevaluate and redefine “oral health”; with a focus on exploring alternate terms that do not overreach the abilities of their conclusions.Â Such terms could include dental disease, growth disruption, and pathological conditions of the oral cavity along with specific, supportable differential diagnoses based in the clinical literature.Â Through a dialogue of dental pathological conditions we can arrive at a more nuanced understanding of “oral health” that is firmly entrenched in biological reality and can be extended to archaeological populations.Â The symposium will consist of definitions of terms and conditions as well as case studies from modern and ancient populations.Â

9:00 **Presentation of odd numbered posters.**

10:00 **BREAK.**

10:30 **Presentation of even numbered posters.**

11:30 **Discussant: Simon Hillson.**

- 1 **Outlining a Definition of Oral Health within the Study of Human Skeletal Remains.** M.A. PILLOUD, J. FANCHER.
- 2 **Overview of Dental Disease and Differential Diagnosis Based on Detectable Artifacts of Disease.** J.P. FANCHER, DDS, MA, PHD.
- 3 **Oral Health and the Eastern Agricultural Complex in the Kentucky Lake Reservoir, Tennessee.** M.O. SMITH, T.K. BETSINGER.
- 4 **Periodontal health and the lifecourse approach in bioarchaeology.** J.T. WATSON, A. TUGGLE.
- 5 **Calculus and survivorship in medieval London: the association between dental disease and a demographic measure of general health.** S.L. YAUSSY, S.N. DEWITTE.
- 6 **A sub-continent of caries: Prevalence and severity in Early Holocene through recent Africans.** J.D. IRISH, F. CARTER.
- 7 **Questioning Oral Health: Dental Caries and Survivorship in Late/Final Jomon Period Hunter-Gatherers from Eastern Coastal Honshu, Japan.** K. KUBEHL, D. TEMPLE.
- 8 **Defining and recording periodontal disease and gingivitis in archaeological assemblages: a perspective from ancient Sudan.** R.J. WHITING, D. ANTOINE, S. HILLSON.
- 9 **The Medieval Mouth: Interpreting Oral Health in European Populations.** K. ZEJDLIK, J.D. BETHARD, Z. NYÁRÁDI • DI, A. GONCIAR.
- 10 **Bioarchaeological and odontological perceptions of “oral health”* in Mexican populations.** A. CUCINA, E.M. VEGA LIZAMA, M.A. RAMIREZ SALOMON.
- 11 **Bruxism: Prevalent Pathology, Problematic Paleopathology.** A.J. FOLEY.
- 12 **Defining good health in the Paleolithic: Oral disease and a very distant patient.** S.A. LACY.
- 13 **Oral Health in the North Atlantic during Viking and Medieval Times: The Good, the Bad, and the Ugly.** G. SCOTT, R.L. PERASH, L. CIRILLO, C.N. HULSE, C.E. SKIPPER, S.J. COLE, M.J. SCHROEDER, C. ARCE.

Session Thinking Computationally about Forensics: Anthropological perspectives on advancements in technologies, data and algorithms
10:

Invited Poster Symposium. Chair: Bridget F.B. Algee-Hewitt, Jieun Kim.

Co-organizers: Algee-Hewitt, Bridget F. B. (Stanford University); Kim, Jieun (Florida State University).

Texas VII.

Computational methods offer several advantages to the study of anthropological data, particularly in their important practical contributions to human identification in the forensic sciences. Through the analysis of large quantities of information, they allow researchers to perform more comprehensive or deeper investigations, effectively overcoming the limitations of cognitive ability and building stronger scientific foundations for applied techniques. By probing data in previously unavailable ways, computational tools also give means to reveal latent data trends, identify and explore novel questions, and establish inferential procedures that deliver more satisfying results. Finally, when computational systems are used to represent expert knowledge, they allow researchers to better capture, distill and interpret complex data, while also improving precision and accuracy, reducing subjectivity, and facilitating the automation of traditional procedures. However, researchers and practitioners alike must contend with evolving issues of software compatibility and data management, bioethical concerns over the new kinds of information now accessible, and the question of best practices for the dissemination of results among peers, in the classroom, for the medico-legal community, and to the public. The

purpose of this symposium is to provide a forum to 1) introduce new algorithmic advances and methodological improvement, 2) present work on the application of computational techniques to understudied populations, novel datasets or new information types, and 3) speak to the challenges that the revolution in data technologies may pose for future scientific investigation as well as the broader social effects on issues of policy, privacy and lay interpretation. This symposium brings together a mix of participants, who engage wide-ranging skeletal, genomic, phenotypic and meta-data analyses. Nevertheless, their contributions are linked by an interest in advancing computational research that has implications for the forensic anthropological sciences, to enrich current procedures and with the potential to change the course of future human identification practice.Â

8:30 **Welcome remarks.**

8:35 **Authors present at posters.**

10:00 **BREAK.**

10:00 **Software demo set-up.**

10:30 **Select participants demo software.**

11:00 **Introduction: Bridget F.B. Algee-Hewitt and Jieun Kim.**

11:15 **Discussant: Dawnie W. Steadman.**

11:30 **Discussant: Dennis E. Slice.**

11:45 **Audience Discussion.**

1 **Markov Chain Monte Carlo methods in human skeletal identification.** L.W. KONIGSBERG, S.R. FRANKENBERG.

2 **Elucidating ancestry variation in the Philippines via mixture analysis.** B.F. ALGEE-HEWITT, M.C. GO, B. DUDZIK, C.E. HUGHES.

3 **Within-population variation of Texas-Mexico border migrants: A comparative computational analysis.** B.T. NEW, K. SPRADLEY, L. FEHREN-SCHMITZ, N.P. HERRMANN.

4 **The Role of Simulated Data in Making the Best Predictions.** S.D. OUSLEY, G.R. MILNER, J.L. BOLDSEN, R.L. JANTZ.

5 **Enhancing craniofacial identification methods with CT data.** T. SIMMONS-EHRHARDT, C. FALSETTI, A.B. FALSETTI, C.J. EHRHARDT.

6 **Facilitating Practitioner Interaction with 3D Craniofacial Identification Resources.** A. FALSETTI, T.B. SIMMONS-EHRHARDT, C.R. FALSETTI, C.J. EHRHARDT.

7 **Can a skull tell us the facial shape?: prediction of facial components based on craniometric analysis.** W. LEE, U. LEE, S. LEE, B. ROH, J. SEO, C. CHOI, K. PARK, J. YUN, S. KIM.

8 **Three-dimensional skull and face models: the measurements based on the landmark coordinates.** U. LEE, D. KIM.

9 **Age-at-death estimation based on the female pubic symphysis using computational methods and 3D laser scans.** D.K. STOYANOVA, J. KIM, C. FIGUEROA-SOTO, D.E. SLICE, B.F. ALGEE-HEWITT.

10 **Understanding population variability in age-at-death estimation for modern populations in Mexico and Puerto Rico through the use of 3D laser scans of the pubic symphysis.** C. FIGUEROA-SOTO, J. KIM, D. STOYANOVA, D.E. SLICE, B.F. ALGEE-HEWITT.

11 **New approaches to juvenile age estimation in forensics: Application of transition analysis via the Shackelford et al. method to a diverse modern subadult sample.** K.R. KAMNIKAR, N.P. HERRMANN, A.M. PLEMONS.

12 **Immunological age estimation for forensics.** S. CHO, H. LEE, J. LEE, M. KIM, S. LEE.

13 **Matching CODIS genotypes to SNP genotypes using linkage disequilibrium.** M.D. EDGE, B.F. ALGEE-HEWITT, J. KIM, T. PEMBERTON, J.Z. LI, N.A. ROSENBERG.

14 **Compatibility of Ancestry Composition Estimations of Forensic STR loci versus Ancestry Informative Markers.** C.E. HUGHES, B.F. ALGEE-HEWITT.

15 **Computing Ancestry and Race: narrative and semantic patterns in the forensic language of identity.** M.A. ALGEE-HEWITT, B.F. ALGEE-HEWITT.

16 **The challenges of forensic geolocation in the context of water insecurity in Mexico: Understanding the relationships and limitations between isotopes in drinking water, teeth and hair.** R. RAMEY, C.A. JUAREZ.

17 **Current progress in the forensic entomological baseline data collection and associated software development program supported by the Korean National Police Agency.** J. CHOI, S. SHIN, I. RHYU, S. PARK.

18 **A forensic anthropology user interface for automating search using remotely sensed data from unmanned aerial vehicles: preliminary findings.** D.J. WESCOTT, D.T. ANDERSON, R. MOORHEAD, B. MURRAY.

Session Human variation

11:

Contributed Poster Presentations. Chair: Yen-Lung "Onta" Lin.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **Geometric Morphometric Applications to Sexual Dimorphism Using the First and Second Ribs.** H.D. BHARAMDAT.
- 2 **Associations between sexually dimorphic skeletal traits and body size: An exploratory multivariate analysis.** H.E. HORBALY.
- 3 **Sexual dimorphism and regional variation in the pectoral and pelvic girdles of modern humans.** D. HUDSON, J.H. LANGDON, S.P. NAWROCKI.
- 4 **The evolution of human facial sexual dimorphism.** T. GONZALEZ, J. WHITE, A. ZAIDI, P. CLAES, M.D. SHRIVER.
- 5 **Detecting migration and admixture in South African Holocene human crania.** L.L. POWELL, R.R. ACKERMANN.
- 6 **Analyzing Cranial Shape Variability and its Application in Trauma Surgery.** S. SCHLAGER, M. FÄSSINGER, W. SEMPPER-HOGG, M. METZGER.
- 7 **Assessment of the global human mandibular variation -A three-dimensional geometric morphometrics approach to the settlement of America.** D. MARTIN-MOYA, M. GALLAND, M. FRIESS.
- 8 **An Analysis of the Relationship Between Orbit and Cranial Metrics.** R.M. MELORO, V.B. DELEON.
- 9 **Human cranial diversity seen under a kriging-based model: new proposal to test evolutionary scenarios.** D.V. BERNARDO, T.F. ALMEIDA, A.A. BORELLA, T.C. CAMPOS, W.A. NEVES.
- 10 **A divided issue: Investigating internal structure differences of crania with *os japonicum*.** L.N. BUTARIC, S.D. MADDUX, M. KESTERKE, Q. WANG, Q. ZHANG, Q. ZHANG.
- 11 **New insights into the morphological relationship between bony labyrinth and cranial base in modern humans.** A. LE MAITRE.
- 12 **Head-to-head: A morphometric approach to cranial variation and island biogeography.** S. STARK, C. FERNÉE, S. ZAKRZEWSKI.
- 13 **Hot headed? The interplay between environmental and biological factors with cranial morphological variation.** C. FERNEE, S. STARK, S. ZAKRZEWSKI.
- 14 **Biases in Representation: A Geometric Morphometric Analysis of Distortions in Illustrations from 19th Century Craniology.** P.W. MITCHELL.
- 15 **Size and Shape: Structural Correlates of the Human Ectotympanic Tube.** E.E. FRICANO, V.B. DELEON.
- 16 **Facial aging in three dimensions: A shared pattern in men and women is disrupted after menopause.** S. WINDHAGER, P. MITTEROECKER, I. RUPIC, T. LAUC, O. POLASEK, K. SCHAEFER.
- 17 **Does Pelvic Size Follow a Secular Trend?** H. DELPRETE.
- 18 **Interpreting intra-population variability from dental morphology and tooth dimensions of a modern Japanese population.** M.K. GREEN, S.D. TALLMAN, Y. NEGISHI.
- 19 **Associations of Fitzpatrick Skin Type with Skin M Index in Diverse Populations.** H.L. NORTON, L. FIST, E.J. PARRA.
- 20 **Hidden variations that shape human skin barrier adaptation.** Y. LIN, O. GOKCUMEN.
- 21 **More than meets the eye: what chemical analyses can reveal about hair color.** T. LASISI, S. ITO, K. WAKAMATSU, M.D. SHRIVER, N.G. JABLONSKI.
- 22 **A novel protocol for measurement of vertical ground reaction forces during walking in non-laboratory conditions.** A.G. HAMMERBERG, S. LAUTZENHEISER, P.A. KRAMER.
- 23 **Baby carrying positions change walking speed.** O.M. SOSANYA, C.M. WALL-SCHEFFLER.
- 24 **Accuracy of Self-Reported Height and Weight in US Army Anthropometric Survey.** J.L. PARHAM, M. GARLIE, H. CHOI.
- 25 **The association between knee breadth and body mass.** A. KEISU, P. OURA, J. NIINIMÄKI, M. NISKANEN, J. AUVINEN, T. ARVOLA, C.B. RUFF, J. TUUKKANEN, P. LEHENKARI, J. JUNNO.

Session Primate Foraging and Cognition

12:

Contributed Poster Presentations. Chair: Madison L. Azzara.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **New observations of meat eating and sharing in wild bonobos (*Pan paniscus*) at Iyema, Lomako Forest Reserve, DRC.** M.L. WAKEFIELD, A.J. HICKMOTT, I.Y. TAKAOKA, C.M. BRAND, M.T. WALLER, F.J. WHITE.
- 2 **A novel approach to understanding food electivity in Bornean orangutans (*Pongo pygmaeus wurmbii*).** S.E. ALAVI, S. UTAMI ATMOKO, E.R. VOGEL.
- 3 **Is savannah food dustier? Comparisons of the external abrasive loads of chimpanzee plant foods.** A. VAN CASTEREN, E. SCHULZ-KORNAS, K. KUPCZIK.
- 4 **Foraging and spatial behavior of *Alouatta palliata* in the edge and interior of a Costa Rican forest fragment.** M.L. AZZARA, A.L. SCHREIER, Z.S. JACOBSON, D.G. RUSSELL, E.A. SHEEHAN, R.M. SCHLAHT, L.M. BOLT.

- 5 **Tool use in tufted capuchin monkeys (*Sapajus libidinosus*) promotes persistent foraging behavior.** B.D. HARRIS, C.E. JONES, M.R. PRYOR, D.M. FRAGASZY.
- 6 **Assessing gum availability in bushbaby (*Galago moholi* and *Otolemur crassicaudatus*) habitat at Loskop Dam Nature Reserve and Leshiba Wilderness Reserve, South Africa.** K. FISH, C. BRESNAN, I. RAY, B. WREN.
- 7 **Examining African colobine nutrition using improved methods for determining available protein.** K.D. EVANS, W.J. FOLEY, C.A. CHAPMAN, J.M. ROTHMAN.
- 8 **The PASSER Project: Enhancing Ethological Research on Amazonian Primates via a Semi-autonomous Computerized Feeding Device.** C.S. PHILSON, A. RAY, C.Y. URISTA, J.E. DAVIS.
- 9 **The importance of seeds from non-indigenous trees for chacma baboons (*Papio hamadryas ursinus*) in an anthropogenically altered habitat in Western Cape South Africa.** N.W. ELLWANGER, T.Q. BARTLETT.
- 10 **Use of *Euphorbia stenoclada* (Samata) as a fallback food in *Lemur catta* (ring-tailed lemurs) at Tsimanampesotse National Park, Madagascar.** M. LAFLEUR, T.A. CLARKE, N. YAMASHITA, A.I. JACKY.
- 11 **Spatial variation in the diet of a Tana River mangabey (*Cercocebus galeritus*) group.** J. WIECZKOWSKI.
- 12 **Cognitive maps and navigation patterns in black howler monkeys (*Alouatta pigra*) in Palenque National Park, Mexico.** S. VAN BELLE, A. ESTRADA.
- 13 **The eyes have it: Using spontaneous visual orientation to track the development of social awareness across socio-ecological settings in wild infant olive baboons (*P. anubis*).** C.A. MOST, S.C. STRUM.
- 14 **Maternal Influences on Offspring Tool Use: Investigating Why Young Female Chimpanzees Are Faster Learners.** K.F. GERSTNER, R.C. O'MALLEY, J.J. LESNIK.
- 15 **A Cross-Species Study of Navigational Neurobiology in Primates.** D.R. VANIER, S.C. CHET, J.B. SMAERS.
- 16 **Variations in Gestural Communication Across and Within Captive and Wild Sub-Adult Western Lowland Gorillas (*Gorilla gorilla gorilla*).** M.R. PRYOR, C.E. JONES, D.M. FRAGASZY, R. SALMI, J.C. MAERZ.
- 17 **Handedness in seven lemur species at the Duke Lemur Center when presented with a social learning apparatus.** C.H. BATIST, J.A. MAYHEW.
- 18 **Replication and extension: Handedness in termite-fishing among Gombe chimpanzees.** E.T. BRZEZINSKI, N.M. SCHAPKER, M. FERRY, L.F. MARCHANT, R.C. O'MALLEY.

Session Primate Behavior

13:

Contributed Poster Presentations. Chair: Alejandro Laserna.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **Allomaternal care by conspecifics changes activity budgets of *Colobus guereza* mothers.** D.L. RABOIN, A.L. BADEN, J.M. ROTHMAN.
- 2 **Social relationships between orphaned chimpanzee siblings at Ngogo, Kibale National Park, Uganda.** R.B. REDDY, J.C. MITANI.
- 3 **Male Immigration and Stress in Wild Woolly Monkeys (*Lagothrix poeppigii*).** E.L. PAIN, A. DI FIORE, A. KOENIG, A. LU.
- 4 **Variation in time to weaning in wild geladas.** S.C. CARRERA, J.C. BEEHNER.
- 5 **Behavioral responses to the introduction of immature members to a previously established bachelor group of western lowland gorillas (*Gorilla gorilla gorilla*).** K.N. GARTLAND, M. MCDONALD, S. BRACCINI SLADE, C. SANZ, F. WHITE.
- 6 **Reconstructing the life of a wild gorilla based on pathological features in the skeleton: Implications for the bioarchaeology of care.** A. LASERNA, K. PECHENKINA.
- 7 **Stacked investment in female *Colobus vellerosus*: what influences the timing and overlap of offspring?** J.V. VAYRO, T.E. ZIEGLER, L.M. FEDIGAN, A. CROTTY, S.A. FOX, E. POTVIN-ROSSELET, P. SICOTTE.
- 8 **Contribution of group composition to father-daughter mating in *Pan troglodytes*.** S.L. ROIVAS, K.K. WALKER, A.E. PUSEY.
- 9 **Pre-dispersal prospecting behavior and the solitary life-history stage: Examining neglected aspects of the dispersal process in socially monogamous owl monkeys (*Aotus azarae*).** M.K. CORLEY, M. ROTUNDO, V. DAVALOS, E. FERNANDEZ-DUQUE.
- 10 **How the short-term costs and benefits of play on immature survival until reproduction could shape species- and sex-differences in play rates.** A. BERGHAENEL.
- 11 **Natal Dispersal and Offspring Behaviour in the Javan slow loris (*Nycticebus javanicus*).** S.A. POINDEXTER, K. NEKARIS.
- 12 **The evolution of tolerance in non-human primates and humans.** A.C. PISOR, M. SURBECK.
- 13 **Dominance and Migration in Kinda Baboon Males.** A.H. WEYHER, J.M. KAMILAR.
- 14 **White-handed gibbon (*Hylobates lar*) great call note frequencies correlate with amplitude and entropy measures.** T.A. TERLEPH, S. MALAIVIJITNOND, U.H. REICHARD.

15 **Social structure and change in West African savanna chimpanzees (*Pan troglodytes verus*) at Fongoli, Senegal.** J.L. MARSHACK, J.D. PRUETZ.

16 **The Social Function of Male Embracing in wild black and gold howler monkeys (*Alouatta caraya*).** M.M. KOWALEWSKI, M. RAÑO, S. GENNUSO, P.A. GARNER.

17 **Bushbaby (*Galago senegalensis*) nest site activity during the dry season at Loskop Dam Nature Reserve, South Africa.** C. BRESNAN, K. FISH, I. RAY, B. WREN.

18 **Non-territorial gibbons? Examining the effectiveness of territorial defense among white-handed gibbons (*Hylobates lar*) in Western Thailand.** L.E. LIGHT, M. SOBASZEK.

19 **Beyond group size effects: vigilance and social monitoring in Nepal gray langurs.** K.J. KLING, A. KOENIG.

20 **To be or not to be (a daddy): relationship between concealed ovulation and paternity certainty in black and gold howler monkeys in Northern Argentina.** M. RAÑO, L.I. OKLANDER, C.R. VALEGGIA, S. GENNUSO, B. NATALINI, V.L. ROMERO, M.M. KOWALEWSKI.

21 **Linearity and stability in Ring-Tailed Lemur (*Lemur catta*) dominance hierarchies.** M.F. BLOOM, C.M. BRAND, C.M. OLIVERA, T. KEITH-LUCAS, F.J. WHITE.

22 **Social behavior and genetic relatedness in highland woolly monkeys (*Lagothrix lagothricha lugens*) at Cueva de los Guácharos National Park, Colombia.** E. PAEZ-CRESPO, P.R. STEVENSON, A. LINK OSPINA, A. DI FIORE.

23 **Studying A Captive Breeding Bornean Orangutan From Breeding to Post-Partum at The Smithsonian's National Zoo.** L.M. DAY, M. VERGAMINI, M. BASTIAN, A.L. RECTOR.

24 **Infanticide risk does not appear to explain frequent male-infant interactions in *Colobus angolensis ruwenzorii*.** S.M. STEAD, J.A. TEICHROEB.

25 **Influence of Female Reproductive State on Social Network Structure in White-bellied Spider Monkeys (*Ateles belzebuth*).** M.B. BLASZCZYK, C.J. SCARRY, A. DI FIORE, A. LINK.

26 **The costs of mating for female chimpanzees at Ngogo, Kibale National Park, Uganda.** S. GUNTER, J.L. BROWN.

27 **Effects of female reproductive state on male mating interest and female proceptivity in the chimpanzees (*Pan troglodytes schweinfurthii*) of Gombe National Park, TZ.** E.E. BOEHM.

28 **Subtle sexual dichromatism and dimorphism detected in wild *Propithecus diadema*.** E. TAPANES, M.T. IRWIN, A.N. SPRIGGS, J.M. KAMILAR, B.J. BRADLEY.

29 **Inbreeding risk and female kin support predict settlement decisions in female chimpanzees in Gombe National Park.** K.K. WALKER, A.E. PUSEY.

30 **Understanding Resilience in Chimpanzees (*Pan troglodytes*): Case studies from the wild and from captivity.** A.R. HALLORAN.

31 **Sleeping tree selection of olive baboons (*Papio anubis*) in Nigeria.** K.T. HENDRIKSON, V.A. SCHOOF, V. SOMMER.

32 **How do food material properties affect ingestive behavior?** K.A. WRIGHT, A.O. RIVERA, B.W. WRIGHT, M. FOGAÇA, A. VAN CASTEREN, D. FRAGASZY, R.S. SCOTT, D.S. STRAIT, C.F. ROSS, M.F. LAIRD.

33 **Sex differences in diet composition and oral processing behaviors in colobines in Taï National Park, Côte d'Ivoire.** J.N. TRAFF, F. OUORO, E. BITTY, D.J. DAEGLING, W. MCGRRAW.

34 **Home Ranges of Wild Aye-ayes (*Daubentonia madagascariensis*) in the continuous forest of Torotorofotsy, Madagascar.** T.M. SEFCZEK, F.A. RANDRIATSIMIALONA, H. RANDRIANJATOVO, J. SADVARI, E.E. LOUIS, JR.

Session Bioarchaeology of the Americas

14:

Contributed Poster Presentations. Chair: Guy L. Tasa.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

1 **Cranial Morphological Variation in the Americas: Where does Mexico fit in?** S.R. RENNIE, M. CLEGG, S. GONZALEZ.

2 **Bone Histology Age-at-Death Estimates and Associated Taphonomic Changes at St. George's Caye, Belize.** S.R. MAVROUDAS, L.C. SPRINGS.

3 **Current research on Late Pleistocene and Early Holocene human remains from the Bladen Nature Reserve in southern Belize.** E.C. HILL, E. MOES, W.R. TRASK, E. KATE, C. MCKENZIE, H.J. EDGAR, D.J. KENNEDY, K.M. PRUFER.

4 **Childhood stress during the rise of sociopolitical stratification at Colha, northern Belize.** K.K. HOFFMEISTER, L.E. WRIGHT.

5 **A molecular anthropological re-examination of the human remains from La Galgada, Peru.** E. WASHBURN, L. FEHREN-SCHMITZ.

6 **Diet and Nutrition across Five Millennia in the Cusco Region of Peru: A Multi-Isotopic and Osteological Reconstruction.** B.L. TURNER, V. BÉLISLE, A.R. DAVIS, M. SKIDMORE, S.L. JUENGST, B.J. SCHAEFER, R. COVEY, B.S. BAUER.

7 **Stature and Sexual Dimorphism As Indicators of Non-Specific Stress Among the Peruvian Chiribaya.** J.R. LACERTE, C.

SLANK.

8 **Cranial Modification as a Marker of Social Identity in the Southern Hinterlands of the Wari.** A.F. WHITTEMORE, T.A. TUNG.

9 **Endogenous Cortisol Production in Archaeological Hair from Lupaqa Colonists at the Site of Estuquiña in Southern Peru.** B.J. SCHAEFER, S.R. WILLIAMS, N.O. SHARRATT.

10 **Tiwanaku affiliation and quality of life in Middle Horizon San Pedro de Atacama, Chile.** L. OLDERSHAW, M. HUBBE, C. TORRES-ROUFF, S. SADVARI.

11 **Population history of Kennewick Man in global craniometric context.** N. VON CRAMON-TAUBADEL, M. HUBBE.

12 **An Evaluation of the Howells' Dataset for Determining Ancestry in Known Pacific Northwest Native American Crania: Implications for Kennewick Man.** G.L. TASA, J. VOGEL.

13 **Life in the Pre-Contact Cibola Region: Osteobiographies of Human Remains from Chaco Outlier Sites.** A.A. HANNIGAN.

14 **The New Mexico Bioarchaeology Database Project.** A.L. STODDER, S.D. BERRY.

15 **Exploring Subsistence Strategies at Helton Using Dental Microwear Texture Analysis.** T.A. EMERY.

16 **Helton Mound 22 Crematory: An Examination of Late Woodland Mortuary Practices.** B.L. BLEVINS, S.A. MIJAL, A.R. HOFF, J.E. BUIKSTRA.

17 **Burial Patterning and Biological Distance at the Black Earth Site (11-Sa-87): Implications for Understanding Cemetery Development During the late Middle Archaic.** M.L. CAMPBELL, R.M. CAMPBELL.

18 **Utilizing the bioarchaeology of care in the Lower Illinois River Valley.** N. SMITH, J. BUIKSTRA, A. HOFF.

19 **Deviance, pregnancy, and violence: an in-situ maternal-perinate burial from Late Prehistoric Pennsylvania.** R. WAKEFIELD-MURPHY.

20 **Examination of cremation practices at River Styx, a unique ceremonial center in North Central Florida.** K. WILLIAMSON, N. WALLIS, J. KRIGBAUM.

21 **Craniofacial Facial Morphology of the First Floridians.** S.E. PRICE, M. FARALDO, L.L. TAYLOR, G.A. CARDENAS.

22 **Analyzing immigration in historic America through ⁸⁷Sr/⁸⁶Sr isotopic analysis of the remains interred in the Erie County Poorhouse Cemetery 1851-1913.** M.M. MAYBERRY, J.E. SIRIANNI.

23 **Investigating socioeconomic status in historic Charleston, through dietary analysis of urban *Sus scrofa*.** R.B. KORNAYER, J. CAIAZZA, C. JUAREZ.

24 **Testing body mass estimation methods: the Mississippi State Asylum Cemetery.** S. DANESHVARI BERRY.

25 **As the Sun Sets, We Remain: Oseteobiographies from the Gause Cemetery at Seaside.** J.R. QUINTANA, M. PERRY, C. EWEN.

26 **Reconstructing Diet for a population of Colonial Enslaved Africans.** C.A. JUAREZ, B.E. CROWLEY.

Thursday, Afternoon sessions.

Session Going Beyond the "Biocultural Synthesis": Bridging Theory and Practice in Bioarchaeology

15:

Invited Podium Symposium. Chair: Colleen M. Cheverko, Julia R. Prince-Buitenhuis, Mark Hubbe.

Co-organizers: Colleen M. Cheverko, The Ohio State University; Julia R. Prince-Buitenhuis, University of Notre Dame; Mark Hubbe, The Ohio State University.

Texas I.

The biocultural synthesis has been advocated as a useful approach in bioarchaeological studies because it allows for the interpretation of biological phenomena observed on the skeleton within a cultural context, making it applicable to studies of the past. Although this approach has been applied as a method, theory, and epistemology within bioarchaeology, its applications to studies of the past demonstrate limitations. As a method, the biocultural approach is often shaped by epistemological and theoretical viewpoints that are not explicitly discussed. As a theory, it often overrides important anthropological theories such as embodiment or life history theory, and it can conflate the use of theories to build hypotheses. Lastly, as an epistemology, the biocultural approach is frequently used generally, without specific discussions about the assumptions that frame its use. As a result of these three limitations, the biocultural synthesis often enables bioarchaeologists to be less explicit about the anthropological theories they employ in their studies. This symposium was conceptualized to highlight current research that attempts to build upon the biocultural synthesis to advance discussions about how theory and practice can be applied to studies of the past as the field creates more holistic approaches within biological anthropology. Specific theoretical orientations, methods, and theoretical assumptions will be highlighted in each study. We foresee these papers will encourage researchers to be explicit when discussing which epistemologies are framing their research questions beyond the biocultural synthesis, because pursuing specific theoretical models enables more critical anthropological discussions and provides stronger arguments when addressing core questions about past human experiences. These papers, therefore, will facilitate ongoing discussions about how to bridge theoretical and practical applications

within bioarchaeology.

2:30 **Corporeal affect: human remains as subjects and objects in Cambodia.** J.M. FLEISCHMAN.

2:45 **Structural Violence and Disease: Epistemological Considerations for Bioarchaeology.** L.N. BRIGHT, J.T. HEFNER.

3:00 **Extending the adaptive landscape metaphor into bioarchaeological theory and practice.** M. HUBBE, C. CHEVERKO.

3:15 **Embodying Intimacy: Cranial Vault Modification as Child Rearing Practice.** C. TORRES-ROUFF.

3:30 **A biocultural approach to reconstruct immune competence in past populations: searching for a new dialogue between immunology and bioarchaeology.** F. CRESPO.

3:45 **When Biocultural isn't Enough: the Evolutionary Becomings of Skulls.** J.R. PRINCE-BUITENHUYSEN, A. FUENTES, S. GUISE SHERIDAN, M.J. RAVOSA.

4:00 **BREAK.**

4:30 **Contextualizing the Biocultural Approach with Practice Theory: Physical Activity and Inequality During the Andean Middle Horizon and Late Intermediate Period.** S. SCHRADER, M. HUBBE, C. TORRES-ROUFF.

4:45 **Bioarchaeology Beyond Structure: Discussing Power and Inequality Through the Lens of Practice.** S.E. NUGENT, K.N. HOPE.

5:00 **Putting theory into practice: biocultural reconstructions of gender and social identity relative to health and disease in past populations.** M.K. ZUCKERMAN.

5:15 **Making Silenced Voices Speak: Restoring neglected and ignored identities in anatomical collections.** C.M. DE LA COVA.

5:30 **Discussant: Haagen Klaus.**

5:45 **Discussant: Agustin Fuentes.**

Session Human population genetics

16:

Contributed Podium Presentations. Chair: C. Eduardo Amorim.

Foothills Ballroom II.

2:30 **Genetic evidence for early separation of Neanderthals and Denisovans and an early archaic bottleneck.** A.R. ROGERS, R.J. BOHLENDER, C.D. HUFF.

2:45 **Sharing of deletion polymorphisms reveal additional pulses of Neanderthal introgression.** R.O. TASKENT, J. BRADLEY, Y. LIN, O. GOKCUMEN.

3:00 **Investigating Ancient Hominin ABO Haplotype Structure From Modern Populations.** K. FOX, I.B. STANAWAY, J. JOHNSEN, D.A. NICKERSON.

3:15 **Shared signals of selection between populations is not due to shared ancestry alone.** N.S. HARRIS.

3:30 **Post-Glacial and Neolithic Migrations Spread Rare HV lineages from Near East to Europe and South Asia.** M. SHAMOON-POUR, M. LI, D. MERRIWETHER.

3:45 **Migration and social organization in medieval Europe: A paleogenomics approach.** C.G. AMORIM, S. VAI, C. POSTH, I. KONCZ, D. BOBO, S. HAKENBECK, M. LAROCCA, B. MENDE, W. POHL, C. GIOSTRA, T. VIDA, D. WINGER, J. KRAUSE, D. CARAMELLI, P.J. GEARY, K.R. VEERAMAH.

4:00 **BREAK.**

4:30 **Mitochondrial population dynamics in Black Death London.** J. KLUNK, A. DUGGAN, R. REDFERN, S. DEWITTE, H. POINAR.

4:45 **Native American relatives in Bronze Age southern Siberia? Okunev Culture and the new dialogue of genome-wide ancient DNA and physical anthropology.** A.M. KIM, A. KOZINTSEV, V. MOISEYEV, N. ROHLAND, S. MALICK, D.E. REICH.

5:00 **Demographic analysis of ancient individuals from British Columbia using mtDNA and Y-chromosome data.** A.C. OWINGS, H. LI, S. GAO, B. PETZELT, J. MITCHELL, J.S. CYBULSKI, R.S. MALHI.

5:15 **The Peopling of the Ancient Andes.** J. LINDO, R. HASS, C. HOFMAN, C. WARINNER, M. ALDENDERFER, A. DIRIENZO.

5:30 **aDNA Analysis Indicates Genetic Discontinuity After the Collapse of the Wari Empire.** A. CHILDEBAYEVA, K. HARKINS, J. NOVAK, A.W. BIGHAM, T. TUNG, M. CABRERA, J. OCHATOMA, L. FEHREN-SCHMITZ.

5:45 **The Origins and Evolution of Urban Amazonia: A Molecular Anthropology Perspective.** R.E. DAVID.

Session Human Functional Skeletal Morphology

17:

Contributed Podium Presentations. Chair: Benjamin M. Auerbach.

Texas II/III.

2:30 **The influence of development, energetics, and behaviour on the mechanical competence of the female skeleton.** A.A. MACINTOSH, J.C. WELLS, J.T. STOCK.

2:45 **The homology of the human pisiform revealed by comparative ossification timing in hominoids.** K.M. KJOSNESS, P.L.

RENO.

3:00 **Does pelvic morphology predict gut volume in humans?** J. UY, J. HAWKS.

3:15 **Age-related changes in the structural properties of the human tibia.** A.F. GOODING, A.D. SYLVESTER, B.M. AUERBACH.

3:30 **Trabecular bone reinforces cortical bone capability to withstand off-axis loading.** M.M. BARAK.

3:45 **Linking calcaneal trabecular bone ontogeny and the development of bipedal human gait.** J.P. SAERS, C.N. SHAW, T.M. RYAN, J.T. STOCK.

4:00 **BREAK.**

4:30 **Sphenoidal Sinuses and Spatial Compromise in Basicranial Modular Development and Evolution.** K.G. RYAN, J.T. STOCK, L.T. BUCK.

4:45 **Comparison of the patterns and degrees of sexual dimorphism among crania from late 19th to early 20th century West Africans, African Americans, and European Americans.** M.A. POPE, A.C. RIVARA, E.H. KIMMERLE.

5:00 **Skeletal markers of activity among subsistence regimes.** M.L. MOORE.

5:15 ***In silico* modeling of glenohumeral joint variation in biomechanical function and stability.** E.C. LEE, A. CLOUTHIER, R. BICKNELL, M.J. BEY, N.T. ROACH, N.M. YOUNG, M.J. RAINBOW.

5:30 **Locomotor-respiratory dynamics and gait frequency tuning in humans.** E.R. CASTILLO, H. PONTZER.

5:45 **Recurrent Variational Ladder Auto-Encoders: An Unsupervised Deep-Learning Approach for Obtaining Structured Hierarchical Representations of Locomotor Characteristics from Sequential Kinematic Data.** O.O. THOMAS, E. LEE, C.C. ROSEMAN, S.P. PSUTKA, D.E. LIBERMAN, P. MOULIN, J.D. POLK.

Session Primate Behavior: Ecology and Hormones
18:

Contributed Podium Presentations. Chair: Klaree J. Boose.

Texas V/VI.

2:30 **To arouse or not to arouse: physiological responses from active thermogenesis versus thermoconforming in hibernating dwarf lemurs.** M.B. BLANCO, P.H. KLOPFER, A.D. KRYSTAL.

2:45 **Environmental predictors of *Eulemur* pelage variation.** A.N. SPRIGGS, B.J. BRADLEY, J.M. KAMILAR, A.D. GORDON.

3:00 **Thermo-Energetic Metabolic Demands and Daytime Behavioral Patterns of a Wild Cathemeral Monkey.** J.P. PEREA-RODRIGUEZ, M.K. CORLEY, E. FERNANDEZ-DUQUE.

3:15 **Living with climate extremes and behavioral coping in a population of chacma baboons in South Africa.** S. CHOWDHURY, L. SWEDELL.

3:30 **Spatial Parameters Influence the Distribution of Orangutan (*Pongo pygmaeus wurmbii*) Dispersed Seeds.** A. BLACKBURN, Y. MA, S. GOPAL, .. RIYANDI, C.D. KNOTT.

3:45 **DETERMINANTS OF FLANGED MALE ORANGUTAN RANGING: ECOLOGY, ENERGETICS, & MALE COMPETITION.** W.M. ERB, T. MITRA SETIA, E.R. VOGEL.

4:00 **BREAK.**

4:30 **Male mountain gorillas' dominance hierarchies are not mediated by testosterone.** S. ROSENBAUM, R.S. SANTYMIRE, T.S. STOINSKI.

4:45 **Measuring wild chimpanzee body temperature from fecal deposits.** J.D. NEGREY, K.E. LANGERGRABER, C.D. KNOTT.

5:00 **The Sex that Binds: Genito-genital rubbing is associated with increases in urinary oxytocin among wild female bonobos.** L.R. MOSCOVICE, M. SURBECK, B. FRUTH, G. HOHMANN, T. DESCHNER.

5:15 **Male-immature interactions in bonobos (*Pan paniscus*) and the relationship to testosterone, male reproductive behavior, and affiliation with mothers.** K.J. BOOSE, F.J. WHITE, A. MEINELT, J. SNODGRASS.

5:30 **Urea concentration as a measure of protein balance in pre- and post- release Bornean orangutans (*Pongo pygmaeus wurmbii*).** E.F. BALLARE, E.R. VOGEL.

5:45 **Examining stress in western lowland gorillas: A multi-zoo application of the first allostatic load index in zoo-housed great apes.** A.N. EDES, B.A. WOLFE, D.E. CREWS.

Session Environment, Diet and Human Evolution
19:

Contributed Podium Presentations. Chair: George (PJ) Perry.

Zilker 4.

2:30 **Hominin isotopic dietary niche breadth expansion during pliocene environmental change.** C.M. SEYOUN, J. ROWAN, W.H. KIMBEL.

2:45 **Site Formation at the Australopith locality, Kantis Fossil Site, Kenya.** K.E. JENKINS, E. MBUA.

3:00 **Early Pleistocene grassland evolution at East Turkana, northern Kenya, as indicated by shifting patterns of mesic and xeric adapted mammals.** K. O'BRIEN, A. MCGROSKY, K. ALLEN, L. ANDERSON, M. BIERNAT, D.R. BRAUN, A. GUERRERO, A. HAMMOND, L. HUNTER, J. SECKINGER, F. TORRES, R. ZELLER, D.B. PATTERSON, D. ZERIHUN.

3:15 **Early hominin environments in southern Africa: A micromammalian perspective.** J.N. LEICHLITER, O.C. PAIN, N.L. AVENANT, M. SPONHEIMER.

3:30 **Exploring the contribution of South Africa's flora to the diet of early humans.** S.M. BOTHA, A.J. POTTS, R.M. COWLING, K.J. ESLER, J.C. DE VYNCK.

3:45 **The effects of season and habitat on the mechanical and nutritional properties of potential hominin plant foods.** O.C. PAIN, A. KOPPA, A.G. HENRY, J.N. LEICHLITER, D. CODRON, J. CODRON, M. SPONHEIMER.

4:00 **BREAK.**

4:30 **Narrower scales of mesowear ordinal methods are more predictive of ecological variables: Implication for paleoecological reconstruction of an early *Homo* site.** M. BELMAKER, H.D. O'BRIEN.

4:45 **Shellfish exploitation, resource depletion, and technological change, in a monkey model system.** A. TAN, L.V. LUNCZ, M. HASLAM, L. KULIK, T. PROFFITT, S. MALAIVIJITNOND, M.D. GUMERT.

5:00 **Human tapeworm functional and evolutionary genomic adaptations to cooking-related heat stress.** G. PERRY, C. BERGEY, S. JOHNSON, A. KOENIG, A. SULLIVAN, B. BOUFANA, P. CRAIG, Y. CASTILLO, S. MAHANTY, H. GARCIA.

5:15 **Strontium Isotopes as Indicators of Philopatric Dispersal Patterns.** M.I. HAMILTON, S. NELSON.

5:30 **Differences in Bovidae faunal abundance in the Pleistocene of the Omo Group of East Africa.** A. GUERRERO, L. ANDERSON, K. ALLEN, K.P. O'BRIEN, B. ZELLER, D. ZERIHUN, M.D. BIERNAT, A. MCGROSKY, F.S. TORRES, D.B. PATTERSON, D.R. BRAUN, J. SECKINGER.

5:45 **The paleoecological context of *Homo erectus* in East Turkana, northern Kenya between 2.0 and 1.4 Ma.** J.A. SECKINGER, F.S. TORRES, K.P. O'BRIEN, L. ANDERSON, A. MCGROSKY, K. ALLEN, B. ZELLER, D. ZERIHUN, A. GUERRERO, M.D. BIERNAT, L.E. HUNTER, A.S. HAMMOND, D.B. PATTERSON, D.R. BRAUN.

Session 20: Structural Violence in the Industrial Era: A Theoretical Framework for Bioarchaeological Analysis of Social and Socioeconomic Inequality

Invited Poster Symposium. Chair: Lori A. Tremblay, Gail Hughes Morey, Sarah Reedy.

Co-organizers: Lori A. Tremblay Critcher, The Ohio State University; Gail Hughes Morey, Mohawk Hudson Humane Society; Sarah Reedy, University of Massachusetts Amherst.

Hill Country D.

While many bioarchaeologists study the health disparities that existed in industrial era populations, many of these analyses have been done without the benefit of an overarching theoretical umbrella. Scholars in cultural and medical anthropology consistently use a structural violence lens to explore the ways in which social, political, and/or socioeconomic structures and institutions create inequalities that result in health disparities for the most vulnerable or marginalized segments of contemporary populations. Thus, a structural violence framework has the potential to provide us with a means to theoretically contextualize those health disparities in populations from the industrial era while also providing a point of synthesis for institutional bioarchaeology. This session aims to do just that -- to expand upon the work of those bioarchaeologists who have used this framework in the past to explore its potential for contextualizing industrial era institutional bioarchaeology. Understanding how institutional forces had an impact on morbidity and mortality among marginalized groups can provide us with a more nuanced means to assess the social and biological consequences of the large scale economic and social transitions that occurred during the processes of industrialization around the world. The papers presented in this session will address how we can use a structural violence lens to understand how the social institutions in the industrial era had an impact on risk for disease and trauma, injury recidivism, health care, childhood morbidity and mortality, and the shape of the female body.

4:00 **BREAK.**

- 1 **Hazards of the Industrial Age: Considering Structural Violence in Turn of the Century Milwaukee.** S.P. DOUGHERTY.
- 2 **Crisis or deviation?: The Erie County Poorhouse (1828-1926) as a heterotopia.** J.L. MULLER, J.F. BYRNES, D.A. INGLEMAN.
- 3 **Injury and Industrialization: structural violence, chronic and episodic biological stress, and trauma in working class English women.** S.A. MATHENA-ALLEN, M.K. ZUCKERMAN, A.J. OSTERHOLTZ, M.L. DAVENPORT, P. BANKS, R. KING.
- 4 **Workload intensity and health during Portugal's corporatist Estado Novo as reflected by the skeleton.** G.M. AGOSTINI.
- 5 **Enthesal stress patterns as a form of structural violence: Evidence from the hamann-todd osteological collection (1913-1935).** A.P. ALIOTO.
- 6 **"Against Shameless and Systematic Calumny" : Strategies of Domination and Resistance and their Impact on the Bodies of the Poor in 19th-century Ireland.** J. GEBER, B. O'DONNABHAIN.
- 7 **The Expendables: Child Poverty and the Inheritance of Inequality in 19th Century England.** S. NEWMAN, R. GOWLAND, A. CAFFELL, M. HOLST.

- 8 **Embodied discrimination and “mutilated historicity” : Archiving black women’s bodies.** A.M. LANS.
- 9 **From Inexpressible Loveliness to Practical Deception: Structural Violence In Female Oriented Medical Practices.** R. GIBSON.
- 10 **Shaping the proper female: Beauty, bodies, and the bioarchaeology of structural violence in the Victorian Era.** P.K. STONE.

Session 21: Causes, Context, and Consequences of Human Sexual Dimorphism

Invited Poster Symposium. Chair: Holly Dunsworth, Cara Wall-Scheffler.

Co-organizers: Cara Wall-Scheffler, Professor of Biology, Department of Biology, Seattle Pacific University.

Texas VII.

Sexual dimorphism has long been a fertile research topic among scientists and scholars of every biological guild. For those interested in human evolution in particular, the earliest reconstructions of human evolutionary history made large claims regarding sex differences in morphology and physiology""implicating any potential difference in driving culturally specific social behaviors, particularly those surrounding mating and reproduction. Sexual selection theory, coupled with comparative anatomical and behavioral observations of primarily nonhuman primates, has traditionally dominated this discourse, which has greatly impacted science and scholarship beyond evolutionary biology. For example, psychological, historical, and sociological discussions of the male-dominated social systems commonly consider a social system's primate origins and suggest an evolutionary origin. This is particularly true of Western notions of patriarchy that is suggested to owe its success [sic] specifically to active selection. Given the extent to which the history of science has impacted culture, interpretations of sex differences in morphology and their implications--many of which originated in Victorian England--should be reexamined. Here, researchers from diverse perspectives will come together to illuminate the causes, context, and consequences of human sexual dimorphism and difference, and to synthesize a complex understanding of this phenomenon of human biology and genetics, and its ties to past and present human behavior, culture, and society. What arises will be significant for specialists and non-specialists, as these issues are gaining evermore prominence in the public sphere and as anthropologists play an increasingly crucial role in shaping public understanding of human nature.

2:30 **Individual Poster Presentations (Even).**

3:15 **Individual Poster Presentations (Odd).**

4:00 **BREAK.**

4:30 **Roundtable Discussion.**

5:00 **Discussant: Sarah Hrdy.**

5:20 **Discussant: Kimberly Hamlin.**

5:40 **Summary Thoughts.**

1 **Why are women smaller than men?** H. DUNSWORTH.

2 **Sexual dimorphism in morphology and reproductive effort.** P.T. ELLISON, R.G. BRIBIESCAS.

3 **One genome, two phenotypes: A multi-disciplinary perspective on sexual dimorphism.** L.A. KNAPP.

4 **The ontogeny of facial masculinity.** C.R. HODGES-SIMEON, S.M. WEINBERG, K. STEINHILBER, M. GURVEN, S.J. GAULIN.

5 **The Evolution of Human Sex Differences.** D. PUTS.

6 **Sex-Differentiated Developmental Trajectories and the Role of Mother's Milk.** K. HINDE.

7 **Do bonobo (*Pan paniscus*) brains develop to break the sexual dimorphism mold?** B. HARE.

8 **Sexual dimorphism in an expanding *Au. afarensis* assemblage.** P.L. RENO.

9 **A fossil-based perspective on modern human pelvic sexual dimorphism.** C. VANSICKLE.

10 **Perilous Pregnancies, Frail Bodies, and Proper Behavior: A biohistoric analysis of sexual dimorphism and the construction of sex and gender roles.** L. ORTIZ, A.C. ZIMMER, P.K. STONE, R.P. HARROD.

11 **Location, Location, Location: Sexual dimorphism of the human pelvis has no universal pattern.** H.K. KURKI, C. WALL-SCHEFFLER.

12 **Are there any sexually dimorphic measures that matter for locomotor effort?** C.M. WALL-SCHEFFLER, M.J. MYERS.

13 **The role of political, economic, and biocultural processes in producing sexual dimorphism and health disparities in recent human populations.** A.C. DAFOE, M.C. MCALPINE, M.K. ZUCKERMAN.

14 **Sexual dimorphism and the rise of male dominance.** R.J. LEWIS, E. KIRK, A. GOSSELIN-ILDARI.

15 **Dietary consequences of sexual size dimorphism in primate.** E.R. VOGEL, J.M. ROTHMAN.

Session Human nutrition, health, and disease
22:

Contributed Poster Presentations. Chair: Geeta Eick.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 6:00-7:00 pm

- 1 **Education, Social Status, and Health in Vanuatu.** E.D. MASSENGILL, S.M. MATTISON.
- 2 **Nutritional status of urban Cuban children and perceptions on obesity of a sample of their relatives.** VANESSA VÁZQUEZ SÁNCHEZ, DULCE MILAGROS NIEBLA DELGADO, MARÍA ELENA DÍAZ SÁNCHEZ, YOANDRY A. DÍAZ RODRÍGUEZ and ARIANNA CARREÑO NIEBLAS.
- 3 **Immune response to soil-transmitted helminths is associated with reduced intestinal inflammation: Preliminary evidence from Amazonian Ecuador.** T.J. CEPON-ROBINS, T.E. GILDNER, J. SCHROCK, G. EICK, A. BEDBURY, M.A. LIEBERT, S.S. URLACHER, F.C. MADIMENOS, C. HARRINGTON, D. AMIR, R.G. BRIBIESCAS, L.S. SUGIYAMA, J.J. SNODGRASS.
- 4 **Divergent evolution of extracellular trapping in primates.** K. VAN ETEN, M. WOO, N. VALIZADEGAN, S. GUNASEKERA, Y. SUAREZ, B. ALDRIDGE, J.F. BRINKWORTH.
- 5 **Adolescent diet and nutritional deficiencies in Samburu pastoralists of Kenya.** E.E. TYLER, B. STRAIGHT, C.E. HILTON.
- 6 **Assessing age-related differences in frailty measurements among Pokot agro-pastoralists of Kenya.** M. SAYRE, I.L. PIKE, E.N. BUNKLEY, D.A. ODERA, C.A. REEVES, N. TOOSIZADEH, J. MOHLER, G.E. ALEXANDER, D.A. RAICHLEN.
- 7 **Hadza hunter-gatherer diet: chemical composition of foods and estimate of food type contribution.** A.N. CRITTENDEN, N.L. CONKLIN-BRITTAINE, J. BERBESQUE, B.M. WOOD, A.Z. MABULLA, M.J. SCHOENINGER.
- 8 **Can honey consumption be detected from metagenomic gut microbiome data?** S.L. SCHNORR.
- 9 **Variation in physical activity between families in rural Dominica.** T.C. JASKOWIEC.
- 10 **Facial fluctuating asymmetry as a marker of cumulative health burden in women.** K. RUSK, C. MOSLEY, K. HUNLEY, M. HEALY, H.J. EDGAR.
- 11 **Inflammation as a Mediator of Depression and Diabetes in the Study on global AGEing and adult health (SAGE).** A.C. DONA, A.M. DELOUIZE, G. EICK, E. THIELE, A.S. RODRIGUEZ, B. ESPINOZA, R. ROBLEDO, S. VILLALPANDO, P. KOWAL, N. NAIDOO, S. CHATTERJI, J. SNODGRASS.
- 12 **Anatomical Reconstruction in a Case of Syndyloepiphyseal Dysplasia from Uzbekistan.** S.Y. GREER, D.W. HANSEN II, E. BULLION.
- 13 **Sex differentials among groups exhibiting increased survivorship on the North American Great Plains.** J.D. MINSKY-ROWLAND.
- 14 **Tuberculosis and leprosy interaction: the potential role of other Mycobacterial species on training innate immunity.** H. MITCHELL, F. CRESPO.
- 15 **Lifestyle Changes and Immune Function: Associations between Immunoglobulin E Levels and Market Integration among Indigenous Shuar from Amazonian Ecuador.** T.E. GILDNER, S.S. URLACHER, M.A. LIEBERT, T.J. CEPON-ROBINS, J.M. SCHROCK, F.C. MADIMENOS, C.J. HARRINGTON, J. SNODGRASS, L.S. SUGIYAMA.
- 16 **Daily food sharing in nonindustrial societies: effects of subsistence ecology, food storage technology, and spatial/phylogenetic distance.** E.J. RINGEN, A.V. JAEGGI.

Session Primate Cranial Morphology
23:

Contributed Poster Presentations. Chair: Hannah Selvey.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 6:00-7:00 pm

- 1 **Cranial morphometric analysis on *Pygathrix nemaeus* and *Pygathrix cinerea*.** C. PATE, L. ULIBARRI, F. WHITE, S. FROST.
- 2 **Morphological integration of hyoid and skull through ontogeny in *Macaca mulatta*.** A.S. CUNNINGHAM, V. BURKE DELEON.
- 3 **Orangutan Growth and Development Evaluated in Conjunction With Secondary Sexual Characteristics.** A.E. KRALICK.
- 4 **The Ontogeny of Craniofacial Sexual Dimorphism in Extant African Apes.** M.K. STOCK.
- 5 **The ontogeny of sexual dimorphism among known-aged Virunga mountain gorillas (*Gorilla beringei beringei*) and Gombe chimpanzees (*Pan troglodytes schweinfurthii*).** J.S. MASSEY, S. MCFARLIN, A. MUDAKIKWA, T.S. STOINSKI, M.R. CRANFIELD, T.G. BROMAGE, A. PUSEY, D. MJUNGU, A. COLLINS, K.P. MCNULTY.
- 6 **Ontogenetic changes in morphological integration in the macaque cranium and mandible.** H. JUNG, N. VON CRAMON-TAUBADEL.
- 7 **Effects of captivity on cranial form in the Celebes crested macaque (*Macaca nigra*).** A. SALDAN, J.R. KRECIOCH, M.

SINGLETON.

8 **Modeling Domestication with Malagasy Lemurs.** H. SELVEY.

9 **A comparison of fluctuating asymmetry models in non-human primate crania.** A.N. ROMERO, C.E. TERHUNE.

10 **Global or local: Where do we find phylogenetic signal in papionin cranial shape?** N.D. GRUNSTRA, S.J. BARTSCH, P. MITTEROECKER.

11 **Spatial packing constraints on cranial form in howler monkeys (genus *Alouatta*).** R.C. MCCARTHY, J. NADOLSKI, A. DELEGGE, T.M. COLE III.

12 **Image Registration and Template Based Annotation of Great Ape Skulls.** C. DAVIS, A. MAGA.

13 **Circumorbital rim variation in Western red colobus (*Piliocolobus badius badius*) and its potential role as a sexually selected trait.** L.D. FANNIN, W.S. MCGRAW.

14 **Comparing rates of lineage diversification with rates of size and shape evolution in catarrhine crania.** E.A. SIMONS, S.R. FROST, K. HARVATI, K. MCNULTY, M. SINGLETON.

15 **A tale of two species: a geometric morphometric analysis of *Macaca fascicularis* and *Macaca mulatta* crania.** B.A. KENYON, M.A. CONAWAY, N. VON CRAMON-TAUBADEL.

16 **Anatomical Network Analysis of the musculoskeletal system of the primate head and neck.** V.C. POWELL, R. DIOGO, B. ESTEVE-ALTAVA, J. MOLNAR, B. VILLMOARE, A. PETTIT.

17 **Patterns of relative olfactory turbinal surface area through Euarchonta.** I.K. LUNDEEN.

18 **How do lowland gorillas hear?** M. CONDE-VALVERDE, I. MARTÍNEZ, M. ROSA, R.M. QUAM, P. JARABO, A.D. VELEZ, J. ARSUAGA.

19 **Scaling patterns of primate paraflocculi: effects of phylogeny and ecology.** M.M. LANG, O.C. BERTRAND, M.T. SILCOX.

Session Human Skeletal biology: Forensic Anthropology

24:

Contributed Poster Presentations. Chair: Phoebe R. Stubblefield.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 6:00-7:00 pm

1 **The effect of third molar impaction on age estimation in males.** K.N. HEIM, M.A. PILLOUD.

2 **Subadult age estimation of Taiwanese populations using long bone dimensions from radiographs.** A. YIM, K.E. STULL, H. HWA, H. LIU.

3 **Aging the Aged: A Modified Method to Age Elderly Individuals Using Osteoarthritis of the Sternoclavicular Joint.** A.M. ATKINS, I. DE GROOTE.

4 **Evaluating the appropriateness of the Maresh long bone data for age estimation of juvenile skeletal remains in forensic contexts.** L. SPAKE, H.F. CARDOSO.

5 **Estimating Age: Reporting Strategies and Observer Reliability.** C.A. BAILEY.

6 **Ordinal and Metric Methods for Adult Age Estimation Using Vertebral Osteophytosis.** J. GRIFFIN.

7 **Quantitative age-at-death estimation: A three-dimensional morphological analysis of the sternal extremity of the rib.** A.D. SCHAEFER.

8 **Dental Metrics for Sex Estimation in Presumed Hispanic Migrants.** T.P. GOCHA, K. SPRADLEY.

9 **Metric Sex Determination Between Modern Thai and Native American Populations.** M.M. PATTERSON, S.D. TALLMAN.

10 **Testing the Accuracy of Sex Estimation from the Metacarpals, Calcaneus, and Talus on a Sample of Known Sex Individuals.** K. CASAGRANDE, P. LAMBERT.

11 **Introducing MorphoPASSE: the Morphological Pelvis and Skull Sex Estimation Database.** A.R. KLALES, S.J. COLE.

12 **Sex Differences and the Forensic Application of Skeletal Stress Markers: A Correlation Study of Dental and Postcranial Indicators of Non-Specific Stress.** J.Z. GOLDSTEIN.

13 **A Test of the Metric Method for Estimating Sex Using the Human Radius.** L.A. HAYES, J. KARSTEN.

14 **Testing a Novel Method of Metric Cranial Sex Estimation.** T. SOMOGYI, E.A. EVANGELOU, K.A. WILLIAMS, D. JULIEN, A. FOLIGNO, E.A. DIGANGI.

15 **Subadult sex estimation using multi-slice computed tomography scans of the ilium.** N.L. ANDRAS, M.K. STOCK.

16 **Sex Estimation from Carpals in an American White Sample.** K.R. TAYLOR, M.D. HAMILTON.

17 **Stature estimation from fragments of the tibia in black South Africans.** A.J. SPIES, D. BRITS, M.A. BIDMOS.

18 **Stature estimation from post-mortem CT femoral measurements in contemporary Danish population.** Q. ZHANG, M. JØRKOV, C. VILLA, N. LYNNERUP.

19 **Getting in the zone: A discussion on the significance of double-zonal osteons.** F.D. REICHERT, D.M. MULHERN.

20 **Decapitation: A Case Study and Review of the Literature.** V.M. SWENSON, R.L. GEORGE, M.A. PILLOUD, L.D. KNIGHT.

21 **Craniotomy and thoracotomy in the individuals from the Coimbra Identified Skeletal Collection (early 20th century, Portugal).** A. SANTOS, D. ALVES, B. MAGALHÃES.

22 **A Modified Human Cranium: “Cultural Heritage Object” or “Work of Art”?** P.R. STUBBLEFIELD.

23 **Pediatric fracture healing and fracture location; a radiographic approach.** D.L. MESSEY, B.H. ADLER, F.W. BRINK, H. XIANG, A.M. AGNEW.

24 **Classification of fractures in human ribs subjected to dynamic bending.** A.L. HARDEN, A.M. AGNEW.

25 **Osteoarthritis of the cervical vertebrae, C3-C7, from an identified skeletal collection.** B.I. QUISPE, F. WILLIAMS.

26 **The progression of vertebral osteoporosis: correlations between vertebral pathological conditions and sociodemographic risk factors.** J.A. KROLL, S.D. TALLMAN.

27 **The effects of cancer treatment-induced bone loss on morphological sex assessment.** K.L. JASNY, S.D. TALLMAN.

28 **Sharp force trauma and ultraviolet radiation: The implications of environmental exposure on forensic cutmark analysis.** J.F. SMALL, C. RANDO.

29 **The effect of sub-zero environments on blunt-force trauma in bone.** M. KVICALOVA, C. RANDO.

30 **Refining Asian Ancestry Classifications via Cranial Macromorphoscopic Traits.** A.M. PLEMONS, J.T. HEFNER, K.R. KAMNIKAR.

31 **Results of the forensic analysis performed on the child martyr of Puente Genil, Córdoba, Spain.** RICARDO ORTEGA RUIZ, LUIS RUIZ MOLINA, CRISTINA GÓMEZ RÍOS, FÁTIMA ORTIGOSA MARTÍNEZ, CARMEN RODRÍGUEZ GARCÍA and NOELIA MEDINA SÁNCHEZ.

32 **Smartphone Photogrammetry:Creating a Quick and Easy Recording Method for Forensic Crime Scenes.** W. BRADLEY, C.A. JONES.

33 **Determining the non-human bone fragments most commonly confused with human remains: indications for forensic anthropological training.** S.L. CROKER, D. DONLON.

34 **The lost children of St Augustine, Bristol, UK: A Study of commingled remains.** S.K. HUSSAIN.

35 **Dental Variation in Migrant Samples.** R.L. GEORGE, K.E. STULL.

36 **Isotopic georeferencing for Miami sector undocumented border crossers.** A.N. FRIEND, G.D. KAMENOV, J. KRIGBAUM.

37 **Washington’s Non-Forensic Human Skeletal Remains Law and the State Physical Anthropologist: A Model for Other States?** J. VOGEL, G.L. TASA.

38 **The Analysis of Interred Pig Legs in Dartmoor Bog using Portable X-ray Fluorescence Spectroscopy.** G. GRANITE, R. PALFREY.

Session Bioarchaeology and Paleopathology: Violence, Health, and Disease
25:

Contributed Poster Presentations. Chair: Caroline L. Znachko.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 6:00-7:00 pm

1 **Interpreting Prehistoric Spinal Health via Analysis of Schmorl’s Nodes at Turkey Creek Pueblo in Point of Pines Region, Arizona.** C.L. ZNACHKO.

2 **Endemic warfare and scurvy in Historic period Croatia.** A. ADAMIC, Z. BEDIC, V. VYROUBAL, M. SLAUS.

3 **Possible scurvy at Himera: a differential diagnosis of extensive cranial porosity.** V. ERANEZHATH, B. KYLE, K.L. REINBERGER, L.J. REITSEMA, S. VASSALLO, P. FABBRI.

4 **Treponemal disease in pre-Columbian and Columbian Mexico. A Review.** FELIANA MUÑOZ REYES1, LOURDES MÁRQUEZ MORFÍN1 and PATRICIA OLGA. HERNÁNDEZ ESPINOZA

5 **Presence or absence of tuberculosis in ancient skeletal samples from Ukraine.** T. BLOHM, D. KARSTEN, D. SCHMIDT.

6 **Pinpointing Porosity: An Exploration of Normal Variation in Juvenile Vertebral Porosity as it Relates to the Differential Diagnosis of Tuberculosis.** S. CHEEVER, J. BUIKSTRA, A. HOFF, S. MIJAL, M. SIMON.

7 **A child with probable skeletal tuberculosis from a cemetery in Turaida, Latvia (15th ““ 16th centuries AD).** E. PETERSONE-GORDINA, G. GERHARDS, C.A. ROBERTS.

8 **What lies beneath? Exploring the use of pre-antibiotic clinical radiographs in the study of tuberculosis.** R. CESSFORD.

9 **A Malignant Monkey: Skeletal evidence of metastasis in a Tantalus monkey (*Cercopithecus tantalus*).** T. SIEK, C.S. HIRST.

10 **A skull with a benign tumor from Iron Age Nileke Site, Xinjiang with special references to skeletal deformation and adaptation.** Q. WANG, Q. ZHANG, T. HAN, H. ZHU, Q. ZHANG.

11 **An ancient form of Paget’s Disease at Norton Priory, UK.** C.L. BURRELL, S. GONZALEZ, R. LAYFIELD, L. SMITH, J.D. IRISH.

12 **Did Holocene Brazilian shellmound builders experience higher rates of trauma: a worldwide sample comparison.** J.A.

TYLER, M. HUBBE.

13 **A case of erosive arthropathy from the Late Archaic period of the Lower Pecos, Texas.** C.E. HILTON, M.D. OGILVIE.

14 **Pathological conditions of craniosynostosis in aboriginal populations from the Gran Chaco plains of northwestern Argentina. A case report.** H. DRUBE, S. MARTÍNEZ, S. SALCEDA, G. LAMENZA.

15 **Patterns of Osteoarthritis in an Early-Agricultural Society: Relationship with Growth and Stature.** D.J. ODOM.

16 **Cribra orbitalia in correlation with craniofacial asymmetry in the children from the DeLiefde cemetery in Amsterdam; an investigation of orbital variations in relation to malnutrition and disease.** K.A. CALVO, D.C. GILBERT, D.E. SMITS.

17 **Nutritional stress, paleopathology and geographic ancestry: an integrative study of enslaved Africans in early New York.** K. PETERS, J.L. JONES, M.L. BLAKELY, A.H. GOODMAN.

18 **Comparing Frequencies of Pathology and Trauma in Formative and Late Intermediate Period Populations from the Osmore River Valley, Southern Peru.** C.K. BARRETT.

19 **First evidence of subadult periosteal lesions in Pre-Columbian Manabí, Ecuador.** N.A. JASTREMSKI, PHD, V.L. MARTINEZ, MA.

20 **Investigating the relationship between stable nitrogen and carbon isotope ratios and bacterial infections in a pre-Hispanic population from the Peruvian Andes.** T.A. TUNG, N. VANG, M.B. KRAUSE.

21 **Bioarchaeology of Care: The extended care of a debilitated hunter-gatherer with a possible case of Chagas Disease.** K.A. VEROSTICK, K. REINHARD.

22 **Violence and Conflicts in the Eurasian Steppes: A Study on Cranial Trauma Among Three Bronze-Iron Age Populations from Turpan Depression, China.** W. ZHANG, Y. XIONG, S. YANG, A. WANG, X. MAN, X. LIAO, X. GAO.

23 **Biological and Cultural Influences on Caries Prevalence between Sexes among worldwide Skeletal Series.** J.R. STAMER, K. MARKLEIN, M. HUBBE.

24 **The mother/infant dyad: Investigating inherited health through incremental dentine analysis and bacterial bioerosion.** A. CAPIRCI, R. GOWLAND, C. HODSON, T. BOOTH, J. MONTGOMERY.

25 **The Potoño Massacre.** I. JANKOVIĀ, M. NOVAK, J.C. AHERN, J. BALEN, H. POTREBICA.

26 **Cranial trauma in an early 20th Century Asylum: Injury recidivism in the Mississippi State Asylum assemblage.** P. BANKS, A. OSTERHOLTZ.

27 **Urban warfare in the Crusades: Weapon injuries in 13th century mass grave deposits at the fortified town of Sidon (Lebanon).** R. MIKULSKI, H. SCHUTKOWSKI, M.J. SMITH, P.D. MITCHELL.

28 **Craniofacial asymmetry and the presence of a unilateral bifid mandibular condyle from an identified skeletal collection.** K.M. LANE, F.L. WILLIAMS.

29 **Non-deadly violence at the Wari era site of La Real in Arequipa, Peru.** H. MARQUEZ, T.A. TUNG, N. VANG.

30 **Dental caries and oral health in the initial contact period Guale, St. Catherines Island, Georgia.** K.S. WEINRICH, C.S. LARSEN, B.J. BETZ, L.A. OLDERSHAW.

31 **Shape variation in artificially modified human crania from Postclassic West-central Mesoamerica.** S. NATAHI, G. PEREIRA, P. BAYLE.

Friday, Morning sessions.

Session Biological Anthropology and Dialogue with Diverse Publics

26:

Invited Podium Symposium. Chair: Robert C. O'Malley.

Zilker 4.

An individual's worldview, including their religious beliefs and cultural background, informs their perceptions of research studies and the scientific endeavor as a whole. According to a 2015 Pew survey, a majority of the American public identifies as religious or spiritual, and view science as "often in conflict" with religion (though a minority of Americans see science as in conflict with their *own* beliefs). Relatedly, disparities endure along racial and class lines in science education, opportunities to pursue science careers, and access to the benefits of scientific research. These divides are detrimental for all concerned, as a presumption that scientists hold different worldviews (including backgrounds, values, beliefs, and priorities) than other publics can impact the perceived trustworthiness and credibility of scientists on critical issues at the interface of science and society. Accordingly, engagement is increasingly recognized as an important dimension of science scholarship. Effective engagement can have a positive impact on public appreciation and support for scientific research, funding, education, and science-informed policy. Engagement with publics directly or indirectly impacted by scientific research is important for ethical reasons, but can also yield important insights for research topics, hypothesis development, methodology, and data interpretation. In a climate of increasing social polarization, there is a need for scientists to move beyond a science communication model focused on correcting perceived "deficits" in public knowledge and perspectives, and towards a framework centered on dialogue, trust-building, and the identification of shared interests

and goals among scientists and other stakeholders. This symposium will highlight examples, challenges and broader strategies for effective engagement with diverse publics on topics within and beyond biological anthropology.

8:00 **Acknowledging worldviews: A proactive strategy for engagement with science.** C.M. BERTKA, B. POBINER, P. BEARDSLEY.

8:15 **An evolving national conversation on human evolution.** R. POTTS.

8:30 **Religious Cultural Competence in Evolution Education (ReCCEE).** E. BARNES, S. BROWNELL.

8:45 **Toward a more “engaged field primatology”• : Communicating, engaging, and collaborating with diverse publics.** E.P. RILEY, K.T. HANSON, K.S. MORROW, A.A. ZAK.

9:00 **The impact of changing religious practices on orangutan fieldwork and conservation in West Kalimantan (Borneo), Indonesia.** C. KNOTT, C.A. O'CONNELL, T. BREEDEN, T. SUSANTO.

9:15 **Forensic Science, Death, and the Public: Towards Effective and Compassionate Communication.** E.A. DIGANGI, A. GRUENTHAL-RANKIN, M. TRIMBLE.

9:30 **Moving forward with NAGPRA: From basic implementation to ethical engagement and collaborative reciprocity.** J. THOMAS.

9:45 **Reclaiming African American ancestries for research, identity construction, and memorialization.** F.L. JACKSON.

10:00 **BREAK.**

10:30 **Politics of collaborative research with Indigenous communities: Moving beyond the framework of community engagement.** A.C. BADER, S. MARTIN, R.S. MALHI.

10:45 **Situating anthropological genetics within local beliefs in pastoral Kenya.** C. HANDLEY, S. MATHEW, A. TARAVELLA, A. STONE, M.A. WILSON SAYRES.

11:00 **Being Black and Doing Black Research: Methods for Recruiting and Retaining African-Americans in a Bio-cultural Health Study.** J.A. DOYLE, B. SHELL-DUNCAN, S. GOODREAU.

11:15 **Zika Virus and maternal stigmatization: Supporting maternal and child health through religious engagement in American Samoa.** M.E. HOWELLS, C.D. LYNN.

11:30 **Can we “Kickstart”• science?** M.A. WILSON SAYRES.

11:45 **An imperfect science: Lessons for cross-disciplinary dialogue and public advocacy from the March for Science Boston.** E.T. CROCKER.

12:00 **Discussant: Briana Pobiner.**

Session Primate Anatomy and Evolution

27:

Contributed Podium Presentations. Chair: Sergio Almécija.

Foothills Ballroom II.

8:00 **Spectral niche segregation in Sulawesian dawn and dusk choruses: the place of tarsiers and small mammals.** M. SHEKELLE, M. SCHULER.

8:15 **Effects of reduced binocular visual field on leaping performance in a small-bodied strepsirrhine (*Cheirogaleus medius*).** A.D. KEMP.

8:30 **DiceCT visualization of lemuroid mimetic musculature with a focus on *Daubentonia*.** A.R. DEUTSCH, A.M. BURROWS, A. HARTSTONE-ROSE.

8:45 **Differential preservation of population history in vervet skull anatomy.** N. O'SHEA, R. RAAUM, C.A. SCHMITT, H. SVARDAL, E. DELSON.

9:00 **Can digitigrade hand postures be inferred from carpal morphology in extant and fossil cercopithecoids?** C. WUTHRICH, L.M. MACLATCHY, M.L. MCCROSSIN, B.R. BENEFIT.

9:15 **Weed Macaques provide insight into the demographic success of early hominids.** R.S. MEINDL, M.E. CHANEY, O. LOVEJOY.

9:30 **Intra-specific variation in skeletal traits of free-ranging rhesus macaques (*Macaca mulatta*).** C.M. KIMOCK, J.P. HIGHAM, A.R. DECASIEN, C. DUBUC.

9:45 **Determinants of feeding behavior and food material properties on the deformations of the macaque mandible.** O. PANAGIOTOPOLOU, J. IRIARTE-DIAZ, H. MEHARI ABRAHA, A.B. TAYLOR, S. WILSHIN, P.C. DECHOW, C.F. ROSS.

10:00 **BREAK.**

10:30 **The evolution of body size in the diverse lesser apes.** D.C. WAWRZYNIAK, S. ALMÉCIJA.

10:45 **Dental diversity in *Pongo* as revealed by molar occlusal morphometrics.** V. PILBROW.

11:00 **Effects of posture and knee joint range of motion on subchondral and trabecular bone properties.** M. RAHMAN, M. FARLEY, B.D. CONRAD, M.E. KERSH, J.D. POLK.

11:15 **Are humans overspecialized evolutionary "dead ends"?** C. ROLIAN.

11:30 **Environmental variation and nursing history revealed by Sensitive High Resolution Ion Microprobe (SHRIMP) analyses of**

oxygen isotopes. T.M. SMITH, D.R. GREEN, C. AUSTIN, M. ARORA, R. GRÜN, I.S. WILLIAMS.

11:45 **Primate Sweat Gland Evolution.** A.W. BEST, J.M. KAMILAR.

Session Primate Social Behavior

28:

Contributed Podium Presentations. Chair: Melissa Emery Thompson.

Texas I.

8:00 **Male mating competition and sexual dimorphism in the duration of effective breeding in wild chimpanzees.** M.N. MULLER, M. EMERY THOMPSON, B.H. HAHN, K.E. LANGERGRABER, E.J. SCULLY, L. VIGILANT, R.W. WRANGHAM, E.E. WROBLEWSKI, A.E. PUSEY.

8:15 **Bystanders' presence and rank affect grooming decision making in two wild chimpanzee communities.** S.S. KABURU, N.E. NEWTON-FISHER.

8:30 **The development of male-female dominance relationships in wild chimpanzees.** D.K. ENIGK, M. EMERY THOMPSON, Z.P. MACHANDA, E. OTALI, R.W. WRANGHAM, M.N. MULLER.

8:45 **Friends of friends: structural network effects predict the formation and maintenance of social bonds in male chimpanzees of Gombe National Park, Tanzania.** J.T. FELDBLUM, I.C. GILBY, A.E. PUSEY.

9:00 **Immature male chimpanzees at Kanyawara receive higher rates of aggression compared to females.** K.H. SABBI, M. EMERY THOMPSON, Z.P. MACHANDA, R.W. WRANGHAM, M.N. MULLER.

9:15 **Social party initiation, maintenance, and affiliative interaction by adolescent female orangutans in Gunung Palung National Park, West Kalimantan, Indonesia.** C.A. O'CONNELL, C. KNOTT.

9:30 **Unreciprocated assistance by male primates: ubiquitous sexually selected services.** C.P. VAN SCHAIK, G.F. WAGNER, F.C. CUNHA.

9:45 **Interspecific mobbing and cooperation between Rylands' bald-faced saki monkeys (*Pithecia rylandsi*) and sympatric primate species in Peru.** D.B. ADAMS, D.M. KITCHEN.

10:00 **BREAK.**

10:30 **Ontogeny of female dominance in ring-tailed lemurs: behavioral and hormonal evidence.** N.M. GREBE, C.M. DREA.

10:45 **Alternative male mating tactics and paternity in wild northern pig-tailed macaques (*Macaca leonina*).** F.A. TRÉBOUET, S. MALAIVIJITNOND, U.H. REICHARD.

11:00 **Cultural Variation in Social Object Manipulation between Two Long-Tailed Macaque Populations in Bali, Indonesia.** J.V. PETERSON, A. FUENTES.

11:15 **Adaptive functions of GG rubbing among female bonobos (*Pan paniscus*) at Lomako, DRC.** C.M. BRAND, F.J. WHITE, N. THOMPSON HANLER, A.J. HICKMOTT, K.J. BOOSE.

11:30 **Subgrouping patterns of lowland woolly monkeys (*Lagothrix lagotricha poeppigii*) at the Tiputini Biodiversity Station, Ecuador.** K.M. ELLIS, L. ABONDANO, A. DI FIORE.

11:45 **Variation in behavioral synchrony among white-bellied spider monkeys (*Ateles belzebuth*).** C.J. SCARRY, M.B. BLASZCZYK, A. LINK, A. DI FIORE.

Behavioral innovation in wild white-faced capuchin monkeys, *Cebus capucinus*, at Lomas Barbudal, Costa Rica. S.E. PERRY, B.J. BARRETT, I. GODOY.

Session Skeletal Biology of Health and Nutrition

29:

Contributed Podium Presentations. Chair: Britney Kyle .

Texas II/III.

8:00 **Ancient *Mycobacterium leprae* genomes reveal an unexpected diversity of leprosy in medieval Europe.** V.J. SCHUENEMANN, C. AVANZI, B. KRAUSE-KYORA, A. SEITZ, A. HERBIG, A. BENJAK, S. INSKIP, G. TAYLOR, P. SINGH, J.L. BOLDSEN, H.D. DONOGHUE, S. ZAKRZEWSKI, K. NIESELT, S.T. COLE, J. KRAUSE.

8:15 **A developmental origins of infectious disease? Using incremental carbon and nitrogen isotope analysis to illuminate the role of age-at-weaning on infectious disease mortality.** A.K. SMITH, L.J. REITSEMA, A. FORNACIARI.

8:30 **Chronological patterns of dental fluctuating asymmetry at Neolithic Çatalhöyük (Central Anatolia, Turkey, 7100-6000 cal BC).** M. MILELLA, C.J. KNÜSEL, I. DORI.

8:45 **Medieval urbanisation and nutrition: Secular changes in diet and health at Stoke Quay, Ipswich.** E.C. FARBER, J. LEE-THORP, H. HAMEROW.

9:00 **Fishing for farmers: a bioarchaeological study of maritime subsistence transitions in prehistoric Estonia and Latvia.** M.B. RIVERA, G. ZARIÄ...A, J.T. STOCK.

9:15 **Dietary sufficiency and bone histomorphometry assessed in rib tissue of Later Stone Age southern African foragers.** S.K. PFEIFFER, M. CAMERON, J. SEALY, A. BERESHEIM.

9:30 **Ritual diet compared with quotidian diet: A comparison of macrobotanical remains and human stable isotope values from the site of Tenahaha (A.D. 850-1050) during the Andean Middle Horizon.** C.M. KELLNER, A. MAYER, M. SAYRE, J. JENNINGS.

9:45 **Isotopes and Famine: An Isotopic Comparison of Famine and Attritional Burials in a Late Medieval London Cemetery.** B.S. WALTER, S.N. DEWITTE, J. BEAUMONT, T. DUPRAS.

10:00 **BREAK.**

10:30 **Diet through time in Cambridgeshire, England: Evidence from isotopic analysis and skeletal stature.** A. ROSE, T. O'CONNELL, C. CESSFORD, J. DITTMAR, S. INSKIP, T. KIVISILD, P. MITCHELL, B. MULDER, C. SCHEIB, J. STOCK, M. PRICE, J. ROBB.

10:45 **Does dietary variation correlate with brachial and crural index variation in Holocene southern Africa?** M.E. CAMERON.

11:00 **Examining the Osteological Paradox: Skeletal stress in mass graves versus civilians at the Greek colony of Himera (Sicily).** B. KYLE, L.J. REITSEMA, P. FABBRI, S. VASSALLO.

11:15 **Lifestyle factors influencing frame size, grip strength, and bone density in two related populations.** K.M. LEE, M.P. ROGERS, A. GALBARTZYK, G. JASIENSKA, J.D. POLK, K.B. CLANCY.

11:30 **Reproductive and parental investment strategies in ancient California hunter-gatherers.** A.M. GREENWALD.

11:45 **Type I Collagen Mutations Impede Craniofacial and Dental Growth.** R.A. MENEGAZ, J.M. ORGAN.

Session Health, disease and life history

30:

Contributed Podium Presentations. Chair: Angela R. Garcia.

Texas V/VI.

8:00 **Response to Economic Crisis Reveals Risk-Averse Fertility Preferences.** J. JONES.

8:15 **Dermatoglyphic markers are predictors of reproductive success in women.** M. KLIMEK, A. GALBARTZYK, I. NENKO, G. JASIENSKA.

8:30 **Long-term costs of reproduction: high number of children, especially sons, leads to poor maternal health.** G. JASIENSKA.

8:45 **Adverse childhood experiences predict faster reproductive strategies and development.** E.A. HOLDSWORTH, A.A. APPLETON.

9:00 **Childhood energetic and psychosocial stressors affect adult reproductive function.** M.P. ROGERS, K.M. LEE, A. GALBARTZYK, G. JASIENSKA, R.S. MALHI, K.B. CLANCY.

9:15 **Demonstrating Growth and Family Size Tradeoffs: Statistical vs Biological Significance.** K.L. KRAMER, A. VEILE, E. OTAROLA-CASTILLO.

9:30 **Marital violence and fertility in a relatively egalitarian high fertility population.** J. STIEGLITZ, B. TRUMBLE, H. KAPLAN, M. GURVEN.

9:45 **The immunomodulatory role of cortisol on proinflammatory leukocyte subsets among Honduran immigrant women on Utila.** A.R. GARCIA, M.D. GURVEN, S. MURILLO, M. MARQUEZ, A.D. BLACKWELL.

10:00 **BREAK.**

10:30 **Pre-contact and historic era *Mycobacterium tuberculosis* complex genomes from the Americas.** T.P. HONAP, Å. VÅGENE, A. HERBIG, M.S. ROSENBERG, J.E. BUIKSTRA, K.I. BOS, J. KRAUSE, A.C. STONE.

10:45 **Tuberculosis and the Decline of the Wari Empire.** E.A. NELSON, A.K. LANKAPALLI, M. SPYROU, Å. VÅGENE, A. HERBIG, T.A. TUNG, K.I. BOS.

11:00 **Testing the impact of culturally-transmitted dietary norms on hemoglobin levels during critical developmental periods.** C. PLACEK, V. SRINIVAS, P. JAYAKRISHNA, P. MADHIVANAN.

11:15 **Mechanisms of fatal toxoplasmosis in primates.** Y. SUAREZ, K. VAN ETEN, S. GUNASEKERA, N. VALIZADEGAN, W. WITOLA, J. LINDE, J.F. BRINKWORTH.

11:30 **Biocultural drivers of bushmeat hunting in Southeast Nigeria: Implications for Nutrition and Infectious Disease Syndemics.** S. FRIANT, J.K. JACKA, C.B. ALAWA, D.A. OGAR, T.L. GOLDBERG, J.M. ROTHMAN.

11:45 **A cross-cultural and lifespan-based analysis of the Androgen Hypothesis of Prostate Cancer.** L.C. ALVARADO.

Session A Community of Care: Expanding Bioarchaeology of Care to Population Level Analyses

31:

Invited Poster Symposium. Chair: Alecia A. Schrenk, Lori A. Tremblay.

Co-organizers: Alecia Schrenk, University of Nevada, Las Vegas; Lori Tremblay Critcher, Ohio State University.

Hill Country D.

Six years ago, Tilley introduced a formal Bioarchaeology of Care approach for analyzing the experiences of health-related care in the

past. While this approach has gained traction in bioarchaeology, it is still a very new and needs to be expanded. Originally, the Bioarchaeology of Care was designed for individual case-study based analysis making population-level analyses challenging. The purpose of this session is to expand and explore new and innovative methods for conducting population level analyses of healthcare, which is crucial for understanding the complexities of caregiving in the past. Most importantly, these analyses highlight the burden placed on a community which must decide whether to provide resources when caring for sick, injured, impaired, and disabled individuals. Since different diseases have different provisioning needs, impairments, and recovery rates, the community would need to strategize about how to provide care for multiple individuals simultaneously. Posters in this session cover a wide range of healthcare topics and analyses, such as modern nursing perspectives, healthcare and social violence, the burden of healthcare for the community, non-adult healthcare, euthanasia, and the role of social identity in community healthcare. These population-level analyses of past healthcare will allow us to obtain a deeper understanding of how communities understood and cared for those individuals who were suffering from disease, disability, or other kinds of ailments. Ultimately, understanding how past healthcare provisioning affected individuals and their communities can provide new tactics to healthcare provisioning in the modern world.

8:00 **Short Presentations by Authors (10 min each).**

9:30 **Discussant: Ann Stodder.**

10:00 **BREAK.**

10:30 **Informal Poster Viewing.**

1 **New Perspectives on Past Healthcare: Challenges and Opportunities for Bioarchaeological Analyses of Population Level Healthcare in the Past.** L.A. TREMBLAY, A.A. SCHRENK.

2 **Conceptual approaches to the bioarchaeology of "community" care using knowledge from personal experiences of care giving.** C.A. ROBERTS.

3 **Population level approaches to differential caregiving at a historic hospital.** C.F. MILLIGAN, L.N. BRIGHT.

4 **Social Identity and Disability in Prehistoric Central California: evidence for community support, accommodation, and care at the Yukisma Mound (CA-SCL-38).** K.S. GARDNER, E.J. BARTELINK, A. MARTINEZ, A. LEVENTHAL, R. CAMBRA.

5 **The Bioarchaeology of Care for Individuals with Reduced Mobility in Non-Sedentary Societies.** A. CASSERLY, B.R. MOORE.

6 **Communities of care and violence: The argument for simultaneous consideration of these seemingly disparate concepts in prehistory.** D.S. SIMPSON.

7 **The Burden of Care: Exploring the relationship between morbidity load and need for care at the Middle Archaic (8000 - 5000 BP) site of Carrier Mills, IL.** A. SCHRENK.

Session 32: The necessity of experimental research in primate functional morphology: an homage to the Stony Brook Primate Locomotion Laboratory

Invited Poster Symposium. Chair: Jesse W. Young, Nicholas Holowka, Biren Patel, John Polk, Nathan Thompson, Ian Wallace.

Co-organizers: Nicholas B. Holowka, Department of Human Evolutionary Biology, Harvard University; Biren A. Patel, Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California.

Texas VII.

For the past 40 years, the Stony Brook Primate Locomotion Laboratory has been at the forefront of research into primate functional morphology, biomechanics, and locomotor performance. The laboratory has been central to the development of critical research techniques and methodologies for the study of primate locomotion and feeding mechanics *in vivo*. These include the use of electromyography to detect muscle activation patterns, strain gauges to measure bone loading, force transducers and dynamic pressure platforms to study locomotor kinetics, and three-dimensional motion capture for quantifying gait kinematics. Beginning with the pioneering work of Jack Stern and colleagues in the 1970s, application of these techniques in a variety of non-human primate species, from lemurs to chimpanzees, has fundamentally advanced our understanding of the uniqueness of primate movement and neuromusculoskeletal function compared to other animals. The numerous insights gleaned from this comparative biomechanics research program have served as the foundation for interpretations of the functional significance of ancient primate fossil morphology, most notably early hominins. This symposium pays homage to that body of work by presenting current and ongoing work from individuals who helped develop, contributed to, and have been trained in, the Stony Brook Primate Locomotion Laboratory. The presentations in this symposium showcase the latest advances in the study of primate locomotion and demonstrate the continuing relevance and vitality of *in vivo* primate experimental studies.

8:00 **Opening Remarks: Liza Shapiro.**

8:15 **Individual Poster Presentations (Odd).**

9:15 **Discussant: Kristin Lasek.**

10:00 **BREAK.**

10:30 **Individual Poster Presentations (Even).**

11:30 **Discussant: Daniel Lieberman.**

11:45 **Concluding Remarks.**

- 1 **Telemetered electromyography of flexor digitorum profundus and flexor digitorum superficialis in chimpanzees revisited 40 years later: implications for interpreting fossil hominin hand morphology.** B.A. PATEL, S.G. LARSON, J.T. STERN, JR..
- 2 **The power stroke and the power curve.** C.E. WALL.
- 3 **Preliminary 3-D kinematic data of wild mountain gorilla terrestrial locomotion: using lab-based methods in ape environments.** N.E. THOMPSON, K.R. OSTROFSKY, S.C. MCFARLIN, M.M. ROBBINS, D. RUBINSTEIN, S. ALMÉCIJA.
- 4 **Digit clearance patterns in primates vary by limb and substrate reflecting different strategies between arboreal and terrestrial locomotion.** D. SCHMITT, A. ZEININGER, P. LEMELIN, C.E. MILLER, M.C. GRANATOSKY, J.B. HANNA, R.E. WUNDERLICH, T.L. KIVELL, M.D. ROSE, J.E. TURNQUIST.
- 5 **An XROMM analysis of midfoot mobility in non-human primates.** M.C. GRANATOSKY, M.F. LAIRD, S. KUO, Z. ALEMSEGED, C.F. ROSS.
- 6 **Field perspectives on primate locomotion and functional morphology: tales from the Tai Forest.** W.S. MCGRAW, N.T. DUNHAM, E.E. KANE, R. PAACHO, T.A. POLVADORE, D.J. DAEGLING.
- 7 **Foot sole cushioning lowers the magnitude and rate of tibial shaft strains recorded *in vivo* during running.** I.J. WALLACE, M. RUIZ, N.B. HOLOWKA, D.E. LIEBERMAN.
- 8 **Modelling variability in limb loading during simulated arboreal locomotion: an experimental approach.** K.J. CARLSON.
- 9 **Chimpanzee plantar pressure distributions and the evolution of bipedal plantigrady.** N.B. HOLOWKA, K.G. HATALA, B. DEMES, N.E. THOMPSON, R.E. WUNDERLICH.
- 10 **Plantar pressure distribution during bipedalism in nonhuman primates.** R.E. WUNDERLICH.
- 11 **Individual muscle contributions to support, progression and balance in bipedal chimpanzee and human walking.** M.C. O'NEILL, B.R. UMBERGER.
- 12 **Center of mass movements and energy recovery during arm-swinging in atelines.** A. ZEININGER, D. SCHMITT, M.D. ROSE, J.E. TURNQUIST.
- 13 **The past, present and future of research on primate biomechanics in Belgium.** E.E. VEREECKE, P. AERTS, K. D'AOUT, J. STEVENS.
- 14 **Quantifying energy costs in the primate feeding system.** M.F. LAIRD, M.C. GRANATOSKY, C.E. WALL, A.B. TAYLOR, C.F. ROSS.
- 15 **Reduction of the ulnar styloid process in primates and sloths: is it really convergent?** P. LEMELIN.
- 16 **Kinematic strategies are scale-dependent during vertical climbing in primates.** G. CLEMMONS, M.C. GRANATOSKY, D. SCHMITT, J.B. HANNA.
- 17 **Validation of a multi-sensor, high-speed IMU-based motion measurement system.** M. GUZMAN, O.O. THOMAS, A. JULIAN, M. FOX, J.D. POLK.
- 18 **From the lab to the forest: Does anatomy predict wrist kinematics in wild chimpanzees?** L. SARRINGHAUS, C. WUTHRICH, L.M. MACLATCHY.
- 19 **The biomechanics of arboreal stability in gray squirrels and new world monkeys: further insights into the unique aspects of quadrupedal locomotion in nonhuman primates.** B.A. CHADWELL, A.N. WOLFE, J.W. YOUNG.

Session Human genetic variation and population genetics
33:

Contributed Poster Presentations. Chair: Christopher J. Clukay.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **VCFtoTree: A user-friendly anthropological tool for constructing locus-specific alignments and phylogenies from genomic data.** I. STARR, D. XU, O. GOKCUMEN.
- 2 **Imputor: Phylogenetically aware software for imputation and correction of errors in next-generation sequencing.** M.J. JOBIN, H. SCHURZ, B.M. HENN.
- 3 **Investigating DNA methylation of telomere-related genes in mothers and their newborns.** P.H. REJ, D.A. HUGHES, N.C. RODNEY, D.A. KERTES, C.J. MULLIGAN.
- 4 **Comparison of RNA stabilization methods in samples collected from the Democratic Republic of Congo.** C. HSIAO, J. QUINLAN, C. MULLIGAN.
- 5 **Characterizing the regulatory landscape of human skeletal muscle tissue.** S.R. QUEENO, M.C. O'NEILL, D. RICHARD, T.D. CAPELLINI, K.N. STERNER.
- 6 **Genetics of risk and trauma exposure in Syrian refugee youth.** C.J. CLUKAY, R. DAJANI, D. HAMADMAD, G. ABUDAYYEH, C. PANTER-BRICK, C.J. MULLIGAN.
- 7 **LINE-1 Methylation in Ancient DNA Reflects Sociopolitical Transformation in Peru.** R.W. SMITH, S. SABOOWALA, A. NON, T. TUNG, D.A. BOLNICK.

- 8 **Epigenetics and the adaptive link between diet and gene expression: the role of folate and B12 in diverse populations.** H.N. NICHOLS, M. MOSHER, D.D. SHUTTLEWORTH, J. DAVIS, M.N. MCMANUS, M.H. CRAWFORD.
- 9 **Telomere length shortening in early childhood in the Democratic Republic of the Congo.** C.N. ESCOFFIER, A.M. RICKARD, P.H. REJ, F.M. MAISHA, C.J. MULLIGAN.
- 10 **New Markers for Anthropological Genetics: Massive Parallel Sequencing and Microhaplotypes.** M.S. SCHANFIELD, K. LONG, K. MADDELA, C. WOOTEN, R. LAGACE, J. CHANG, K. KIDD, D. PODINI.
- 11 **Genetic relationships of hunter-gatherer societies on the Texas Coastal Plain.** A.T. MIRO-HERRANS, K. CORL, R.J. HARD, R.P. MAULDIN, J.M. ANDERIES, J. FREEMAN, D.A. BOLNICK.
- 12 **Using phylogenetic analyses to date the prehistory of the Afroasiatic language family.** D.N. VYAS, S. ASSEFA, J. GASTON, T. GLEASON, C. EHRET, A. KITCHEN.
- 13 **New Ancient DNA from Palau Shed Light on Early Micronesian Settlement.** J.H. STONE, C. KISIELINSKI, J. TACKNEY, S.M. FITZPATRICK, N. TING, D. O'ROURKE.
- 14 **Correspondence Between Cranial Morphological Regions and mtDNA in western South America.** B. HERRERA, M. HUBBE.
- 15 **Evolution of the ACE and ACTN3 genes in primates.** N.T. GRUBE, M.E. STEIPER.
- 16 **High-altitude adaptation in indigenous inhabitants from Western Himalayas.** P.S. CONTRERAS, S. GHOSH, T. BRUTSAERT, A. BIGHAM.
- 17 **Genomic areas associated with MZ twinning differ from those associated with DZ twinning.** H. HUANG, K.B. CLANCY, K. KELLY, L. MADRIGAL.
- 18 **The effect of the angiotensin-converting enzyme (ACE) I/D polymorphism on energy expenditure in modern humans.** Z.S. SWANSON, H. PONTZER, A. LUKE, L.R. DUGAS, M.E. STEIPER.
- 19 **Evaluation of skin-related variants in African ancestry populations and their role in personal identification.** V. VELTRE, A. PARISI, F. DE ANGELIS, G. BIONDI, O. RICKARDS.
- 20 **Global Phylogeography of *Mycobacterium Tuberculosis* Reveals Role of Recent Human History in Pathogen Dispersal.** M.B. O'NEILL, A. KITCHEN, A. ZARLEY, W. AYLWARD, V. ELDHOLM, C.S. PEPPERELL.
- 21 **Parasites as proxies: Experimental lice studies inform our understanding of human evolution and health.** C. HENDERSON, R. CAVALIERI, J. CLARK, G. PERRY.
- 22 **The impact of tetracycline presence on endogenous DNA yield in the Kulubnarti Nubians.** K.A. SIRAK, J.A. MARGOLIS.

Session Hominin Environments

34:

Contributed Poster Presentations. Chair: Hailay G. Reda.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **Using ecomorphology of modern cercopithecoids for retrodiction of locomotor behavior of the fossil primate community of the Hadar and Ledi-Geraru sites, Afar Region, Ethiopia.** M. VERGAMINI, I.E. SMAIL, K.L. LEWTON, K.E. REED, A.L. RECTOR.
- 2 **Mechanical Properties Predict Nutritional Quality in Kenyan Savannah Plants.** A. KOPPA, O.C. PAINE, J.N. LEICHLITER, M. SPONHEIMER.
- 3 **Dietary estimation of the Cercopithecid taxa from the Woranso-Mille (3.2-3.5 Ma) locality, Ethiopia.** H.G. REDA, S.R. FROST, E. SIMONS, Y. HAILE-SELASSIE.
- 4 **Paleoenvironment of the Lower Laetolil Beds (3.85 Ma to >4.36 Ma) at Laetoli, Tanzania.** D.F. SU, T. HARRISON, A. KWEKASON.
- 5 **Early Pleistocene ecosystem evolution and heterogeneity at East Turkana, northern Kenya as indicated by stable carbon and oxygen isotope data from mammalian enamel.** K.B. ALLEN, L. ANDERSON, M. BIERNAT, A. GUERRERO, A. MCGROSKEY, K. O'BRIEN, J. SEKINGER, B. ZELLER, D. ZERIHUN, D.R. BRAUN, D.B. PATTERSON.
- 6 **A preliminary reconstruction of the paleoecological context of Galili, Ethiopia using bovid dental metrics.** A. SLOTTER, S.W. SIMPSON.
- 7 **Isotopic analyses of fossil hippopotamid enamel as a proxy for aquatic-terrestrial interface environments in the Pliocene Rift Valley, Baringo Basin, Kenya.** S.S. LAPEYRE-MONTROSE, J.D. KINGSTON.
- 8 **Large mammal community structure and habitat variability in eastern and southern African *Paranthropus* and *Australopithecus*.** K.D. O'NEILL, A.L. RECTOR.
- 9 **Proxies of ungulate diet reconstruct the paleoenvironment of *Australopithecus afarensis* at Laetoli, Tanzania.** E.N. FILLION, D.F. SU, A. KWEKASON, T. HARRISON.
- 10 **Environmental Reconstruction at Geelwal Karoo.** A.L. NORWOOD, K. REED.
- 11 **The micromorpholgy and U-series dating of calcretes: A new chronometer for open air hominin and archaeological sites.** J. VON DER MEDEN, R. PICKERING.

- 12 **Ecological niche models of human land use in Pleistocene Southeast Asia must account for both overall climate and environmentally specific variables.** A.J. ZACHWIEJA, L.L. SHACKELFORD.
- 13 **Environmental comparisons of the Omo-Turkana Basin and Awash Valley in the Plio-Pleistocene as assessed from enamel stable carbon isotopes.** J. PAQUETTE, M.S. DRAPEAU.
- 14 **Quantifying African habitat heterogeneity and mammalian functional diversity with implications for understanding hominin habitats.** W. BARR, M. BIERNAT.
- 15 **Hippopotamid ecology in the Turkana Basin: isotopic variation across the Pleistocene.** M.D. BIERNAT, D.R. BRAUN, D.B. PATTERSON.
- 16 **Monitoring diagenesis of enamel in East African fossil fauna and implications for inferring trophic level from trace element analysis.** C.M. RYDER, R.L. QUINN, J. LEWIS.
- 17 **Simulating species representation in the South African fossil record: A critique of the Turnover-Pulse Hypothesis.** D.C. PEART, J. MCKEE.
- 18 **Quantitative methods for identification of bone surface modifications.** C.E. ROWE.

Session Primate Teeth and Jaws

35:

Contributed Poster Presentations. Chair: Paola Cerrito.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **Tooth crown volume of subadult primates: a methodology for measuring age-related changes.** T.D. SMITH, K.A. PADDOCK, L.M. ZEIGLER, R.T. HOGG, C.J. VINYARD, V.B. DELEON.
- 2 **A comparison of the cross-sectional area of the primate mandibular canal and associated foramina.** C.B. YOAKUM, C.E. TERHUNE.
- 3 **Macaque Attack: The association between dental pathologies and temporomandibular osteoarthritis in *Macaca fascicularis*.** C.A. KIRCHHOFF, S.B. COOKE, C.E. TERHUNE.
- 4 **Jaw muscle positions facilitate gape-specific feeding strategies in platyrhines.** Z.S. KLUKKERT.
- 5 **Primate zygomatic arch root position in relation to dietary type.** H.M. EDMONDS, E. DALY, I.E. SMAIL.
- 6 **Load at first bite: comparative analysis of incisor cross-sectional area in anthropoid primates.** J.A. WOOD, J.E. SCOTT.
- 7 **Taxonomic classification of hominoid upper and lower first molar crown outlines: which molar and which method works best?** P. CERRITO, A. ORTIZ, C.M. KIMOCK, K. HE, S.E. BAILEY.
- 8 **Dental wear of the mandibular deciduous fourth premolar in a cross-sectional analysis of six great ape species.** K.K. CATLETT, E. DALY.
- 9 **Macaque Attack: Variation in craniofacial and TMJ shape in *Macaca fascicularis*.** C.E. TERHUNE, C.A. KIRCHHOFF, S.B. COOKE.
- 10 **Non-metric traits at the enamel-dentine junction of hominoid mandibular third premolars.** T.W. DAVIES, L.K. DELEZENE, J. HUBLIN, M.M. SKINNER.
- 11 **Variation in dentin structure in *Macaca fascicularis*, *Cebus apella* and *Lynx rufus*.** E. GEISSLER.
- 12 **Differential Enamel Thickness in the Anterior Dentition as a Signal for Gouging Behavior.** K.R. SELIG, S. LÓPEZ-TORRES, A. HARTSTONE-ROSE, A.M. BURROWS, M.T. SILCOX.
- 13 **Macaque Attack: Dental topography through a wear sequence in *Macaca fascicularis*.** S.B. COOKE, A. WISNIEWSKI, C.E. TERHUNE, C.A. KIRCHHOFF.
- 14 **Maxillary first molar outlines of *Gorilla gorilla* and *Pan troglodytes*: a comparison of taxon and site differences using elliptical Fourier analysis.** F.L. WILLIAMS, K.M. LANE.
- 15 **Histological correlates of LEH expression in great apes.** K. MCGRATH, D. GUATELLI-STEINBERG, S. EL ZAATARI, K. ARBENZ-SMITH, D.J. REID, M.R. CRANFIELD, T.S. STOINSKI, T.G. BROMAGE, A. MUDAKIKWA, S.C. MCFARLIN.
- 16 **Application of a Developmental Model to Hominoid Supernumerary Molars.** E.S. GLAZE, G.T. SCHWARTZ.
- 17 **Variation in relative condyle height in primates.** E.M. ST CLAIR, J.M. PERRY.
- 18 **My, what big teeth you have! A structural model for relative snout length in primates.** V.B. DELEON, T.D. SMITH.
- 19 **Periodic and accentuated enamel structures along with trace elemental distribution permit age assessments of dietary transitions in the dentitions of yellow baboons (*Papio cynocephalus*), chimpanzees (*Pan troglodytes schweinfurthii*), and red-tailed monkeys (*Cercopithecus ascanius*).** M. MALONE, L. MACLATCHY, J. KINGSTON, G. GIRARD.
- 20 **Environmental correlates of community niche structure in extant cercopithecid primates.** I.E. SMAIL.

Session Early Hominins
36:

Contributed Poster Presentations. Chair: Carrie S. Mongle.

Zilker 1/2/3.

Authors present 7:00-8:00am and noon-1:00 pm

- 1 **Phylogenetic implications of new craniodental character data for *Ardipithecus ramidus*.** C.S. MONGLE, D.S. STRAIT, F.E. GRINE.
- 2 **New craniodental remains of the type specimen of *Australopithecus sediba*.** D.J. DE RUITER, J.K. BROPHY, R. VAN DER MERWE, J.S. SMILG, S.E. CHURCHILL, L.R. BERGER.
- 3 **Investigating molar crown shape variation of australopithecines at Sterkfontein and Makapansgat, South Africa.** J.K. BROPHY, D.J. DE RUITER.
- 4 **A juvenile hominin ischium from the Pliocene of Woranso-Mille (central Afar, Ethiopia).** Y. HAILE-SELASSIE.
- 5 **Unique forms of locomotion in Swartkrans hominins: An analysis of the trabecular structure of the first metatarsal.** K. KOMZA, T.L. KIVELL, M.M. SKINNER.
- 6 **Orientation of trabecular bone in the femoral head reflects human-like hip joint loading in fossil hominins.** T.M. RYAN, K.J. CARLSON, A.D. GORDON, N. JABLONSKI, C.N. SHAW, J.T. STOCK.
- 7 **Reconstructing Australopith Bodies.** A.L. ZIHLMAN, C.E. UNDERWOOD, D.R. BOLTER.
- 8 **Morphometric Analysis of the Stw-431 (*Australopithecus africanus*) Lumbar Vertebral Series.** A.N. HEARD-BOOTH, W.J. SANDERS, L.J. SHAPIRO.
- 9 **On the cusp of a distinction: Does molar cusp position distinguish *Homo* from *Australopithecus*?** D.E. KENESSEY, S.E. BAILEY, W.H. KIMBEL.
- 10 **Hominin proximal femur morphology: three-dimensional finite element analysis of femoral neck strain.** P.A. KRAMER, A.D. SYLVESTER.
- 11 **Comparative trabecular microarchitecture of the navicular across extant hominids.** M.M. DUDAS, W.E. HARCOURT-SMITH.
- 12 **The morphology of Carabelli's cusp at the enamel-dentine junction of *Australopithecus* and *Paranthropus* upper molars.** A. ORTIZ, S.E. BAILEY, J. HUBLIN, M.M. SKINNER.
- 13 **Geometric Morphometric Analysis of the Hominin Calcaneus.** E.J. MCNUTT, J.M. DESILVA.
- 14 **Associated *Australopithecus afarensis* second and third metatarsals (A.L. 333-133) from Hadar, Ethiopia.** J.M. DESILVA, E.J. MCNUTT, B. ZIPFEL, W.H. KIMBEL.
- 15 **Casts of Laetoli G-Trail Footprints: How informative are they?** M.L. FARLEY.

Session Human Skeletal Variation, Function and Biomechanics
37:

Contributed Poster Presentations. Chair: Lesley Harrington.

Zilker 1/2/3.

Authors present 7:30-8:30am and 12:30-1:30pm

- 1 **Geometric morphometric analyses of changes in craniofacial and anterior cranial base shape.** S. CRIDLIN.
- 2 **Subsistence and Facial Form: Estimating Masticatory Muscle Mechanical Efficiency in Historical Populations from Northern China.** M.J. KESTERKE, L.N. BUTARIC, Q. ZHANG, T. HAN, H. ZHU, Q. ZHANG, Q. WANG.
- 3 **Sulcal pattern variation in extant human endocasts.** E.J. DE JAGER, A.N. VAN SCHOOR, J.W. HOFFMAN, A.C. OETTLÉ, C. FONTA, A. BEAUDET.
- 4 **Homeotic transformation of vertebrae at the thoracic-lumbar border in humans: Association with number of sacral vertebrae and obstetrical significance.** R.G. TAGUE.
- 5 **Modelling Appositional Long Bone Growth in Non-Sedentary Children: Implications for Cross-Sectional Geometry.** L. HARRINGTON, H.K. KURKI, B. OSIPOV, M. MACKINNON, L.W. COWGILL.
- 6 **A biomechanical reappraisal of the femoral neck.** A.G. CLAXTON.
- 7 **The effect of muscle mass and exercise on proximal femoral shaft strength in NHANES III runners.** R.A. JOHNSTON, L.W. COWGILL.
- 8 **Proportions of the lateral tibial condyle and posterior meniscal notch size in *Homo sapiens*.** C. RUSSELL.
- 9 **Cortical bone nano-structure in the human first metatarsal.** T. JASHASHVILI.
- 10 **Feasibility of estimating total body, lean and fat mass from bone cross-sectional geometry.** E. POMEROY, A. MACINTOSH, J.C. WELLS, T.J. COLE, J.T. STOCK.

11 **Evolutionary implications of limited evidence of frailty in mammals.** K.N. RABEY, P. LEMELIN, R.E. WUNDERLICH, M. SNYDER, D. SCHMITT.

12 **The effect of trunk position on lower body mechanics during running.** A.G. WARRENER, R. TAMAI, D.E. LIEBERMAN.

13 **Investigating the underlying causes of “circumferential deviation of the olecranon process”• .** J.K. DEWEY.

14 **Toeing the line: Morphology and biomechanics of metatarsus varus in three dimensions “” a case study from the Milwaukee County Poor Farm Cemetery.** A.L. BRENNAMAN, J.L. SKINNER.

15 **Age-Associated Changes in Subadult Cross-Sectional Geometry of Ribs: A Comparison Between Modern and Medieval Polish Samples.** R.C. MAYUS, A.M. AGNEW.

16 **Patterns of Fluctuating Asymmetry in the Human Axial Skeleton.** A.B. ERIKSEN, L. SCHROEDER, N. VON CRAMON-TAUBADEL.

17 **Where Is remodeling most active across skeletal elements and taxa?** R.A. WALKER.

18 **Functional adaptation in cortical and trabecular bone: different reflections of activity.** B. MULDER, J.T. STOCK, S. INSKIP, C. CESSFORD, J. ROBB.

19 **Variation in the trabecular structure of the 4th lumbar vertebra between obese and non-obese individuals.** D.S. GLEIBER, D.L. CUNNINGHAM, D.J. WESCOTT.

20 **Characterizing whole joint trabecular bone structural variation in the human proximal humerus.** L.J. DOERSHUK, J.P. SAERS, C.N. SHAW, T. JASHASHVILI, A.D. GORDON, K.J. CARLSON, J.T. STOCK, T.M. RYAN.

21 **Predominant collagen fiber orientation (CFO) is a stronger predictor of load history than drifting osteon prevalence or osteon population density (OPD of conventional osteons): An evaluation in bending regions of adult human fibulae, femora, and chimpanzee femora.** M.K. HENRIE, E.D. FINLINSON, J.S. SMITH, K.E. KEENAN, J.G. SKEDROS.

22 **Biomechanical signatures of watercraft use in Holocene foragers and modern athletes.** J.T. STOCK, C.N. SHAW, A.A. MACINTOSH.

23 **Bison Hides and Biomechanics: Experimental Bioarchaeology of Wichita Scraper Technologies.** M.C. WALTERS, L. RANKIN-HILL, C. BLACK.

24 **The “Buffalo Soldiers”• of Fort Craig, New Mexico: Biomechanical Properties of the Femora and Humeri.** S.L. GARZA, D.J. WESCOTT.

25 **Hip joint ankylosis and femur adaptation: Ancient human bone histology case study from the Metal Period Philippines.** J.J. MISZKIEWICZ, C. RIDER, S. KEALY, M.F. OXENHAM.

26 **The Evolution of Femoroacetabular Impingement.** A.B. LAWRENCE, P.A. SANDBERG.

27 **Enthesophytes: Correlation of Bony Growth at Tendon Insertion Sites with Socio-Demographic Factors in European American and African American Individuals.** C.E. MINCHER, S.D. TALLMAN.

28 **A comparison of lateral iliac flare measurement methods and their correlation with lesser gluteal moment arms.** R.W. COOK, G.S. YAPUNCICH, I.J. THOMPSON, C.S. WALKER, S.E. CHURCHILL.

Friday, Afternoon sessions.

Session 38: Genomic Diversity in South Asia and Its Implications for the Population History of Modern Humans

Invited Podium Symposium. Chair: Theodore G. Schurr.

Texas I.

South Asia is located in a key area of Eurasia, being situated at the juncture of West, Central and Southeast Asia. In lying along the path to Southeast Asia and Australasia, it is central to debates about the timing and nature of modern human expansions out of Africa, including interactions and admixture with archaic hominins. Once human populations became settled in South Asia some 50,000 years ago, the process of population diversification resulted in the emergence of a distinctive gene pool relative to other parts of the world. Neolithic agriculture later led to increasing population density and social complexity, with major civilizations arising in the Indus Valley. South Asia also witnessed the expansion of several major language families into the region, including Dravidian, Austroasiatic, and Indo-European, raising important questions about the possible congruence between patterns of genetic and cultural/linguistic diversity. The observed social stratification in the region further raises important questions about the origin of the caste system in the region and the degree to which it has shaped genetic diversity in India/South Asia. Similar questions concern the degree to which oral history, cultural identity, and biological diversity reveal parallel stories of ancestry. Given all of these details relating to its complicated history, South Asia may serve as a model for understanding the process of human genomic evolution, the population dynamics and demography of local ethnic groups, and the influences of culture, language and social organization on biological diversity in human groups. The papers in this session provide new perspectives on these questions based on research with populations living throughout this region, using a variety of different analytical tools to interrogate this complex history, including genomics, archeology, linguistics, cultural anthropology, and ethnohistory.

2:30 Archaeological Perspectives on Population History and Social Diversity in South Asia. M. LYCETT.

2:45 **Reconstructing the Population History of South Asia.** P. MOORJANI, N. NAKATSUKA, N. PATTERSON, L. SINGH, K. THANGARAJ, D. REICH.

3:00 **Genomic reconstruction of the history of extant populations of India.** P.P. MAJUMDER.

3:15 **A comparison of worldwide phonemic and genetic variation in populations in Asia.** A. SUROWIEC, S. RAMACHANDRAN, M.W. FELDMAN, N. CREANZA.

3:30 **The East Asian linguistic phylum: A reconstruction based on language and genes.** G. VAN DRIEM.

3:45 **Genetic Footprints of Social Stratification and Codified Caste-Clan System in India.** G. ARUNKUMAR, A. VS, S. A, K. VJ, R. PITCHAPPAN.

4:00 **Is there evidence of a medieval intrusion of Pathans into the Vale of Peshawar, Pakistan? A dental morphology approach.** B.E. HEMPHILL, I. ULLAH, M. TARIQ, M. ZUBAIR, N. SAADIQ, H. AHMAD.

4:15 **Ethnohistory, Social Organization and Genetic Diversity in Northwest Pakistan.** T.G. SCHURR, M. TARIQ, H. AHMAD.

4:30 **The regional variation of the Indian specific mitochondrial DNA haplogroups U2a, U2b, U2c; and the spread of western Eurasian ancestry.** M. PALANICHAMY.

4:45 **Migration, admixture and assimilation: case of Jewish and Parsi populations in India.** G. CHAUBEY.

5:00 **Adding a piece to the jigsaw puzzle: Skin pigmentation genetics of South Asia.** C. BASU.

5:15 **Discussant: Sumit Guha.**

5:30 **Discussant: Connie Mulligan.**

5:45 **Discussion.**

Archaeological Perspectives on the Population History of Modern Humans in India. S. PAPPU, K. AKHILESH.

Caste and Gender in South Asian History, circa 1450 to 1950. R. SREENIVASAN.

Session 39: The false meritocracy of choice within social constructs of health

39:

Invited Podium Symposium. Chair: Robin G. Nelson, Julienne N. Rutherford.

Co-organizers: Robin G. Nelson, Dept. of Anthropology, Santa Clara University; Julienne N. Rutherford, Department of Women, Children, and Family Health Science, University of Illinois, Chicago.

Texas V/VI.

The medical concept of "health"• is framed predominantly within a narrative of personal choices and responsibilities. At entry into healthcare systems, health histories are compiled, foregrounding current diet, activity levels, "lifestyle factors"•, and demographic characteristics. Those who make "good"• choices enjoy favorable outcomes, in absence of external realities. This emphasis on hyperlocal and individual factors ignores the way health decisions and outcomes are embedded in structural frameworks that shape ecologies, societies, communities, and persons in ways that do not map directly on processes of individual choice. Emerging social and (bio)medical scholarship is overturning this notion of the individual as the sole seat of responsibility of health outcomes. Structural realities such as poverty, violence, food insufficiency and insecurity, discrimination, and other experiences of historical trauma limit "choice"• in such a way as to render the concept of choice itself a meritocratic marker of elite status. More fundamentally, these structural realities work on biological mechanisms to dilute the impact of "good"• choices even if they exist. In this session, scholars from anthropology and other disciplines will interrogate the availability and impact of individual choice on health, ranging across the life course, populations, and generations, with particular foci including reproductive health, obesity, violence, and environmental justice. Both data and theory will be presented in the interest of shaping discussions for the role our discipline can play in shifting responsibility and refiguring health for diverse peoples.

2:30 **Freezing for the Future: Costs, Culture, and Fertility Preservation Decisions in Trans Youth.** M.A. KYWELUK, A. SAJWANI, D. CHEN.

2:45 **Behavioral interventions for maternal overweight and obesity: Exploring the implications for health and health care inequalities.** K. HICKS.

3:00 **From Start to End: Maternal early life conditions, perinatal mortality, and the limits of personal responsibility across pregnancy.** J. RUTHERFORD.

3:15 **Navigation through misinformation: Visualizing the realities and fallacies of reproductive choice in the Midwest.** V. DEMARTELLY, N. HARIHARAN.

3:30 **Birthing Inequality: Disparities in Maternal Health at Home and Abroad.** K.L. LIESE, C.L. PATIL.

3:45 **"The Illusion of Choice: Barriers to Patient-Centered Care and Shared Decision Making in Obstetrics".** D. MALLAREDDY.

4:00 **Under State Control: Scarcity, Child Growth, and Life Trajectories.** R.G. NELSON.

4:15 **"War as Imposed Ecology: Conflict and Embodied Biology"•.** P.F. CLARKIN.

4:30 **The more things change: Environmental crisis, health, and 'good choices' in the past.** E.K. PARRELL, G. ROBBINS SCHUG.

4:45 **Fight the bite: Zika Virus, personal responsibility, maternal stigmatization, and disabled children in American Samoa.** C.D.

LYNN, M. HOWELLS, M. SESEPEPESARA.

5:00 **When the healthy choice isn't healthy or a choice: Structural determinants in cases of environmental injustice.** L.M. SCHELL.

5:15 **Discussant: Lorena Madrigal.**

Breastfeeding and the Appearance of Choice. I. ASIODU.

Session Primate Craniodontal Functional Morphology
40:

Contributed Podium Presentations. Chair: Todd C. Rae.

Foothills Ballroom II.

2:30 **Maxillary sinuses do not accommodate nasal cavity size in strepsirrhines.** T.C. RAE, T. KOPPE.

2:45 **Eyes without a Face: Ontogeny of Orbit Orientation in Primates.** E.M. NETT, M.J. RAVOSA.

3:00 **The Weakest Link: Performance and Fusion of the Primate Mandibular Symphysis.** C.J. VINYARD, M.J. RAVOSA.

3:15 **Deja chew: Dietary food mechanical properties influence chewing behavior in primates.** S. COINER-COLLIER, G. PORTMANN, N.E. HOWE, H. DING, A.L. FLING, M.J. RAVOSA.

3:30 **Taking another bite at the apple: a comparative analysis of incisor form and food mechanical properties in haplorrhine primates.** A. MCGROSKY, G.T. SCHWARTZ.

3:45 **Variation in the musculo-skeletal configuration of the skull and the evolution of bite performance in primates.** J. IRIARTE-DIAZ, H. ZANO, Y. BUSHNEVA.

4:00 **The aye-aye (*Daubentonia madagascariensis*) uses post-cranial musculature to modify bite forces during gnawing behavior.** M.C. TOLER, C.E. WALL.

4:15 **Chewing biomechanics reveals different strategies among great apes.** T.M. KAISER, J. MARCÉ-NOGUÉ, J. GAILER, F. JESSEN.

4:30 **Intra- and interspecific endocranial volume variations in the family Hylobatidae.** E. LAU, R.D. MARTIN, L. YAO.

4:45 **Comparing the size of thalamic nuclei in primate brains relative to other mammalian clades.** A.C. HALLEY, M.K. BALDWIN, S. SHERMAN, L. KRUBITZER.

5:00 **Greater Male Variability in Chimpanzee (*Pan troglodytes*) Brain Structure.** A.R. DECASIEN, W.D. HOPKINS.

5:15 **A reappraisal of the relationship between first molar emergence age and brain mass in primates.** T.B. RITZMAN, H. GLOWACKA, G.T. SCHWARTZ.

Session Advances in Paleopathology
41:

Contributed Podium Presentations. Chair: Christopher J. Knüsel.

Texas II/III.

2:30 **Searching for tuberculosis at a Mesoamerican Postclassic urban center.** K.E. BLEVINS, J.E. BUIKSTRA, A.C. STONE, J. MANSILLA LORY.

2:45 **Co-evolution of host and pathogen in three major human infections: a paleopathological perspective.** M. HENNEBERG, T. LUCAS.

3:00 **Living in Yucatan during the Late Pleistocene: The odontology of Naia.** R. HERRERA, P. LUNA, J.C. CHATTERS, J. CHI KEB, A. CUCINA.

3:15 **Paleopathological analysis of a Frankish (7th century AD) cemetery from the Hemmaberg (Austria).** T. JAKOB, M. BINDER, E.A. BYRON, S.L. KI.

3:30 **On the Mississippian Border: Heterogeneous vulnerability to risk at Forbush Creek, North Carolina.** S. BERGER, D. HUTCHINSON.

3:45 **Learning to Live Together: Social Tolerance and violence at Neolithic Çatalhöyük (7100-6000 cal BC).** C.J. KNÜSEL, B. GLENCRoss, M. MILELLA.

4:00 **Interpersonal conflict in the ancient South-Central Andes: contribution from human bone trauma patterns from Northwestern Argentina archaeological settlements (ca. 900-1450 AD).** M. GHEGGI.

4:15 **Location, Location, Location: Interpreting Skeletal Fractures and Mortuary Practices in a Spatial Perspective.** V.A. LEAH.

4:30 **Time after time: individuals with multiple fractures in long eighteenth century London.** M.L. MANT.

4:45 **Neurological deficiencies due to antemortem cranial trauma in the Chanka polity of Andean Peru (1000-1400 CE).** S.J. KEITER, D.S. KURIN.

5:15 **Cultural cranial modification and social complexity in prehistoric and protohistoric Cyprus.** K.O. LORENTZ.

Contributed Podium Presentations. Chair: Debbie Guatelli-Steinberg.

Zilker 4.

2:30 **Postcranial fossils of *Ardipithecus ramidus* from Gona, Ethiopia.** S.W. SIMPSON, N.E. LEVIN, J. QUADE, M.J. ROGERS, S. SEMAW.

2:45 **Multivariate analysis of foot proportions in *Ardipithecus ramidus*.** T.C. PRANG.

3:00 **Three-dimensional morphology and comparative anatomy of the *Australopithecus sediba* scapula.** D.J. GREEN, S.E. CHURCHILL, M.E. MACIAS, P. GUNZ, K.J. CARLSON, P. SCHMID, L.R. BERGER.

3:15 **The taxonomic diagnosis of the StW 578 cranium from Jacovec Cavern, Gauteng (South Africa): integrating inner and outer morphology.** A. BEAUDET, K.J. CARLSON, R.J. CLARKE, F. DE BEER, M. DIERICK, J.L. HEATON, T.R. PICKERING, D. STRATFORD.

3:30 **Spatial taphonomy and post-mortem disarticulation patterns of the *Homo naledi* assemblage from the Dinaledi Chamber, Rising Star Cave.** A. KRUGER, P. RANDOLPH-QUINNEY, M. ELLIOTT, J. HAWKS, L.R. BERGER.

3:45 **Femoral neck and shaft structure in *Homo naledi*.** L. FRIEDL, A.G. CLAXTON, C.S. WALKER, S.E. CHURCHILL, T.W. HOLLIDAY, J. HAWKS, L.R. BERGER, J.M. DESILVA, D. MARCHI.

4:00 **Pollical metacarpal shaft morphology in *Homo naledi*: a 3D geometric morphometric analysis.** L.A. BOWLAND, J.E. SCOTT, T.L. KIVELL, B.A. PATEL, M.W. TOCHERI, C.M. ORR.

4:15 **Patterns of lateral enamel growth in *Homo naledi* as assessed through perikymata distribution and number.** D. GUATELLI-STEINBERG, M. O'HARA, A. LE CABEC, D.J. REID, L.K. DELEZENE, M.M. SKINNER, L.R. BERGER.

4:30 **Mandibular molar root morphology in *Homo naledi*.** K. KUPCZIK, M.M. SKINNER.

4:45 **The endocast of LES1, *Homo naledi*.** S.D. HURST, R.L. HOLLOWAY, H.M. GARVIN, W.B. VANTI, J. HAWKS, L.R. BERGER.

5:00 **The upper limb of *Homo naledi*: New material from the Lesedi Chamber, Rising Star System, South Africa.** E.M. FEUERRIEGEL, J. VOISIN, S.E. CHURCHILL, J. HAWKS, L.R. BERGER.

5:15 **A biplanar X-ray approach for studying the 3-D dynamics of human track formation, and its implications for interpreting anatomy and motion from fossil hominin tracks.** K.G. HATALA, D.A. PERRY, S.M. GATESY.

Invited Poster Symposium. Chair: Sharon Gursky, Anna Nekaris.

Co-organizers: Anna Nekaris and Sharon Gursky.

Hill Country B-C.

Auditory, visual and olfactory cues all play varying roles in nonhuman primate communication. Over the last decade, technological advances have allowed researchers to begin to conduct indepth investigations into the communication systems exhibited by the nocturnal and cathemeral prosimian primates, including tarsiers, lemurs and lorises. Understanding how nocturnal prosimians use visual, olfactory and auditory cues is vital for reconstructing the origins of primate communication systems. The goal of this symposium is to highlight some of the more exciting advances in the communication strategies of the prosimians. Individuals working in Kenya, Angola, Rwanda, Madagascar, and the Indonesian islands of Java and Sulawesi will be presenting their exciting new research on prosimian olfactory, visual and vocal communication. Topics will include the description of novel ultrasonic vocalizations, including frequency and function of these newly discovered calls; the possible use of vocalizations to navigate and assemble at sleep sites; the importance of species-specific contact vocalizations for the identification of new species; the use of urinary and glandular signals to communicate and the methods developed to understand this complex communication in the field; the use of vocalizations for niche separation among nocturnal primates from mainland African and Madagascar; novel methods to discern emotional state from vocalizations; and whether or not we can use new technologies to discern if prosimians use vocalizations for individual identification of group members. Discussion will be paneled by Nekaris and Gursky and focus on sharing of new field methods including equipment and techniques; best practice for analysis of vocal and olfactory data; new directions to pursue with a broad comparative approach within the strepsirrhines and tarsiiformes; the use of vocalization to influence conservation practices; and implications for the communication systems of our early primate ancestors.

2:30 **Introduction.**

5:15 **Discussion & Concluding Remarks.**

1 **Species and population differences in calling pattern of galagos in contrasting habitats.** C. BETTRIDGE, G. ELLISON, S. KENWORTHY, S. DE KORT.

2 **Hiding in the dark: discovering cryptic species within nocturnal galagids.** L. POZZI, M. GAMBA.

3 **Levels of selection: Untangling kin and individual signatures in vocalizations.** S.E. KESSLER, L. RIGAILL, S.E. STREET.

- 4 **Echolocation in a Nocturnal Primate?** S. GURSKY, C. MOSER.
- 5 **Novel use of pure ultrasonic communication by a wild nocturnal primate, the Javan slow loris (*Nycticebus javanicus*).** K.I. NEKARIS, D.R. GEERAH.
- 6 **The use of calls to distinguish previously unrecognised primate species.** M.S. SVENSSON, S.K. BEARDER.
- 7 **Cryptic Communication in a Montane Nocturnal Haplorthine.** N.B. GROW-BLONG.
- 8 **Night in the light of day: what vocal communication of diurnal and cathemeral lemurs can tell us about the calls of nocturnal Strepsirrhines.** M. GAMBA, D. VALENTE, V. TORTI, L. MIARETSA, B. NADHOUROU, A. ANANIA, O. FRIARD, C. GIACOMA.
- 9 **Pee-mail: The information highway of nocturnal strepsirrhines.** C.M. DREA, T.E. GOODWIN, J. DELBARCO-TRILLO.

Session The Poetics of Violence in the Old World: Case Studies in Violent Performance
44:

Invited Poster Symposium. Chair: Anna J. Osterholtz, Roselyn Campbell.

Co-organizers: Roselyn Campbell and Anna Osterholtz.

Hill Country D.

Violence is a large topic, and one that can be difficult to define. Definitions of violent behavior, whether it is socially sanctioned or not, change through time. Turpin and Kurtz note that the violent act can be either moral or immoral based on the social standing and status of the aggressor and the victim. All of these issues play into the role and power of performance and ritual in the exploration of violence. In developing his model of the poetics of violence, Neil Whitehead seeks to understand how different types of violence are used within societies. Violence is an identity formation process. Building on both cultural performance and ritualized action. In this way, it can (and often does) play a part in the expression of cultural identity and group membership. It is an exploration of the roles of the actors involved in the performance (the victims, perpetrators, and witnesses), but also an examination of how these different perspectives on the violent performance contribute to collective identity. Whitehead's poetics of violence model has primarily been applied to New World assemblages and New World indigenous groups. The case studies in this session approach their data sets through a poetics lens, examining the role of violence in intra- and inter-group identity formation.

Discussant: Anna J. Osterholtz.

- 1 **Engendering Neighborhood Violence in the Late Shang Dynasty, China.** D. WOLIN, Y. HE.
- 2 **Violent death and the formation of social structure: Skeletal evidence of violence from the Qijia culture (2,300-1,400BCE), Gansu Provence, China.** J.M. DITTMAR, H. YEH, E.S. BERGER, J. AUSTEN, X. ZHAN, M. HERNANDEZ, M. RUILIN, W. HUI, P.D. MITCHELL.
- 3 **Earthly and Eternal: The Poetics of Violence in Ancient Egypt.** R.A. CAMPBELL.
- 4 **Collective Violence in the Early Neolithic of Central Europe. Evidence from Linearbandkeramik (LBK) Mass Fatality Sites.** C. MEYER, C. KNIPPER, V. DRESELY, H. MELLER, K.W. ALT.
- 5 **In Search of 'Poetics of Violence' Among the Burials of the Early-Medieval Linear Graveyard of Lauchheim Wasserfurche (Germany).** F. ENGEL.
- 6 **The poetics of violence in post-medieval England: using historical documents, clinical and epidemiological data, and bioarchaeological evidence to work towards the identification of gendered performative violence in the past.** M.L. DAVENPORT, M.K. ZUCKERMAN, P. BANKS, R.J. KING.
- 7 **Acts of violence, acts of caring. On human remains with traces of non-lethal violence at the hunter-gatherer site Kanaljorden, Motala, Sweden c. 7700-7600 cal BP.** F. HALLGREN, S. GUMMESSON, A. KJELLSTRÖM.
- 8 **Osteology of foot binding in a late Ming Dynasty cemetery in Shaanxi Province, China.** E.S. BERGER, L. YANG, W. WANG.

Session Skeletons in His Closet: A Symposium in Honor of Clark Spencer Larsen
45:

Invited Poster Symposium. Chair: Tracy K. Betsinger, Jaime M. Ullinger.

Co-organizers: Jaime M. Ullinger, Quinnipiac University.

Texas VII.

Over the last 40 years, Clark Spencer Larsen has engaged in innovative, problem-oriented bioarchaeological research. For the majority of those years, he has also formally mentored PhD students. Today, Dr Larsen and his students engage in research projects on nearly every continent. His commitment to the scientific process, interdisciplinary research, and service to the discipline is instilled in everyone that works with him. He has pioneered work on the biological effects of contact and the consequences of agriculture. In addition, Dr Larsen exemplifies the ways in which a scientist successfully serves his discipline and students while also engaging in rigorous, thought-provoking research. From acting as editor on *American Journal of Physical Anthropology*, to writing a textbook on

introductory biological anthropology, to literally writing the book *Bioarchaeology*, he models service to his discipline. This symposium brings together former and current graduate students of Dr Larsen to highlight the myriad ways he has an impact on the field, as well as to illustrate a legacy of innovative methodology in diverse geographical locations.

4:00 **Discussant: Debra Martin.**

- 1 **The History of Health on a Global Scale: Clark Larsen's Contributions to Our Understanding of Health in the Past.** T.K. BETSINGER, J.M. ULLINGER.
- 2 **Beyond Contact: Clark Spencer Larsen and the Bioarchaeology of Colonial Worlds.** H.D. KLAUS.
- 3 **Dental Diversity and Population Movement in Neolithic Central Anatolia.** C.S. PHILBIN, M.A. PILLOUD.
- 4 **Health and Lifestyle of the Paleoamericans of Lagoa Santa, Central-Eastern Brazil.** P. DA-GLORIA.
- 5 **A Probable Case of Multiple Myeloma and Other Pathological Lesions Among the Inhabitants of the Early Historic Burnt Village Site, Georgia.** M.A. WILLIAMSON.
- 6 **Resistance to change 'In the Wake of Contact': Geographic origins and mortuary practices in 3rd millennium BC Arabia.** L.A. GREGORICKA.
- 7 **Multiscale Investigation of human variation in skeletal health.** R.L. HUNTER, K.C. BRILEY, J. ELLIS, A.M. AGNEW.
- 8 **Patterns of Violence in Late Prehistoric and Protohistoric Populations of North Carolina and Virginia.** P.M. LAMBERT.
- 9 **Have you read the American Journal of Physical Anthropology? Clark Spencer Larsen and paradigm shifting research in bioarchaeology.** D. TEMPLE.
- 10 **Patterns of growth, childhood stress, and mortality risk during the Late Period in Central California.** C.M. CHEVERKO.
- 11 **Family Tomb or Siege Victims? Bioarchaeology at Lachish (Tell ed-Duweir).** J.M. ULLINGER, T.K. BETSINGER.
- 12 **Gender disparity in nasal fractures during the Yayoi period of Japan.** B.D. PADGETT, N. SEGUCHI.

Session Human growth and development

46:

Contributed Poster Presentations. Chair: Felicia C. Madimenos.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

- 1 **Shuar Childhood and Adolescent Bone Density Documented Across Varying Degrees of Market Integration.** F.C. MADIMENOS, M.A. LIEBERT, S.S. URLACHER, C.J. HARRINGTON, T.J. CEPON-ROBINS, T.E. GILDNER, J. SNODGRASS, L.S. SUGIYAMA.
- 2 **Are Social Inequalities Embodied as Growth Disparities in Children?** H.F. CARDOSO, L. HARRINGTON, J. NELSON, E. HOLLAND, V. TANGANELLI, M. BELCASTRO.
- 3 **The effects of early nutrition transition on growth trajectories and child productivity among the Hadza of Tanzania.** T. POLLON, K. HERLOSKY, I. MABULLA, C. CROSS, A. CRITTENDEN.
- 4 **The Role of Energy Status in Determining Childhood Growth Patterns in Western Kenya.** V.A. TOBOLSKY, A. YEGIAN, N. HOLOWKA, J. JEMUTAI, T. SIGEI, R. OJIAMBO, D.E. LIEBERMAN.
- 5 **Exploring brain phenotypic outcomes when Zika virus and protein undernutrition interact during early development.** J. BARBEITO ANDRÉS, P. PEZZUTO, L.M. HIGA, A.A. DIAS, J.C. GOMES, R.T. LOPES, T.M. PIRES DOS SANTOS, R.V. BARBOSA, R. LENT, M. BELLIO, A. TANURI, P.P. GARCEZ.
- 6 **Increased abundance and gene expression suggest brain immune cells shape the neocortex in typical human fetal development.** N.L. BARGER, S.C. NOCTOR.
- 7 **A preliminary investigation into the effects of allomaternal caregiving on cognitive outcomes in infants aged 13-18 months living in Tucson, AZ.** B. SINGLETON.
- 8 **Dental and long bone growth in four juvenile individuals from Mesolithic layers of Vela Spila Cave, Korčula, Croatia.** D. RADOVĀIĀ, Z. COFRAN, D. RADIĀ.
- 9 **Evidence for maternal buffering of deciduous tooth eruption in Bangladeshi children exposed to famine.** D.J. HOLMAN, B. BASU.
- 10 **Preliminary investigation of morphological integration between the talus, calcaneus and navicular of apes and humans.** N.L. ROBINSON, J. PLAVCAN.
- 11 **Assessing age at puberty using skeletal markers in a medieval population from Sudanese Nubia.** G.N. ALBERS, D. MULHERN.
- 12 **Facial soft tissue depth in mid-sagittal plane: its growth patterns and individual variation from childhood to adulthood.** M.R. MCKINNON, E.K. SIMPSON, M. HENNEBERG.
- 13 **Growth patterns of lumbar spinal muscles between ages 2 and 20: cross-sectional study.** E. BEEN, S. SHEFI, L. KALICHMAN, J. BAILEY, M. SOUDACK.
- 14 **Population differences in aging-related inflammation are associated with change of central adiposity.** A.M. DELOUIZE, T.M.

BARRETT, G. EICK, E. THIELE, W. FAN, Y. GUO, Y. LU, A. SALINAS RODRIGUEZ, B.S. MANRIQUE-ESPINOZA, R. ROBLEDO, S. VILLALPANDO, P. KOWAL, N. NAIDOO, S. CHATTERJI, J.J. SNODGRASS.

15 **Secular Trends in Growth in the High-Altitude District of Nuñoa, Peru 1964-2015.** M.K. HOKE, T.L. LEATHERMAN.

Session Human adaptation

47:

Contributed Poster Presentations. Chair: Taylor M. Spencer.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

- 1 **Spatial patterns in physical activity and mobility behaviour in the Neolithic and Copper Age central Mediterranean.** E.W. PARKINSON, S.K. STODDART, J.T. STOCK.
- 2 **The use of resting breaks changes blood perfusion during paddling bouts.** H.K. CHEYNEY KANE, C.M. WALL-SCHEFFLER.
- 3 **Taking rests changes the heart rates and core temperature of women and men during canoeing.** A. BONNER-HARRIS, C.M. WALL-SCHEFFLER.
- 4 **Market integration, meaning and deviation in cultural life priorities among indigenous rural Bolivians.** A.F. SCHULTZ, T. HUANCA.
- 5 **Inhibition of sympathetic tone prevents cold-induced bone loss in a mouse model of cold-dwelling humans.** M.J. DEVLIN, C. TOM, A.E. ROBBINS, M.N. COSMAN, T. SPENCER, C. MOURSI, R. HURWITZ.
- 6 **High fat diet increases diet-induced thermogenesis in cold exposure and at thermoneutrality.** T.M. SPENCER, A. ROBBINS, C. TOM, M. COSMAN, C. MOURSI, M.J. DEVLIN.
- 7 **The Effect of bi-iliac breadth on thermoregulation during running.** J. EYRE, H. PONTZER.
- 8 **Skeletal inflammatory index: Pursuing experimental evidence.** M.E. DUNCANSON, F.A. CRESPO.
- 9 **Multivariate selection on human size and shape in East Asia.** E.O. CHO, G.E. BLOMQUIST, L.W. COWGILL.
- 10 **Evaluation for the Use of Transverse Palatine, Zygomaticomaxillary, and Metopic Sutures in Ancestry Estimations.** M.C. SWEARINGER, R.T. KRAMER.
- 11 **Chimpanzees are fatter than you think: Differences in regional body fat deposition between hunter-gatherers and captive chimpanzees.** A. ACHENBACH, Y. HAMADA, R.D. GREAVES, K.L. KRAMER.
- 12 **The Effect of Diet on Amylase Production.** M.A. SCHRANK, C.Y. URISTA, J.E. DAVIS.
- 13 **Human and Nonhuman Primate Lineage-Specific Footprints in the Salivary Proteome.** S. THAMADILOK, K. CHOI, L. RUHL, F. SCHULTE, A. KAZIM, M. HARDT, O. GOKCUMEN, S. RUHL.
- 14 **“Culture flow”* : The role of rivers in cross-community cultural transmission in the Upper Amazon.** S.J. LYCETT, K. SCHILLINGER.

Session Primate Postcrania and Locomotor Biomechanics

48:

Contributed Poster Presentations. Chair: Julia L. Arenson.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

- 1 **Chimpanzee (*Pan troglodytes*) and gorilla (*Gorilla gorilla*) manual trabecular architecture over ontogeny.** A.J. RAGNI.
- 2 **Regional variations in predominant collagen fiber orientation in the diaphysis and neck of sub-adult baboon femora resemble those in adult chimpanzee femora. Does this reflect similar load histories?** C.S. MEARS, K.E. KEENAN, J.G. SKEDROS.
- 3 **A preliminary comparison of the variation in *Sympalangus syndactylus* iliac trabecular architecture between specimens of known and unknown origin.** D. SHAPIRO.
- 4 **Interface distances between osteon cement lines can reveal aspects of bone adaptation that might evade detection when using conventional microstructural characteristics: A study in the chimpanzee femur.** E.D. FINLINSON, M.K. HENRIE, J.S. SMITH, C.S. MEARS, K.E. KEENAN, J.G. SKEDROS.
- 5 **Long bone structural proportions and locomotion in cercopithecoids.** C.M. HARPER, D.M. GOLDSTEIN, W. MCGRAW, D.J. DAEGLING, C.B. RUFF.
- 6 **Trabecular bone structure of the distal femur in great apes.** L. GEORGIOU, T.L. KIVELL, D.H. PAHR, M.M. SKINNER.
- 7 **Behavior around the bend: Comparative analysis of the strength properties of long bones in *Saimiri sciureus* and *Saguinus nigricollis* from museum context using BoneJ.** S.R. SATER, S.S. LEGGE, R.L. LUTHER.
- 8 **Cranial shape change and developmental delays in plagiocephaly.** C.M. CONNOR, S.M. LEE, P.S. SIMONE, C. UPTON, L.W.

TANG, D.A. DRAPER, G.D. RICHARDS, R.S. JABBOUR.

9 **Trabecular architecture across the metacarpus reflects different locomotor strategies in hominoids.** C.J. DUNMORE, T.L. KIVELL, D.H. PAHR, M.M. SKINNER.

10 **The absence of secondary osteons in aged rats.** S.E. LAD.

11 **Head stability during bipedal walking in *Hylobates lar* and implications for foramen magnum position.** N. GRIDER-POTTER, R. GOTO, K. OKA, Y. NAKANO.

12 **A muscle synergy-based analysis of the trunk and hindlimb muscle activation patterns during quadrupedal and bipedal walking in Japanese macaque, white-handed gibbon, and human.** R. GOTO, Y. NAKANO.

13 **Effect of enclosure type on locomotion and spatial use in captive sifakas (*Propithecus coquereli*).** D.R. ORLANDI, R.E. WUNDERLICH, M.M. MCGOWAN, A. TONGEN.

14 **New techniques for the quantitative analysis of locomotor kinematics in free-ranging primates.** A. MCNAMARA, N.T. DUNHAM, L. SHAPIRO, J.W. YOUNG.

15 **Changes to limb yield and effective limb length in response to support orientation in primates.** B.A. PERCHALSKI.

16 **Arm-swinging in the red-shanked douc (*Pygathrix nemaeus*) in the Son Tra Nature Reserve, Vietnam.** K.E. BAILEY, D.L. CARLSON, T. BANG, H. LONG.

17 **Skeletal morphology of the lesula (*Cercopithecus lomamiensis*) suggests multiple transitions to terrestriality in the guenon radiation.** J.L. ARENSEN, C.C. GILBERT, E.J. SARGIS, K.M. DETWILER, T.B. HART, J.A. HART.

18 **Limb skeletal diversity among arboreal quadrupeds and its correspondence to variation in overall locomotor repertoire.** T.R. REIN.

19 **Comparison of callitrichid limb bone properties to those of cheirogaleids and arboreal sciurids.** J. RUNESTAD CONNOUR.

Session Primates: Hormones and Disease

49:

Contributed Poster Presentations. Chair: Caroline R. Amoroso.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

1 **Oxytocin- and Arginine Vasopressin-Containing Axonal Fibers in the Cortex of Humans, Chimpanzees, and Rhesus Macaques.** C.N. ROGERS, A.P. ROSS, S.P. SAHU, E. SIEGEL, E.G. STOPA, L.J. YOUNG, J.K. RILLING, H.E. ALBERS, T.M. PREUSS.

2 **Fecal Cortisol Reflects Season, but not Habitat Degradation, in Folivorous Diademed Sifakas (*Propithecus diadema*).** S.R. TECOT, J. RAHARISON, M.T. IRWIN.

3 **Predictors of age at first reproduction in adolescent female rhesus macaques.** S.P. COYNE.

4 **Variables influencing cortisol levels during motherhood in wild Bornean orangutans.** T.D. BRANSFORD, M. EMERY THOMPSON, D.J. NAUMENKO, M.A. VAN NOORDWIJK, S. UTAMI ATMOKO, E.R. VOGEL.

5 **Steroid hormone concentrations in milk predict postnatal infant growth in rhesus macaques (*Macaca mulatta*).** L. PETRULLO, K. HINDE, A. LU.

6 **Testing the Challenge Hypothesis in male capuchin monkeys: hormonal, physical, and behavioral responses to novel females.** M.E. BENITEZ, M. SOSNOWSKI, O. TOMEY, S. BROSNAHAN.

7 **Testing for the presence of major urinary proteins (MUPs) in lemurs using SDS-PAGE.** L.M. PACIULLI, L.A. BYRUM.

8 **How Does Captivity Influence Parasitism? A Comparative Study of Wild and Captive Primates.** J.P. HERRERA, D. CHAKRABORTY, J. RUSHMORE, S. ALTIZER, C.L. NUNN.

9 **The behavioral costs of parasitism in female chacma baboons (*Papio ursinus*).** E.C. SHATTUCK, L. SWEDELL, S. FOERSTER.

10 **Role of age and sex in determining glucocorticoid response to parasite infection.** V.A. SCHOOF, T.L. GOLDBERG, D. GREENBERG, G. MASTROMONACO, C.A. CHAPMAN.

11 **Cancer across primates: a life history perspective on disease susceptibility.** V.K. HARRIS, W.C. WALKER, A. ZEHNDER, M. GARNER, C.C. MALEY, A. BODDY.

12 **Diet, Disease, Diversity, and Death: Discoveries within the Yale Peabody Museum African Ape Collection.** G.P. ARONSEN, R.T. MCRAE, M. KIRKHAM.

13 **Beggars can be choosers: Water-limited wild red-fronted lemurs (*Eulemur rufifrons*) prefer clean water.** C.R. AMOROSO, P.M. KAPPELER, C.L. NUNN.

14 **Developing a fecal detection method for monitoring Zika virus in Neotropical primates.** K.M. MILICH, B.J. KOESTLER, J.H. SIMMONS, A. DI FIORE, L.E. WILLIAMS, J.P. DUDLEY, J. VANCHIERE, S.M. PAYNE.

15 **Morbidity and mortality from respiratory infection in wild chimpanzees from Kanyawara, Kibale National Park, Uganda.** M. EMERY THOMPSON, Z.P. MACHANDA, E.J. SCULLY, D. ENIGK, E. OTALI, M.N. MULLER, T.L. GOLDBERG, C.A. CHAPMAN,

R.W. WRANGHAM.

- 16 **The tolerance, provisioning, and wounds of the introduced vervet (*Chlorocebus sabaeus*) population in Dania Beach, Florida.** D. WILLIAMS, C.A. RUIZ.
- 17 **Three juvenile black-handed spider monkeys (*Ateles geoffroyi*) living with missing or atrophied limbs at El Zota Biological Field Station, Costa Rica.** N. WACKERLY, S. LINDSHIELD, J.D. PRUETZ, M. RODRIGUES.
- 18 **Potential Medicinal Properties of Plants Consumed by Mountain Gorillas (*Gorilla beringei*) in Bwindi Impenetrable National Park, Uganda.** S.G. LUCCI, J. ROTHMAN.
- 19 **Methodology for quantifying anthropogenic chemical pollutants in primate feces.** T. STEINICHE, M. VENIER, S. WANG, K. ROMANAK, J.M. ROTHMAN, R.W. WRANGHAM, M. WASSERMAN.

Session Human skeletal biology: growth and development
50:

Contributed Poster Presentations. Chair: Ellie Gooderham.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

- 1 **The ontogeny of variability in the modern human masticatory apparatus.** N.E. HOLTON, A. PICHE, J.E. SCOTT.
- 2 **Bone modeling patterns in the midface of modern humans during ontogeny: a study of intraspecific variability.** A. SCHUH, S. FREIDLINE-STIMMAN.
- 3 **Brain and Vascular Changes in Culturally Deformed Crania.** T.W. SHIEN, P.A. SIMONE, C.M. CONNOR, S.M. LEE, L.W. TANG, R.S. JABBOUR, G.D. RICHARDS.
- 4 **Using Unintentional Vault Modification to Evaluate Integration of the Bony Labyrinth and Cranium.** D.L. WARD, K.L. BAAB, T. VIOLA, M.T. SILCOX.
- 5 **Cranial shape change and developmental delays in plagiocephaly.** P.S. SIMONE.
- 6 **Thick enamel, thin bone: a common link in human juvenile hard tissue growth?** R. PITFIELD, C. DETER, P. MAHONEY.
- 7 **The biorhythm of human skeletal growth.** P. MAHONEY, J.J. MISZKIEWICZ, S. CHAPPLE, M. LE LUYER, S.H. SCHLECHT, T.J. STEWART, R.A. GRIFFITHS, C. DETER, D. GUATELLI-STEINBERG.
- 8 **Sternum maturation in an identified Portuguese skeletal sample.** V. CAMPANACHO, H.F. CARDOSO, A.T. CHAMBERLAIN.
- 9 **Growth and Development of the Cartilaginous Distal Femur.** C.R. GODFREY, H.M. GARVIN, L.L. CABO.
- 10 **A comparative growth study between children from the medieval Islamic and medieval late Christian Periods in Santarém, Portugal.** E. GOODERHAM, A. MATIAS, S. WALSHAW, J. ALBANESE, H.F. CARDOSO.

Session Human Dental Anthropology: Dental Variation and Pathology
51:

Contributed Poster Presentations. Chair: Samantha Field.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:30-6:30 pm

- 1 **Barking up the wrong tree? Searching for sexual dimorphism in deciduous enamel thickness and density.** B. BARTHOLDY, M.L. HOOGLAND, A. WATERS-RIST.
- 2 **A Preliminary Study of Mandibular M1 Through M3 Cusp Apex Placement: Implications for Dental Reduction.** B.L. DETTY, C.W. SCHMIDT.
- 3 **Quantifying sexual dimorphism in the geometry of modern human canines.** G.V. CALHOUN, D. GUATELLI-STEINBERG, M. HUBBE.
- 4 **Mandibular morphology as a contributor to dental macrowear patterning.** C.D. KELLY, C.W. SCHMIDT.
- 5 **Enamel thickness variation in human molars and its importance for the practice of interproximal reduction.** L. BUTI, K. REILLY, A. SYLVESTER, S. BENAZZI, R. FEENEY.
- 6 **Effect of asymmetry on data collection for dental non-metric traits.** A. WISSLER.
- 7 **Evidence for microevolution in enamel growth rates: preliminary results.** C. ARIS, C. DETER, P. MAHONEY.
- 8 **The physiological linkage between dental arch asymmetry, alveolar inclination and dental macrowear pattern.** G. OXILIA, E. BORTOLINI, S. MARTINI, A. PAPINI, M. BOGGIONI, L. BUTI, G. TOWNSEND, J. KAIDONIS, L. FIORENZA, E. CRISTIANI, O. KULLMER, J. MOGGI-CECCHI, S. BENAZZI.
- 9 **Dental wear through the ages: A Reconsideration of Brothwell's traditional method.** S. FIELD, S. MAYS, S. ZAKRZEWSKI.
- 10 **Mixed signals?: Assessing origins and resistance at the New York African Burial Ground.** K. HOAG, J.L. JONES, M.L.

BLAKEY, A.H. GOODMAN.

11 **Exploring social inequality at petra through dental pathology.** A.J. LIEURANCE, M. PERRY.

12 **The various faces of Prehistoric “well-being”: the relative effects of sex, age, and population density on dental pathological condition at Neolithic Çatalhöyük (Central Anatolia, Turkey).** I. DORI, M. MILELLA, J. SADVARI, C.S. LARSEN, C.J. KNÜSEL.

13 **Dental signs attributed to congenital syphilis and its treatments in the Hamann-Todd Skeletal Collection.** S. IOANNOU, M. HENNEBERG.

14 **Identity in colonial Himera: An assessment of nonmetric dental variation between grave styles.** A.R. POSTON, B. KYLE, L.J. REITSEMA, S. VASSALLO, P. FABBRI.

15 **Examining the effects of early-life stress on mortality at Himera by analysis of enamel defects.** S.A. BULL, B. KYLE, L. REITSEMA, D.H. TEMPLE, P. FABBRI, S. VASSALLO.

16 **Lingual Tilting of the Molars among Early Hunter-Gatherers in South Central North America.** M.S. TAYLOR.

17 **Using dental metric analysis to understand prehistoric population variability on the north carolina coastal plain.** K.D. WEIDNER, M. PERRY.

18 **A Re-Examination of Sundadonty Origin Models.** S.A. KLAINER, G. SCOTT.

19 **Quantitative genetic analyses of human tooth crown morphology: heritability and genetic integration in a longitudinal Australian twin sample.** K.S. PAUL, C.M. STOJANOWSKI, T. HUGHES, A. BROOK, G.C. TOWNSEND.

20 **A dental assessment of biological affinity among Celts, Etruscans and Picenis.** M.J. ANCTIL, J.D. IRISH, I. DE GROOTE.

21 **Anomalous Molars in the Shiloh Cemetery Sample: A Differential Diagnosis.** K.N. LEWIS.

22 **Abnormal Cusp Morphology and Root Number in a Third Molar from Rathfarnham, Dublin.** M.A. CLARK, D. GUATELLI-STEINBERG.

23 **What teeth can tell you: oral health in two Paleo-Indian populations.** B.M. BENAVIDEZ, D. HUNT.

24 **Nutrition and diet of a Late Medieval Prussian population: What the analysis of dental microwear can tell us.** J. HORVAT, M. RAMSIER, A. GRUENTHAL-RANKIN, A. KOPERKIEWICZ, M. POLCYN.

25 **Sex Differences in Oral Health at the Greek Colony of Himera.** E.B. DANELLA, B. KYLE, L.J. REITSEMA, S. VASSALLO, P. FABBRI, C. BATCHELDER.

26 **Making sense of medieval mouths: Patterns of oral pathologies in a Late Medieval Italian skeletal sample.** T.M. TROMBLEY, S.C. AGARWAL, P.D. BEAUCHESNE.

Saturday, Morning sessions.

Session Evolutionary Causes and Consequences of Rising Cesarean Birth Rates
52:

Invited Podium Symposium. Chair: Amanda Veile, Karen Rosenberg.

Co-organizers: Amanda Veile, Purdue University; Karen Rosenberg, University of Delaware.

Zilker 4.

Cesarean birth rates are rising in most parts of the world, with a number of implications for short and long-term maternal-offspring health outcomes. While they can be life-saving procedures for mothers and their infants, cesarean sections also have negative consequences for both. For example, cesarean births are often epidemiologically associated with decreased maternal fertility, poor breastfeeding outcomes and increased maternal morbidity. In infants, cesarean births are also linked with increased child and adulthood obesity, asthma and allergic disease, which are all independent risk factors for the number one cause of death globally: cardiovascular disease. Evolutionary and biocultural perspectives are useful in understanding the causes and consequences of globally rising cesarean birth rates. Previous biological anthropology research has examined human birth from an evolutionary perspective, exploring the proximate and ultimate mechanisms underlying pregnancy-related morbidity and mortality. Other research within the discipline has focused on the dynamic social and biological forces that contribute to rising cesarean birth rates. Biological anthropologists and related researchers are well-equipped to examine global patterns and local contexts under which cesarean birth rates seem to inevitably rise. This symposium therefore draws together anthropologists, biologists and health practitioners who study the causes and consequences of rising cesarean birth rates using evolutionary and cross-cultural perspectives.

8:00 **The legacies, context, and consequences of cooperative childbirth.** K.R. ROSENBERG, W.R. TREVATHAN.

8:15 **Developing the International Optimal Childbirth Initiative (IOCI): Applying Anthropology to Lower Cesarean and Other Intervention Rates and Improve Outcomes in Birth Worldwide.** R.E. DAVIS-FLOYD.

8:30 **Obligate midwifery, Obstetric discordance and Unnatural selection: Can evolutionary perspectives move us beyond the too much too soon/too little too late dualism?** M. CHEYNEY.

8:45 **The cliff edge model of obstetric selection predicts intergenerational predisposition to Caesarean delivery.** P. MITTEROECKER.

9:00 **Maternal Motives Behind Elective Cesarean Sections.** E.M. REYES, K.R. ROSENBERG.

9:15 **Contributors to cesarean section childbirth and ways to support mothers during the early postpartum period.** K.P. TULLY.

9:30 **Caesarean birth and adiposity parameters in 6-to 8 year-old urban Maya children from two cities of Yucatan, Mexico.** H. AZCORRA, L. RODRÍGUEZ, S. DATTA BANIK, B. BOGIN, M. VARELA-SILVA, F. DICKINSON.

9:45 **Effects of C-section on the human microbiota.** M.G. DOMINGUEZ-BELLO.

10:00 **BREAK.**

10:30 **Birth across the epidemiological transition: Implications for infant growth and gut microbiome assembly.** A. VEILE, K.L. KRAMER.

10:45 **Causes and Consequences of Cesarean Birth in Yucatec Maya Subsistence Farmers.** S. TULLER, A. VEILE, K. KRAMER.

11:00 **Morbidity Profiles Compared in Vaginally and Cesarean Born Indigenous Toba/Qom Children.** M.A. MARTIN, A. VEILE, C.R. VALEGGIA.

11:15 **Pathways linking birth practices and early health: Immune development and the gut microbiome.** A.L. THOMPSON, K. HOUCK, H. JAHNKE.

11:30 **Discussant: Julianne Rutherford.**
Within-population variation in Cesarean section rates. B. FISCHER.

Session Population History, Demography and Affinity
53:

Contributed Podium Presentations. Chair: .

Foothills Ballroom II.

8:00 **The effects of Spanish colonization on population structure in two regions of Mexico.** C.S. RAGSDALE, H.J. EDGAR, C.M. WILLERMET.

8:15 **Estimating African ancestry in two historic ossuaries in New Spain.** C. WILLERMET, H.J. EDGAR, E. MOES, C.S. RAGSDALE.

8:30 **Spanish/North African population affinity: implications for North American Mestizos.** H.J. EDGAR, K. RUSK, C.S. RAGSDALE.

8:45 **An Analysis of Biological Diversity and Admixture in Ottoman Romania Utilizing Strontium Isotope and Craniometric Affinity Patterns.** K. ALLEN, R. MILLS, K.J. KNUDSON, N. VON CRAMON-TAUBADEL.

9:00 **Craniometric shape similarity in three modern Mexican samples.** H.A. DUECKER, M. SPRADLEY, V.B. DELEON.

9:15 **Fuzzy logic as an approach for assessing population relatedness and phenotypic variation.** D.M. ADAMS, R.L. GEORGE, M.A. PILLOUD.

9:30 **A longitudinal study of the correspondence of non-metric traits in mixed human dentitions: insights from the Stucklen dental molds.** E.D. HUBBARD, L.L. DERN, P. ATALLAH, M.M. GLANTZ, J.M. MONGE.

9:45 **A test of the patterning cascade model: Carabelli's trait and hypocone expression in dm2-M3 across modern human dental complexes.** C.M. ASTORINO, K.S. PAUL, S.E. BAILEY.

10:00 **BREAK.**

10:30 **An integrative study of the emergence of social inequality: Bioarchaeological and biogeochemical analyses of the Coyo Oriental cemetery, northern Chile.** W.J. PESTLE, C. TORRES-ROUFF, M. HUBBE.

10:45 **Do the short die young? A comparative study of agricultural and hunter-gatherer children's growth patterns.** B.M. USHER, C. VIOLATES, D.H. TEMPLE.

11:00 **Broken bones and forgotten people: Insight into the lives of america's socially disadvantaged as seen in the terry and huntington collections at the turn of the 20th century (1898-1925).** S.S. GARCIA, D. HUNT, M. RAUH.

11:15 **Political transitions and weaning: interpreting childhood nutritional deficiency using interglobular dentin and Wilson bands.** T.V. WILSON.

11:30 **Conflict at Kaman-Kalehöyük: The End of the Middle Bronze Age at a Rural Settlement in Central Anatolia.** C.P. ANDERSON, L. ATICI, S. OMURA.

11:45 **The Canopic Jar Project: an interdisciplinary study of ancient Egyptian soft tissue remains.** A.S. BOUWMAN, T. KRÄMER, M. HABICHT, P. EPPENBERGER, R. SEILER, F. GALASSI, F. RÜHLI.

Session Human Evolutionary Anatomy
54:

Contributed Podium Presentations. Chair: Stephen R. Frost.

Texas I.

8:00 **The shape of the hominin talus: Evolutionary timing and relationships of the talar facets.** R. SORRENTINO, C. MINGHETTI, W. PARR, K. TURLEY, S. WROE, C. SHAW, A. SU, L. FIORENZA, F. FELETTI, T. JASHASHVILI, S. FROST, K.J. CARLSON, G.M. BELCASTRO, T. RYAN, S. BENAZZI.

8:15 **Patellar maltracking and the hominin distal femur.** A.D. SYLVESTER, A.J. COSGAREA, M.J. TANAKA.

8:30 **Virtual reconstruction of the kebara 2 neanderthal pelvis.** M.T. ADEGBOYEGA, J. HUBLIN, T.D. WEAVER.

8:45 **Morphological variation of the modern human sacrum with implications for early hominins.** C. FORNAI, M. NUEESCH, V.A. KRENN, M. HAEUSLER.

9:00 **Relative size and scaling of the lumbo-sacral joint in fossil hominins: Implications for function and phylogeny.** S.A. WILLIAMS, T.C. PRANG, M.W. GRABOWSKI, M.R. MEYER, P. SCHMID, S.E. CHURCHILL, L.R. BERGER.

9:15 **Biomechanical restrictions on Palaeolithic technological decisions: a study of the non-dominant hand.** A.J. KEY.

9:30 **Morphological Variation in the Distal Humerus of Modern Humans, Apes and Fossil Hominins.** K.G. ZELAZNY, A.D. SYLVESTER, C.B. RUFF.

9:45 **Stick digging and the evolution of the australopith forelimb.** N.T. ROACH.

10:00 **BREAK.**

10:30 **Chewing biomechanics in early Hominin: An approach to detect evolutionary change in the ecomorphological relationship between mandibles and diet.** J. MARCÉ-NOGUÉ, A. DAASCH, T.A. PÜSCHEL, T.M. KAISER.

10:45 **Dental size reduction in tame Russian silver foxes and its implications for the “self-domestication” model in hominin evolution.** E.K. WOOD, S.D. MADDUX, T.E. SOUTHDARD, A. KHARLAMOVA, L. TRUT, R.G. FRANCISCUS.

11:00 **Craniofacial integration and evolution of hominins.** K.L. BAAB.

11:15 **Alveolar-arch morphology and species diversity in early *Homo*.** J. LAWRENCE, W.H. KIMBEL.

11:30 **Levantine Late Pleistocene *Homo* heterogeneity as revealed by postcanine dentition.** G.W. WEBER, C. FORNAI, V.A. KRENN, H. MAY, R. SARIG, I. HERSHKOVITZ.

11:45 **Analysis of Neanderthal Biodistance using Non-Metric Features of the Dentition.** M. TCHANG.

Session Omics of human and non-human primate development, health and disease

55:

Contributed Podium Presentations. Chair: Omer Gokcumen.

Texas II/III.

8:00 **Epigenetics, gene expression and the intergenerational effects of stress in mothers and offspring in the Democratic Republic of Congo.** C.J. MULLIGAN.

8:15 **Convergent selection on growth- and cardiac-related pathways in African and Asian rainforest hunter-gatherers.** C.M. BERGEY, M. LOPEZ, G.F. HARRISON, E. PATIN, J. COHEN, L. QUINTANA-MURCI, L.B. BARREIRO, G. PERRY.

8:30 **Adaptive evolution of complex haplotypes harboring the metabolizing the *GSTM1* gene deletion.** M. SAITOU, T. ISHIDA, Y. SATTA, O. GOKCUMEN.

8:45 **Measures of Health and Disease Associated with Purifying Selection in *UCP1*.** L. NEVELL.

9:00 **Evolutionary history and adaptation from high-coverage whole-genome sequences of the pygmy population of Flores, Indonesia.** S. TUCCI, R. MCCOY, B. VERNOT, S. VOHR, M.R. ROBINSON, C. BARBIERI, W. FU, H. SUDOYO, P.M. VISSCHER, G. BARBUJANI, J.M. AKEY, R.E. GREEN.

9:15 **Thousand Genomes Project reveals unique Native American alleles that originated during Beringian standstill.** S.D. NIEDBALSKI, J.C. LONG.

9:30 **The developmental genetics of the human scapula.** M. YOUNG, L. BIRKENSTOCK, N. YOUNG, N. ROACH, T.D. CAPELLINI.

9:45 **Mapping host-microbe interactions from fecal samples: Immune and nutritional modulation by the primate gut microbiome.** A. GOMEZ, K. PETRZELKOVA.

10:00 **BREAK.**

10:30 **Interactions between bacteria and parasites in the gastrointestinal tract of wild black howler monkeys (*Alouatta pigra*).** K.R. AMATO, N. RIGHINI, E. MALLOTT, R. MARTINEZ-MOTA.

10:45 **Oral microbiome variation in chimpanzees from Gombe National Park.** A.T. OZGA, R. NOCKERTS, M.L. WILSON, I.C. GILBY, A. PUSEY, A.C. STONE.

11:00 **Traditional and industrial food preservation agents shape the gut microbiota.** R.N. CARMODY, L.D. SCHELL.

11:15 **Dietary foliage regulates the gut microbiome and colonic metabolome of captive Coquerel’s sifakas.** L.K. GREENE, E.A. MCKENNEY, T.M. O’CONNELL, C.M. DREA.

11:30 **Gut microbiome diversity across sympatric wild mammal populations of Madagascar reflects diet, habitat use, and host phylogeny.** A.C. PEROFSKY, R.J. LEWIS, L. ANCEL MEYERS.

11:45 **Comparing non-human primate microbiomes from multiple body habitats.** A.E. ASANGBA, L. MUGISHA, R.J. LEWIS, A. HALAJIAN, S.R. LEIGH, R.M. STUMPF.

Session Primate Behavior: Foraging

56:

Contributed Podium Presentations. Chair: Jessica M. Rothman.

Texas V/VI.

8:00 **Howler Monkey and Leafcutter Ant Resource Competition: A Widely-Known but Little-Tested Hypothesis.** D.G. RUSSELL.

8:15 **Interspecific and intraspecific variation in the use of manual touch during fruit foraging in primates.** C.C. VEILLEUX, C. HIRAMATSU, K. VALENTA, S. WEBB, F. AURELI, S. KAWAMURA, A.D. MELIN.

8:30 **Forest baboons maximize energy and prioritize protein: implications for evolution of human diet.** C.A. JOHNSON, D. RAUBENHEIMER, L. SWEDELL, J.M. ROTHMAN.

8:45 **Nutrient balancing in coexisting colobines.** J.M. ROTHMAN, C.A. CHAPMAN, D. RAUBENHEIMER.

9:00 **Nutrient intake across the dry season in *Lemur catta* sexes.** N. YAMASHITA, M. LAFLEUR.

9:15 **Sodium is the likely target of geophagy in Nepal gray langurs.** E.T. MONACO, A. KOENIG, J. NIKOLEI, K. WESCHE, C. BORRIES.

9:30 **Quantifying free simple sugars in orangutan foods using spectrophotometry: Implications for orangutan feeding ecology.** N.J. ROBINSON, L.R. LANG, E.E. KANE, C.D. KNOTT.

9:45 **The effect of food quality on vervet monkey (*Chlorocebus pygerythrus*) foraging decisions.** T.L. KUMPAN, J.M. ROTHMAN, C.A. CHAPMAN, J.A. TEICHROEB.

10:00 **BREAK.**

10:30 **Ingestive Behavior of Bornean Orangutans (*Pongo pygmaeus wurmbii*): coping with mechanical challenges while foraging.** E.E. KANE, W. MCGRAW, T. LAMAN, T. SUSANTO, C. KNOTT.

10:45 **What's for dinner? Diurnal variation in wild Bornean orangutan food and nutrient choices.** A.L. DIGIORGIO, A.B. BLACKBURN, C.D. KNOTT.

11:00 **Seasonal variation in arthropod abundance and consumption by omnivorous guenons in Kibale National Park, Uganda.** M.M. LYKE, A. DI FIORE, N. FIERER, A.A. MADDEN, J.E. LAMBERT.

11:15 **Meat eating frequencies in wild chimpanzees - The effect of absolute meat amounts, hunt participation and female reproductive state on the $\delta^{15}\text{N}$ ratios of hair.** V.M. OELZE, R.M. WITTIG, S. LEMOINE, H.S. KUEHL, C. BOESCH.

11:30 **Figs are important, but not fallback foods for chimpanzees in the Issa Valley, Tanzania.** A.K. PIEL, A. CHITAYAT, P. STRAMPELLI, F.A. STEWART.

11:45 **Wild female chimpanzees are more social and feed less often when they have young infants.** S.A. FOX, Z.P. MACHANDA, M.N. MULLER, E. OTALI, R.W. WRANGHAM, M. EMERY THOMPSON.

Session Anthropologists Take On Emerging Infectious Diseases: AAPA and AAA joint session

57:

Invited Poster Symposium. Chair: Lorena Madrigal, Katherine C. McKinnon.

Co-organizers: Lorena Madrigal. University of South Florida, and Katherine C. McKinnon. St. Louis University. .

Hill Country B-C.

Emerging infectious diseases have posed public health and medical risks for millennia. Their appearance in a particular locale is often rapid and unexpected, with rapidly increasing geographic range and uncertain treatment prospects because their etiology is from previously undetected or unknown infectious agents. Institutional and behavioral changes are often required for primary and secondary prevention, as the development of safe and effective medical interventions awaits positive identification of infectious agents and pathways. Health systems strengthening (early detection, improved surveillance, workforce development and cultural sensitization) is also required. With its four-field approach, anthropology has identified socio-cultural, demographic, genetic and evolutionary causes of changes in epidemiological patterns affecting human populations. As Armelagos and colleagues (2005) note, human populations have entered an antibiotic-resistant stage in which not all members of society have equal exposure to pathogens or protection from them. In this symposium, we have assembled experts in socio-cultural, medical, bio-archaeological anthropology, and other disciplines, who would usually not attend the AAPA. The presentations in this session use case studies of Ebola and other viral hemorrhagic fevers, avian flu, Zika and other zoonotics to demonstrate the ways in which anthropologists from all four sub-fields come together to take on emerging infectious diseases with their work on disease prevention and health promotion, evaluation of effective interventions, and systems strengthening measures. This symposium will be partly funded by the AAA, and will be the second AAA-AAPA joint symposium. The organizers are the Biological seat at the AAA executive board and the BIA Chair.

10:00 **BREAK.**

10:30 **Author Summary Presentations.**

11:00 **Discussant: Ed Liebow.**

11:20 **General Discussion (Led by Lorena Madrigal).**

1 How social inequalities are embodied as differential risk for pathologies among the poor: Trends in HIV incidence among

1 **youth and adolescent pregnancy in Latin America and the Caribbean.** A. CASTRO.

2 **How epidemics devastated the indigenous people of the Americas.** R. GONZALEZ-JOSE, V. RAMALLO.

3 **Plagues past and present: the modern relevance of archaeological studies of epidemics in the past.** S.N. DEWITTE.

4 **Co-circulating epidemics and health care access in early 20th century Alaska and Labrador: implications for emerging diseases of the present.** L. SATTENSPIEL, M. MURRAY, S. MAMELUND.

5 **Trouble in paradise: analyzing the patterns of a bites and scratches directed at humans by long-tailed macaques (*Macaca fascicularis*) at Padangtegal Wenara Wana, Bali, Indonesia.** J.E. LOUDON, M.E. HOWELLS, I. WANDIA, I. PUTRA, M.R. CRUDUP, A. FUENTES.

6 **Breastfeeding and emerging infectious diseases: An anthropological approach.** E.M. MILLER.

7 **When Cultural Anthropology Met Ebolavirus: A Tale of Resistances.** S. ABRAMOWITZ.

Session 58: Tooth Wear in Evolutionary and Biocultural Perspectives

Invited Poster Symposium. Chair: James T. Watson, Christopher W. Schmidt.

Co-organizers: James T. Watson, University of Arizona; Christopher W. Schmidt, University of Indianapolis.

Hill Country D.

This symposium pulls together experts representing a range of current approaches to the study of dental wear in extant primates, hominins, and ancient humans to highlight advancements in macrowear and microwear analyses, particularly those regarding diet, extramasticatory behaviors, and tooth use via evolutionary and biocultural perspectives. As biostructures that facilitate interaction between bodily and external environments, teeth provide the first step in the digestion of food through mechanical breakdown. But by engaging in their primary function, teeth experience wear from tooth-to-tooth and tooth-food-tooth contact as well as chemical erosion. Tooth wear reflects tooth use and therefore provides insight into the evolutionary history of our primate relatives and our hominin ancestors; it also documents dietary nuances in modern humans as they dispersed and inhabited a great variety of geographic regions. As a complex, multifactorial process, tooth wear has garnered significant attention at both macroscopic and microscopic levels. Improvements in the understanding of chewing mechanics and dental hard tissue properties, along with recent applications of technology capable of analyzing dental microsurfaces, has led to a fluorescence in dental wear study and generated a rich and extensive literature. This symposium serves to underscore the value of studying dental wear in biological anthropology.

9:30 Individual Poster Presentations (1-5).

10:00 BREAK.

10:30 Individual Poster Presentations (6-10).

11:00 Discussant: B. Holly Smith.

- 1 **Dental macrowear in catarrhine primates: variability across species.** J. GALBANY, J. TWAHIRWA, L. BAIGES-SOTOS, E.E. KANE, D. TUYISINGIZE, P. KALEME, A. RWETSIBA, R. BITARIHO, M.R. CRANFIELD, T.G. BROMAGE, A. MUDAKIKWA, T.S. STOINSKI, M.M. ROBBINS, S.C. MCFARLIN.
- 2 **Diet and cultural diversity in Neanderthals and modern humans from dental macrowear analyses.** L. FIORENZA, S. BENAZZI, A. ESTALRRICH, O. KULLMER.
- 3 **Macrowear and Tooth Enamel Mechanical Properties.** F.R. FOSTER, P.J. CONSTANTINO.
- 4 **The interplay of behavioral and occlusal etiologies in aberrant tooth wear.** A. CRANE, J.T. WATSON, R. HAAS.
- 5 **Molar microwear and carbon isotope variability of South African australopiths in relation to site paleoecology and taxonomy.** F.E. GRINE, J. LEE-THORP, M. SPONHEIMER, M.F. TEAFORD, P.S. UNGAR, D. YANG.
- 6 **Regional variability in diet between Northern and Mediterranean Neandertals: Evidence from dental microwear texture analysis.** J.L. DROKE, C.W. SCHMIDT, F. L'ENGLE WILLIAMS, W.M. KARRIGER, F.H. SMITH, G. BECAM, M. DE LUMLEY.
- 7 **Experimental dental microwear textures with implications for Neandertal diet.** K.L. KRUEGER, E. CHWA, A. PETERSON, R. DELONG, A. FOK, B. VAN HEEL, Y. HEO, M. WESTON.
- 8 **Dental microwear texture analysis in bioarchaeology.** C.W. SCHMIDT.
- 9 **Dental microwear texture analysis of the Late Upper Paleolithic/Neolithic humans at Tam Hang (Northern Laos).** J.C. WILLMAN, C.W. SCHMIDT, A. REMY, L. SHACKELFORD, F. DEMETER.
- 10 **Dental microwear texture analyses of the Paleoamerican of Lagoa Santa, Central Brazil.** P. SPENGLER, P. DA-GLORIA, C.W. SCHMIDT.

Session 59: New Views on Primate Adaptations and Evolution “ A Symposium Honoring Richard Kay

Invited Poster Symposium. Chair: E. Christopher Kirk, J. Michael Plavcan.

Co-organizers: E. Christopher Kirk, University of Texas at Austin; J. Michael Plavcan, University of Arkansas.

Texas VII.

Over the last 45 years, Richard Kay has made enormous intellectual and practical contributions to the field of biological anthropology. His research program has focused on a diverse array of subjects and methods, and has profoundly influenced the work of many researchers around the world. Most notably, Kay's early work on dental functional anatomy established the fundamental adaptive relationship between diet and tooth form that continues to serve as the foundation for our understanding of dental evolution and diversity. He subsequently made and continues to make substantive contributions to our understanding of anthropoid origins and platyrhine evolution. Kay has been at the forefront of developing quantitative methods to reconstruct the diets of extinct primates, and has played a key role in the transition to our current apomorphy-based understanding of fossil primate phylogeny. In the course of his paleontological research, Kay has discovered and described numerous extinct primate species, and has sought to understand platyrhine evolution within the larger context of South American paleoenvironments and ancient faunal communities. These diverse research activities are the product of a scientific career informed by two key questions: (1) What can be inferred about the paleobiology and evolutionary relationships of fossil species using experimental and comparative methods?, and (2) What new technologies and methods can be brought to bear in order to help improve our understanding of primate adaptations and evolution? All of the symposium participants conduct research that is inspired by these same two questions. In this symposium, we honor Kay's extraordinary impact on our field through an exploration of research building upon his body of work.

8:00 **Presenters at Posters.**

8:30 **Introduction: E. Christopher Kirk.**

8:45 **Presentation of Posters (1-7).**

10:00 **BREAK.**

10:15 **Presentation of Posters (8-15).**

11:30 **Discussion: Richard Kay, E. Christopher Kirk, J. Michael Plavcan .**

1 **Does endocast shape co-vary with diet across primates?** K.L. ALLEN.

2 **Some colobines do swing; douc suspensory behavior and anatomy.** H.H. COVERT, C.D. BYRON, M.C. GRANATOSKY, C. WORKMAN.

3 **Phylogeny and sexual dimorphism in primate evolution.** J. PLAVCAN.

4 **Evaluating the self-domestication hypothesis of human evolution.** M.R. SÁNCHEZ -VILLAGRA, C.P. VAN SCHAIK.

5 **New Eocene primates from the Tornillo Basin of Trans-Pecos Texas.** E. KIRK.

6 **Primates at the Northern Edge: Update on Faunas from the Middle Eocene of Saskatchewan.** J.M. PERRY, K.A. PRUFROCK, A. DUTCHAK, J.M. THEODOR.

7 **Primates and the Early Miocene mammalian arboreal guild of Patagonia.** SERGIO F. VIZCAÍNO, NÉSTOR TOLEDO, SUSANA BARGO and NAHUEL A. MUÑOZ.

8 **Fossil Primates from the Miocene Pinturas Formation, Santa Cruz, Argentina.** J.G. FLEAGLE, M.F. TEJEDOR, N.M. NOVO.

9 **New Early Miocene primate bearing faunal assemblage from the Alto Madre de Dios, Peru.** L.A. GONZALES, R.F. KAY, W. SALENBIEN, L. ANGEL VALDIVIA, G. BEJAR, L. CHORNOGUBSKY, J. MARTINEZ, C.A. RIGSBY, P.A. BAKER.

10 **New sivapithecine fossil from the early Late Miocene in central Myanmar.** M. TAKAI, T. HTIKE, Z. MAUNG THEIN, R.T. KONO.

11 **Dental Topography and Food Processing in Wild-Caught Costa Rican *Alouatta*.** J.D. PAMPUSH, P.E. MORSE, S.G. CHESTER, J.P. SPRADLEY, B.A. WILLIAMS, K.E. GLANDER, M.F. TEAFORD, R.F. KAY.

12 **Determinants of variation in primate jaw kinematics.** C.F. ROSS, M.F. LAIRD, M.C. GRANATOSKY, J. IRIARTE-DIAZ, D. REED, P. O'HIGGINS.

13 **Phalangeriform marsupials as model taxa for early primates: Perspectives from dental topography and a revisit of Kay and Hylander (1978).** J.P. SPRADLEY, H.E. PHILLIPS.

14 **Does dental functional morphology in platyrhine primates reflect food type or proportion?** P.S. UNGAR, M.F. TEAFORD.

15 **Can we extend Kay's observation on the distinctiveness of bilophodonty among primates to include cercopithecine skull form, jaw-muscle fiber architecture and microwear?** A.B. TAYLOR, M.F. TEAFORD, C.J. VINYARD.

Session 60: Human demography and epidemiology

60:

Contributed Poster Presentations. Chair: Asher Rosinger.

Zilker 1/2/3.

Authors present 7:00-8:00 am and noon-1:00 pm

1 **Lower testosterone levels are associated with higher risk of death in men: Evidence from the National Health and Nutrition**

Examination Survey. M.P. MUEHLENBEIN, E.C. SHATTUCK, C.S. SPARKS.

2 **Of infants and infections: Investigating 20th century mortality patterns in Newfoundland and Labrador.** D.M. SCHMIDT.

3 **Excess mortality of respiratory infection during the 1918 influenza pandemic in Newfoundland and Labrador.** T. PASKOFF, L. SATTENSPIEL.

4 **Hidden in plain sight: How census-level data mask health risks in urban mobile home communities.** A.B. FORMANACK, R.L. BENDER.

5 **Long-term declines in limb bone shaft strength among South African Bantu peoples during the 20th century.** D. MARSH, I.J. WALLACE, E. OTÁROLA-CASTILLO, V. MNGOMEZULU, F.E. GRINE.

6 **Examining variables associated with the underdiagnosis of depression in Mexico.** A.M. GOMA PETIT, A.M. DELOUIZE, K.E. YARRIS, G. EICK, E. THIELE, A.S. RODRIGUEZ, B.S. MANRIQUE-ESPINOZA, P. KOWAL, N. NAIDOO, S. CHATTERJI, J. SNODGRASS.

7 **Environmental and cultural pressures on human infectious disease.** E. CASHDAN.

8 ***Schistosoma haematobium*, but not *Schistosoma mansoni*, increases urine specific gravity in a sample of rural Tanzanian women, 2016.** A.Y. ROSINGER, S.L. YOUNG, S.M. COLLINS, S.R. HAIDER, P. MISHRA, H.T. NAGAI, M. PETRO, G.O. BOATENG, J.A. DOWNS.

9 **Opportunities and constraints in women's resource security among agro-pastoralists in Kaokoveld, Namibia.** A. HAZEL, G. MEEKS, J. HOLLAND JONES.

10 **Social Networks and the Distribution of Wealth in a Matrilineal Mosuo Community.** A.Z. REYNOLDS, S.M. MATTISON, M. ZHANG, C. SUM, M.K. SHENK, T. BLUMENFIELD.

11 **Kinship mediates the relationship between market integration and social inequality in the Mosuo of Southwest China.** S.M. MATTISON, C. SUM, A.Z. REYNOLDS, T. BLUMENFIELD, M.K. SHENK.

12 **A novel, age-structured model of the evolution of economic preferences.** M.H. PRICE, J.H. JONES.

13 **Evolutionary demography of age at last birth among the Mosuo: synthesizing approaches from human behavioral ecology and cultural evolution.** M.C. TOWNER, C. MOYA, A.Z. REYNOLDS, S.M. MATTISON.

14 **Assessing dermatoglyphic distances in North American populations and their parental populations: A comparison to craniometrics.** J.J. DEMERE, K.N. LEWIS, M. SPRADLEY.

15 **Addressing the Challenges of Missing Data in Anthropological Networks.** E. READY, A. HAZEL, J. JONES.

16 **Systematic literature review of methods of study of hair cortisol in healthy children.** J. CORONA, A.L. NON.

Session Human reproduction
61:

Contributed Poster Presentations. Chair: Kristen N. Herlosky.

Zilker 1/2/3.

Authors present 7:00-8:00 am and noon-1:00 pm

1 **Girl, you'll be a woman soon: Examining associations between pelvic dimensions and body composition in growing girls living in London.** S. DECRAUSAZ, J.E. WILLIAMS, M.S. FEWTRELL, J.T. STOCK, J.C. WELLS.

2 **La donna è mobile? Lack of cyclical shifts in facial symmetry, and facial and body masculinity preferences ““ a hormone based study.** U.M. MARCINKOWSKA, A. GALBARTZYK, G. JASIENSKA.

3 **Intrasexual rivalry, intersexual choice, and men's fitness.** A.K. HILL, J.L. BURNS, J. KOSTER, J. WINKING, R.P. BURRISS, D.A. PUTS.

4 **The “auriculate extension”• : a new indicator of pregnancy and childbirth at the sacrum?** D. PANY-KUCERA, M. SPANNAGL-STEINER, K. REBAY-SALISBURY.

5 **Differences in Obstetric Care Experiences Across Demographic Groups in Alabama.** K.A. MEIGHAN.

6 **How similar are women's hormone profiles from one pregnancy to the next?** M. FOX, C. SANDMAN, E. DAVIS, L. GLYNN.

7 **The evolutionary ecology of breastmilk folate among Ariaal agro-pastoralists in Kenya.** M. FUJITA, N. PAREDES RUVALCABA, M. CORBITT.

8 **From harvest to hunger: How mothers feed babies across seasons in Malawi.** R. LATULIPE, T. MARK, M. ANTO-OCRAH, D.H. ADLER, J.W. LANNING.

9 **Postpartum Maternal Health and the Edinburgh Postnatal Depression Scale among the Hadza Foragers.** K.N. HERLOSKY, D.C. BENYSHEK, A.N. CRITTENDEN.

Session Primate Ecology and Conservation
62:

Contributed Poster Presentations. Chair: Rachel A. Voyt.

Zilker 1/2/3.

Authors present 7:00-8:00 am and noon-1:00 pm

- 1 **Social cohesion varies by sex and forest zone among mantled howler monkeys (*Alouatta palliata*) in a Costa Rican forest fragment.** E.A. SHEEHAN, A.L. SCHREIER, Z.S. JACOBSON, D.G. RUSSELL, M.L. AZZARA, R.M. SCHLAHT, L.M. BOLT.
- 2 **A test of the energy conservation hypothesis in Verreaux's sifaka (*Propithecus verreauxi*).** R. VOYT, R.J. LEWIS.
- 3 **Who's That? Has Captivity Affected Nocturnal Aye-Ayes (*Daubentonia madagascariensis*) Vocalization Repertoire?** D.Q. WATTS, L.M. PACIULLI.
- 4 **First report of wire snares at the Mount Assirik Research Site in Niokolo-Koba National Park, Senegal.** S.L. BOGART, M. GUEYE, P. NDIAYE, N.G. ROBERTS BUCETA, G.A. MAROTTA, S.M. LINDSHIELD.
- 5 **Preliminary Insights into Wildlife Exploitation in and around Kirindy Mitea, National Park.** K.E. THOMPSON.
- 6 **Effects of tourism on the behavior of wild, habituated groups of *Macaca nigra*.** D.A. BERTRAND, C.M. BERMAN, S.W. MARGULIS, A. MUHAMMAD, U. SUTIAH, E. ANTJE.
- 7 **Examining long-term trends in primate abundance in Korup National Park, South West, Cameroon.** T.A. CAPEL, E. HALL, C.A. JOST ROBINSON.
- 8 **Primate use of forest fallows and Waiwai garden hunting in an indigenous reserve in Guyana.** C.A. SHAFFER, C. YUKUMA, P. SUSE, E. MARAWANARU.
- 9 **The impact of drought on white-faced capuchins in Santa Rosa National Park, Costa Rica: A comparison of population-wide and group-based demographics.** K.M. JACK, F.A. CAMPOS, J.D. HOGAN, U. KALBITZER, L.M. FEDIGAN.
- 10 **Twenty years of ranging patterns in hamadryas baboons: a modern take in a changing climate.** M.C. HENRIQUEZ, L. SWEDELL.
- 11 **Reconstructing the Demographic History of Black-and-White Ruffed Lemurs (*Varecia variegata*) in Ranomafana National Park.** A. CHANDRASHEKAR, A.N. MANCINI, A.L. BADEN.
- 12 **Realized Habitat Choices of Crowned Lemurs (*Eulemur coronatus*) in a Heavily Disturbed Forest Fragment: A Case Study of Flexible Distribution Patterns.** F.M. MERCADO MALABET, I.C. COLQUHOUN.
- 13 **Preserving Preuss's red colobus (*Piliocolobus preussi*): an analysis of hunting, conservation, and primates in Cameroon.** A.N. HOFNER, C.A. JOST ROBINSON, K. NEKARIS.
- 14 **Host-parasite interactions in a small island setting: Determining exposure and susceptibility to bot flies (*Cuterebra baeri*) in wild howler monkeys (*Alouatta palliata*).** K.M. BENAVIDEZ, K. MILTON, M.D. WASSERMAN.
- 15 **Spatial memory of semi-free ranging *Lemur catta*.** M.E. WILKENS, E.P. CUNNINGHAM.

Session Genus *Homo*
63:

Contributed Poster Presentations. Chair: Ashley S. Hammond.

Zilker 1/2/3.

Authors present 7:00-8:00 am and noon-1:00 pm

- 1 **Big Questions and Bigger Data: Solutions to the problem of data integration for addressing major questions in human evolution.** D. REED.
- 2 **Morphology and context of a new early *Homo* mandible from Koobi Fora, Kenya.** A.S. HAMMOND, L.E. HUNTER, B. THOMPSON, E. CORDINER, M. BIERNAT, W. BARR, D.R. BRAUN.
- 3 **Introducing OH89, a new hominid clavicle from Olduvai Gorge, Tanzania.** C.E. TAYLOR, F. MASAO, A.V. SONGITA, G. PETER, L.J. HLUSKO.
- 4 **Estimating body mass in *Homo erectus* using the talus.** D.L. CUNNINGHAM, M.V. ROGERS, D.J. WESCOTT, R.C. MCCARTHY.
- 5 **Do the Dmanisi crania sample a single species?** E. LALUNIO, A. KRAMER, A.C. DURBAND.
- 6 **A New Naming Scheme for the Dinaledi Chamber System and Associated Antechambers and Passages of the Rising Star Cave System, South Africa.** L.R. BERGER, M.C. ELLIOTT, B. PEIXOTTO, H. MORRIS, E.M. FEUERRIEGEL, S.J. TUCKER, A. KRUGER, R. HUNTER, D. VAN ROOYAN, M. RAMALEPA, M. TSIKOANE, E. ROBERTS, C. SPANDLER, P. DIRKS, J. HAWKS.
- 7 **New fossil material of *Homo naledi* from the Dinaledi Chamber, South Africa.** J. HAWKS, M.C. ELLIOTT, E.M. FEUERRIEGEL, N. HLOPHE, R. HUNTER, H. MORRIS, B. PEIXOTTO, M. RAMALEPA, M. TSIKOANE, S. TUCKER, D. VAN ROOYEN, L.R. BERGER.
- 8 **Hominin material recovered from the base of the Chute in the Hill Antechamber, in the Dinaledi Chamber System of the Rising Star Cave.** M.C. ELLIOTT, B. PEIXOTTO, H. MORRIS, E.M. FEUERRIEGEL, S. TUCKER, R. HUNTER, M. RAMALEPA, M. TSIKOANE, E.M. ROBERTS, C. SPANDLER, J. HAWKS, L.R. BERGER.

- 9 **3D Mapping of the Hominin-Bearing Deposits and Associated Passages and Chambers of the Rising Star Cave System, South Africa.** S.J. TUCKER, A. KRUGER, M.C. ELLIOTT, B. PEIXOTTO, D. VAN ROOYEN, M. TSIKOANE, M. RAMALEPA, R. HUNTER, E. ROBERTS, P. DIRKS, J. HAWKS, L.R. BERGER.
- 10 **Metatarsophalangeal proportions of *Homo naledi*.** S. TRAYNOR, A.J. SAMS, Z. THROCKMORTON.
- 11 **Late juvenile *H. naledi* partially articulated lower limb from Dinaledi Chamber, South Africa.** D.R. BOLTER, M.C. ELLIOTT.
- 12 **Accurately reconstructing crown heights of anterior teeth using micro-computed tomographic scans of fossil teeth.** M. O'HARA, A. LE CABEC, S. XING, M.F. SKINNER, D. GUATELLI-STEINBERG.
- 13 **A hominin humerus from the late Middle Stone Age of Rusinga Island, Lake Victoria, Kenya.** O.M. PEARSON, E.C. HILL, D.J. PEPPE, J. FAITH, C.A. TRYON.
- 14 **A two-dimensional micro-tomographic study of taurodontism in the Atapuerca-Sima de los Huesos lower molars.** C. MCLEAN, M. MARTINÓN-TORRES, LAURA MARTÍN-FRANCÉS, JUAN LUIS ARSUAGA and JOSÉ MARÍA BERMÚDEZ DE CASTRO.
- 15 **Does the Longlin 1 cranium provide evidence for hybridization with archaic hominins in East Asia?** A.C. DURBAND, M.C. WESTAWAY.
- 16 **A Comparative Study of Neandertal Hearing Using 3D Virtual Reconstruction.** A.D. VELEZ, R.M. QUAM, M. CONDE-VALVERDE, I. MARTINEZ, M. ROSA, C. LORENZO, J. ARSUAGA.
- 17 **Browridge size and shape variation in *Homo erectus* and *Homo neanderthalensis*: a quantitative assessment using an extant hominoid reference sample.** K.L. BALOLIA.
- 18 **Facing our ancestors. A new method of facial reconstruction using geometric morphometric technique.** A. BARASH, D. KARASIK, E. BEEN.
- 19 **A comparison of metric variation in deciduous molars of *Homo sapiens* and *Homo neanderthalensis*.** A. CURLEY, S. BAILEY.
- 20 **Morphological characteristics of the “phylogenetically primitive” Liang Bua, Flores, mandibles match past and present regional *Homo sapiens* populations.** R.B. ECKHARDT, S. CHAVANAVES, K.J. HSU, M. HENNEBERG.
- 21 **Studying canid trabecular bone morphology to understand human self-domestication.** H. CHIRCHIR, F.R. O'KEEFE.
- 22 **Toward solving the puzzle of thorax shape variation among early hominins.** M.R. MEYER, S.A. WILLIAMS, D. GARCIA-MARTÍNEZ, M. BASTIR.

Session Bioarchaeology of Eurasia
64:

Contributed Poster Presentations. Chair: Cassie E. Skipper.

Zilker 1/2/3.

Authors present 7:00-8:00 am and noon-1:00 pm

- 1 **Quantifying the effects of indirect fire exposure to human skeletal remains at Çatalhöyük.** C.E. SKIPPER, S.D. HADDOCK, M.A. PILLOUD.
- 2 **Mobility and body size at Neolithic Çatalhöyük: temporal patterns of a large-scale farming community in Turkey.** E.M. GAROFALO, C.B. RUFF, C.S. LARSEN.
- 3 **Stable Isotope Analyses of Skeletal Remains from the Copper Age Burials at Valencina-Castilleja (Seville): Dietary Patterns and Regional Comparisons.** A.J. WATERMAN, M. DÍAZ-ZORITA BONILLA, R.H. TYKOT.
- 4 **Great Hungarian Plain Diet and Mobility through the Neolithic, Copper Age, Bronze Age, and Iron Age.** A. MCCALL.
- 5 **Human interaction and mobility among Copper Age mega-sites enclosures in Iberia through strontium isotope analyses.** M. DÍAZ-ZORITA ITA BONILLA, A. WATERMAN.
- 6 **Subsistence and land space use in the South Caucasian Late Bronze Age and Iron Age: A comparison of three regions using $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ isotopic analysis of skeletal remains.** I. COUPAL.
- 7 **Characterizing diet in Bronze-Iron Age Xinjiang and southern Siberian steppe populations through analysis of dental wear, dental disease, and stable isotopes.** J.T. ENG, M. MACHICEK.
- 8 **Cranial variation in the Italian peninsula from the Iron Age to the Middle Ages.** S.M. HENS.
- 9 **Untangling the relationship between paleopathology and funerary behavior in the Italian Neolithic: new data from Arma dell'Aquila (Finale Ligure, Liguria region, northwestern Italy).** V.S. SPARACELLO, C. PANELLI, S. ROSSI, I. DORI, A. VARALLI, G. GOUDÉ, S. KACKI, C. PARTIOT, M. MANNINO, S. TALAMO, M.P. RICHARDS, C.A. ROBERTS, J. MOGGI-CECCHI, E. STARNINI, P. BIAGI.
- 10 **Late copper age population dynamics in the Carpathian Basin.** A.N. KARABOWICZ.
- 11 **The quantitative genetic analysis of craniometric phenotype of Yin Ruins population, Anyang.** L. HE, W. LIU.
- 12 **Demography and Health of the Hellenistic to Early Christian burial samples from Ayioi Omoloyites neighborhood in Nicosia, Cyprus.** N.P. HERRMANN, K.A. CRUZ, C.A. WOLFE, D. PILIDES, Y. VIOLARIS.

13 **Local or migrant? Insight into culture complexity using stable oxygen isotopes at Himera.** C. VIOLARIS, L.J. REITSEMA, K.L. REINBERGER, B. KYLE, P. FABBRI, S. VASALLO.

14 **Diet and Culture at the Greek Colony Himera.** C. BATCHELDER, L.J. REITSEMA, B. KYLE, K.L. REINBERGER, S. VASSALLO, P. FABBRI.

15 **Isotopic assessment of the Saladoid and post-Saladoid (AD 125-1395) remains from the Red House Site, Trinidad and Tobago.** L. VAN VOORHIS, G.D. KAMENOV, B.A. REID, J. KRIGBAUM.

16 **Stable Isotope Analysis of Childhood Diet at 1st Century B.C./A.D. Petra, Jordan.** M. PROVAN, M. PERRY, R.H. TYKOT.

17 **Methodological issues in the analysis of fragmentary and commingled subadult remains at the Ayioi Omoloyites tombs of Roman to Early Christian Period Cyprus.** C.A. WOLFE, N.P. HERRMANN, K.A. CRUZ, D. PILIDES, Y. VIOLARIS.

18 **Perinatal health as an indicator of Maternal health factors during the Roman Civil War: preliminary analysis of the Put Dragulina Cemetery, Trogir, Croatia.** A.J. OSTERHOLTZ.

19 **Rome wasn't built in a day: biomolecular analysis of ancient Romans.** FLAVIO DE ANGELIS, CRISTINA MARTÍNEZ-LABARGA, ANDERS GÖTHERSTRÖM, VALENTINA GAZZANIGA, PAOLA CATALANO and OLGA RICKARDS.

20 **Feeding Romans in the Early Middle Ages: nutritional patterns in several Roman communities.** S. VARANO, F. DE ANGELIS, A. BATTISTINI, W. PANTANO, P. CATALANO, V. GAZZANIGA, C. MARTÍNEZ-LABARGA, O. RICKARDS.

21 **Assessing biological susceptibility to epidemic disease in mass grave contexts from Roman period Oymağaç, Turkey.** K.E. MARKLEIN.

22 **Multi-Isotope Analysis to Reconstruct Dietary and Migration Patterns of an Avar Population from SajÓpetri, Hungary, AD 568-895.** L. NOCHE-DOWDY, R.H. TYKOT, G.D. KAMENOV, E.H. KIMMERLE.

23 **Integrated macroscopic and isotopic analyses to examine 'stress' during periods of political transition in Transylvania, Romania.** K.D. CROWDER, J. MONTGOMERY, C.A. ROBERTS, D.R. GRÖCKE, M. GLIGOR, N. ZSOLT.

24 **The Impact of Status and Sex in Mortality in a Hungarian Avar Period Population Assessed Using Hazard Analysis.** K.E. WEISENSEE, A.K. SHILLINGLAW, Z. BERECKZKI.

25 **Examining Status in Medieval Italy: Using Skeletal Indicators to Identify Socioeconomic Status in Mortuary Samples.** G. VERCELLOTTI, M.C. STEWART.

26 **Who settled Berlin?: Understanding migration through oxygen and strontium isotope analysis.** J. HOLMSTROM, K. KILLGROVE, B.J. SCHAEFER, B.L. TURNER.

27 **Analyzing skeletal frailty in Medieval Poland.** A. TUGGLE, K. MARKLEIN, D.E. CREWS.

28 **Milk and Honey: Isotopic Reconstruction of Infant Weaning in Medieval Transylvania.** M.R. VOAS, K. KILLGROVE, J.D. BETHARD, R.H. TYKOT, A. GONCIAR, Z. NYÁRÁDI.

29 **Diet and Disease in Medieval Berlin: Dental Pathology Data from the Medieval Cemetery of Petriplatz.** M. ZECHINI, K. KILLGROVE, C.M. MELISCH, N. POWERS, B. JUNGKLAUS.

30 **Stress and frailty in Medieval Prussia: Interpretations from skeletal remains at BezÅawki.** K. GADDIS, A. GRUENTHAL-RANKIN, M. RAMSIER, A. KOPERKIEWICZ, M. POLCYN.

31 **Limb bone diaphyseal structure reflects population relationships in a pan-European sample.** B. HOLT, G. AGOSTINI.

32 **Estimating stature and sex from incomplete postcranial remains in a late Medieval Prussian population at BezÅawki, Poland.** M. RAMSIER, A. GRUENTHAL-RANKIN, A. KOPERKIEWICZ, M. POLCYN.

33 **A case of systematic unilateral degenerative joint disease (UDJD) in 14th-17th century Transylvania and its implications for the effect of mining on population health.** P.B. MOLLARD.

34 **Body size and social status in medieval and post-medieval Italy: A comparison of Alba (CN) and Trino (VC).** N.M. WEISS, G. VERCELLOTTI, R. BOANO, M. GIROTTI, S.D. STOUT.

35 **Tracing the victims of the 16th/17th century plagues in western Istria - bioarchaeological analysis of a mass grave from Umag.** M. NOVAK, I. JANKOVIC, B. MILOSEVIC, A. MIJANOVIC.

36 **Neonatal and postnatal mortality in Roccapielago through the study of human skeletal remains and parish records.** C. FIGUS, M. TRAVERSARI, L.M. SCALISE, L. BUTI, A. VAZZANA, R. SORRENTINO, G. OXILIA, S. BENAZZI.

37 **Secular change in Croatian male crania: 1812-1973.** I. ILAS, R.L. JANTZ, D. OWSLEY, M. Å LAUS.

38 **Somebody call a doctor!: Identifying limitations in using clinical data to interpret health in human skeletal remains from a Post-Medieval English cemetery.** S.E. BLESSING, C. ROBERTS.

39 **Sex and Status: Childhood Mortality Risk During the Industrial Era.** S. REEDY.

40 **A probable case of extradural meningioma in a twentieth-century cranium from the Francisc I. Rainer Anthropological Collection in Bucharest, Romania.** S.E. CALDWELL, T.A. CRIST, M. CONSTANTINESCU.

41 **Reevaluating human skull variability in aboriginal population of Gran Canaria (Canary Island, Spain): A three-dimensional geometric morphometrics approach.** A. SERRANO-RAMOS, J. JIMÉNEZ-ARENAS, J. ESQUIVEL-GUERRERO.

Saturday, Afternoon sessions.

Session Ventilating Silos: Framing biological anthropology's public message on global climate change
65:

Invited Podium Symposium. Chair: Melanie M. Beasley, Joshua Robinson.

Co-organizers: Joshua Robinson (University of South Carolina, Columbia).

Zilker 4.

Building on the 2017 March for Science and the AAPA Presidential Panel on promoting a positive environment for science, we must recognize that, as a whole, the scientific community has failed to adequately and effectively convey to the general public the impact of global climate change on humans. Biological anthropologists are particularly well situated to engage the general public in discourse about the effect of environmental change on all primates and how climate change is relevant to humans. Current research on the intersection of climate change and biological anthropology, however, typically occurs in silos: as a context for our origins; tracking the long-term development of society; its role in health outcomes; a backdrop to primate conservation. In an age of questionable "facts"• and "fake news"•, anthropologists are unique stake-holders in this discussion and must provide context of how every person, from every walk of life, will be shaped by global climate change. Now is the time to ventilate our proverbial research silos with a culture of open communication and information flow related to climate studies. As a community, biological anthropologists need to engage the general public and to distill scientifically sound, but meaningful, take-home messages about the consequences of global climate change on humans which can be easily understood by everyone. By bringing together paleoanthropologists, bioarchaeologists, human biologists, and primatologists, this symposium will stimulate discussions on a comprehensive anthropological approach to the role global climate change has had, and will continue to have, on humans and our non-human primate relatives' evolution and survival.

2:30 **Biological anthropologists as stake-holders in global climate change messaging.** M.M. BEASLEY.

2:45 **Adaptable apes: reconstructing habitats through space and time in the early Miocene of East Africa.** D.J. PEPPE, S. COTE, A. DEINO, S.G. DRIESE, D.L. FOX, J. KINGSTON, R. KINYANJUI, R.M. KITYO, T. LEHMANN, W.E. LUKENS, K. JENKINS, L.M. MACLATCHY, F.K. MANTHI, E. MBUA, K.P. MCNULTY, L.A. MICHEL, E.R. MILLER, A.A. MUGUME, I. NENGO, A. NOVELLO, K.O. OGINGA, J.B. ROSSIE.

3:00 **Plio-Pleistocene climate proxies and hominin evolution in East Africa.** K.E. REED, D.A. FEARY, J. ROWAN, C.J. CAMPISANO.

3:15 **Uncertain Weather, Unpredictable People: A bioarchaeological assessment of how humans react to climate change.** R.P. HARROD.

3:30 **"An Urgent and Growing Threat to Our National Security"• : Bioarchaeological challenges to the narrative of statehood and security in the face of climate change and crisis.** G. ROBBINS SCHUG.

3:45 **Human evolution and cultural flexibility in a time of climate change.** M.A. KLINE.

4:00 **Shifting Agriculture and Climate Change: Effects on Crowned Lemur and Sanford's Lemur Ecology in Northern Madagascar.** B.Z. FREED, N.R. BARTOSCH.

4:15 **What climate change means for primates and primatology.** K.B. STRIER.

4:30 **Climate Change Across African Protected Areas and its Implications for Primate Biodiversity.** A.J. ZAMORA, J.M. KAMILAR.

4:45 **Preparing natural history museum volunteers to engage with visitors about climate change and evolution.** B. POBINER, J. COLLINS, T. MACE.

5:00 **Assembling an album of primate-environment interrelations: Using the past to understand the present in order to address the future.** J.R. ROBINSON.

5:15 **Discussant: Sarah Feakins.**

5:30 **Discussant: Kathy Ellins.**

5:45 **Discussant: Kerry Cook.**

Session Human variation and adaptation
66:

Contributed Podium Presentations. Chair: Samuel S. Urlacher.

Foothills Ballroom II.

2:30 **Extremities at the Extremes: Ice-water immersion of the hand as a test of cold adaptation theory.** S. PAYNE.

2:45 **Lassitude as a regulatory system for behavioral adjustment to energetic stress in humans: Evidence from six diverse cultures.** J.M. SCHROCK, J.J. SNODGRASS, N. NAIDOO, P. KOWAL, L.S. SUGIYAMA.

3:00 **Acute salivary steroid hormone responses in juvenile boys and girls to non-physical team competition.** T.S. MCHALE, P.B.

GRAY, K. CHAN, D.T. ZAVA, W. CHEE.

3:15 **Covariation patterns and respiratory simulation in modern human and Neanderthal noses.** S. DE AZEVEDO, C. CINTAS, M. GONZALEZ, V. RAMALLO, M. QUINTO-SANCHEZ, F. MARQUEZ, T. HUNEMEIER, C. PASCHETTA, A. RUDERMAN, P. NAVARRO, B. PAZOS, C. SILVA DE CERQUEIRA, O. VELAN, F. RAMIREZ-ROZZI, N. CALVO, H. CASTRO, R. PAZ, R. GONZALEZ-JOSE.

3:30 **Climate, craniofacial plasticity and culture: A comparison of ecogeographic patterns in cranial shape between Jomon foragers and Japanese macaques.** L.T. BUCK, I. DE GROOTE, Y. HAMADA, J.T. STOCK.

3:45 **Walking mechanics and the evolution of the human pygmy phenotype.** V.V. VENKATARAMAN, T.S. KRAFT, A. YEGIAN, I.J. WALLACE, N. HOLOWKA, M. GURVEN.

4:00 **Direct measures of total and resting energy expenditure among Shuar forager-horticulturalist children: Evolutionary and epidemiological implications.** S.S. URLACHER, J. SNODGRASS, L.R. DUGAS, L.S. SUGIYAMA, H. PONTZER.

4:15 **A mixed model for the relationship between latitude and human post-cranial form.** K.R. SAVELL, D.C. KATZ, B.M. AUERBACH, T.D. WEAVER.

4:30 **Reanalysis of the Trotter Collection for a Study on Variation in Human Hair.** S. KOCH, N. JABLONSKI, M.D. SHRIVER.

4:45 **Fractal patterns of physical activity in hunter-gatherers suggest universal scaling of daily movement in humans.** D.A. RAICHLEN, M.T. HAMILTON, J.A. HARRIS, C. HSU, S.K. KEADLE, Y.C. KLIMENTIDIS, T.J. MARX, C.E. MATTHEWS, H. PONTZER, M. SAYRE, B.M. WOOD, T.W. ZDERIC, G.E. ALEXANDER.

5:00 **Changes in use of racialized terms throughout the history of biological anthropology, 1946 ““ 2017.** E.S. CLAUSING, A.L. NON.

5:15 **A cross-cultural examination of the pathways of fertility decline across 45 countries.** K. SNOPKOWSKI, H. COLLERAN.

Session Human Evolutionary Processes: Biology, Behavior and Systematics

67:

Contributed Podium Presentations. Chair: P. Thomas Schoenemann.

Texas I.

2:30 **Foramen magnum position and angle reflect neural organization.** A.A. RUTH, M. RAGHANTI, C. LOVEJOY.

2:45 **Arterial canals and brain metabolism in Euarchonta.** D.M. BOYER, A.R. HARRINGTON.

3:00 **Metabolic effects of increasing neuronal density in Euarchontoglires.** A.R. HARRINGTON, D.M. BOYER.

3:15 **In vivo magnetic resonance images of chimpanzee brains suggest that published australopithecine sulcal patterns fall within the range for extant apes.** D. FALK, C.P. ZOLLIKOFER, M. PONCE DE LEON, K. SEMENDEFERI, J.L. ALATORRE WARREN, W.D. HOPKINS.

3:30 **The role of working memory while learning prehistoric stone toolmaking skills: A functional brain imaging study.** S.S. PUTT, S. WIJEAKUMAR, J.P. SPENCER.

3:45 **Handedness-related asymmetries in modern human brains: implications for paleoneurology.** L.M. RUCK, P. SCHÖENEMANN.

4:00 **Comparative Ontogeny of the Thoracolumbar Transition in Great Apes, Humans, and Fossil Hominins.** T.K. NALLEY, J.E. SCOTT, C.V. WARD, Z. ALEMSEGED.

4:15 **Sporadic sampling not climatic forcing drives early hominin diversity.** S.J. MAXWELL, P.J. HOPLEY, P. UPCHURCH, C. SOLIGO.

4:30 **Adapting multivariate Brownian diffusion models to Bayesian inference of human population history and phylogeny.** N.G. VETR, M.R. MAY, B.R. MOORE, T.D. WEAVER.

4:45 **Species recognition in the hominin fossil record.** B.A. WOOD, R.J. SMITH.

5:00 **“Sigma taxonomy”• and the lack of a clear boundary between *Australopithecus* and *Homo*.** C.M. SCHREIN, J. THACKERAY, J. BENOIT, S. DYKES.

5:15 **Landmarking for worn teeth: Comparing methods to evaluate if Type III landmarks measure up.** S.J. DYKES, V.C. PILBROW.

5:30 **Specimen dates and species longevity: An evaluation of the use of temporal range data for questions of ancestry in the hominin fossil record.** T.L. CAMPBELL, C. ROBINSON, S. COTE, D.J. DE RUITER.

Session Primate Conservation

68:

Contributed Podium Presentations. Chair: Erin P. Riley.

Texas II/III.

2:30 **Impacts of artisanal small-scale gold mining on chimpanzee habitat use and behavior.** K. BOYER ONTL, J.D. PRUETZ.

2:45 **Co-shaping conservation dynamics: moor macaque (*Macaca maura*) life history stage and human knowledge, perceptions, and experience influence interspecies interactions in South Sulawesi, Indonesia.** K. MORROW, E.P. RILEY.

3:00 **Variations in aggressive encounters between tourists and a hybrid macaque group (*Macaca fascicularis* x *M. nemestrina*) in Sabah, Malaysia.** L.J. GILHOOLY, I.C. COLQUHOUN.

3:15 **Effects of habitat fragmentation on the behavioral ecology and population dynamics of Critically Endangered brown spider monkeys (*Ateles hybridus*) in Colombia.** A. LINK OSPINA, G. DE LUNA, A. DI FIORE.

3:30 **The effects of forest degradation on arboreal primates within Sikundur, the Gunung Leuser Ecosystem, Northern Sumatra.** C. MARSH, M. NOWAK, R. HILL, A. KORSTJENS.

3:45 **Trashing the field: field site and species bias in primatology.** M. BEZANSON, A. MCNAMARA.

4:00 **Primate ecotoxicology in Costa Rica: Assessing an overlooked threat to primates across a series of forest fragments.** M.D. WASSERMAN, P. BECK, T. STEINICHE, E. JOHNSON, R. QUIRÓS, K. ALFARO GONZÁLEZ, A. KROPP, S. MATTECHECK, T. JOHNSON, S. WANG, K. ROMANAK, M. VENIER.

4:15 **Reduced nutritional intakes in Diademed Sifakas (*Propithecus diadema*) occupying degraded habitat are reflected in morphometrics and growth and help identify habitat thresholds.** M.T. IRWIN, K.E. SAMONDS, J. RAHARISON, K.E. GLANDER, L.R. GODFREY.

4:30 **Anthropogenic disturbance drives critically endangered black-and-white ruffed lemur (*Varecia variegata*) distribution in Manombo Special Reserve.** M.E. DONOHUE.

4:45 **The impacts of Cyclone Enawo and anthropogenic disturbances on the habitat of northern sportive lemurs (*Lepilemur septentrionalis*) in northern Madagascar.** M.P. DINSMORE, K.B. STRIER, E.E. LOUIS JR..

5:00 **Using strontium isotopes to track spatial patterns in depredation of lemurs by endemic goshwaks at Ranomafana National Park.** B.E. CROWLEY, S.J. ARRIGO-NELSON, A.L. BADEN, S.M. KARPANTY.

5:15 **Nature's Diet: Caloric Restriction and Oxidative Stress in Wild Bornean Orangutans, *Pongo pygmaeus wurmbii*.** D.J. NAUMENKO, S.E. ALAVI, E.R. VOGEL.

Session Primate Evolution

69:

Contributed Podium Presentations. Chair: John Kingston.

Texas V/VI.

2:30 **Vertical Climbing and The Plasticity of Motor Skills.** K.A. CONGDON, K. MERINO.

2:45 **Mechanical analyses of leaping performance in Eastern gray squirrels (*Sciurus carolinensis*): implications for early primate locomotor evolution.** J.W. YOUNG, T. MAZONAS, A.N. WOLFE, B.A. CHADWELL, D.M. BOYER.

3:00 **Parallel evolution of suspensory locomotion in tree sloths and implications for understanding homoplasy in hominoids.** J.K. SPEAR, S.A. WILLIAMS.

3:15 **Reassessing the dispersal of the earliest crown clade primates across the Northern Hemisphere during the Paleocene-Eocene thermal maximum (PETM).** K. BEARD.

3:30 **New adapoid material (Primates, Adapiformes) from the Great Divide Basin of southwestern Wyoming.** R.L. ANEMONE, J. CROWELL, B. NACHMAN.

3:45 **Evidence for seasonality from the Kihara Formation from the Early Miocene deposits of Rusinga Island, Kenya.** L.A. MICHEL, K. CHENG, R.L. CHAN, A.F. BOWEN, D.L. FOX, T. LEHMANN, D.J. PEPPE, K.P. MCNULTY.

4:00 **Open-canopy habitats at Karungu, Kenya: an early Miocene fossil site with few primate remains.** W.E. LUKENS, T. LEHMANN, D.J. PEPPE, D.L. FOX, S.G. DRIESE, R. KINYAJUI, J.D. KINGSTON, K.P. MCNULTY.

4:15 **Isotopic evidence for habitat heterogeneity at Bukwa, an early Miocene catarrhine site in Uganda.** J. KINGSTON, L. MACLATCHY, S. COTE, R. KINYANJUI.

4:30 **Environmental Change and African Early to Middle Miocene Catarrhine Evolution.** I.D. ARNEY, L. MACLATCHY, B.R. BENEFIT, M.L. MCCROSSIN, J.D. KINGSTON.

4:45 **The inner ear of *Epipliopithecus vindobonensis*: preliminary results.** A. URCIUOLI, M. PINA, S. MOYÀ-SOLÀ, D. M. ALBA.

5:00 **The diet of *Greycopithecus freybergi*: phytoliths and dentognathic evidence.** MADELAINE BÖHME, SABINE KÖTTER and JOCHEN FUSS.

5:15 **Taxonomy of the fossil papionin genus *Parapapio* in the South African Plio-Pleistocene.** C.C. GILBERT, S.R. FROST, E. DELSON.

Session Genomic approaches to understanding regional histories in the Americas

70:

Invited Poster Symposium. Chair: Austin W. Reynolds, Maria A. Nieves-Colón.

Co-organizers: Austin W. Reynolds, University of Texas at Austin; Maria A. Nieves-Colón, Arizona State University and Unidad de Genómica Avanzada CINVESTAV.

Hill Country D.

For the last four decades, a major focus of anthropological genetics research has been understanding the peopling of the Americas. While this question has historically been addressed with uniparental and traditional autosomal markers, the recent explosion of available genome-wide datasets has provided new insights into the timing and routes used by the first settlers, the diversification that occurred after the initial peopling, and the impacts of European colonization on the genetics of indigenous populations. But, while these larger pictures are fairly well-resolved, research focusing on regional or local population histories is still uncommon. Moreover, despite the increase in genomic datasets American indigenous and admixed populations continue to be vastly underrepresented in the genomics literature, where ~95% of studies focus on either European or East Asian populations. A growing number of researchers are applying genomics techniques with modern and ancient populations in the Americas to fill in these gaps and answer exciting questions on these smaller geographic scales. Examples include investigations into the initial settlement of subcontinental regions or island systems, examinations of the genetic effects of site level demographic changes and research into the importance of genetic substructure and fine-scale ancestry patterns in underlying adaptive and functional variation in modern American populations. The aim of this panel is to highlight these studies, what we consider the next frontier in anthropological genetics research in the Americas.

2:30 Individual Poster Presentations.

4:00 Discussant: Deborah Bolnick.

- 1 **Continuity and aggregation at Mission Santa Catalina de Guale: Archaeological and genetic interpretations of regional population history in coastal Georgia.** L.C. SPRINGS, C.S. LARSEN, D.H. THOMAS, A.M. SEMON, E.H. BLAIR, N. ROHLAND, D. REICH, D.A. BOLNICK.
- 2 **Paleogenomic investigations of the ancient inhabitants of the Lower Pecos region of Texas and Northern Mexico.** J.A. RAFF, A.W. REYNOLDS, S. TURPIN, N. ROHLAND, D. REICH, D.A. BOLNICK.
- 3 **Paleogenomic study of Pre-Hispanic Civilizations in Central Mexico.** VIRIDIANA VILLA-ISLAS, MARCELA SANDOVAL-VELASCO, ERICK RAMÍREZ CRUZ, MIRIAM J. BRAVO-LÓPEZ, ELIZABETH M. PÉREZ-CAMPOS, ALBERTO HERRERA MUÑOZ, EMILIA HUERTA-SÁNCHEZ and MARIA C. ÁVILA-ARCOS.
- 4 **The genetic impacts of sociopolitical change: investigating temporal shifts in central Mexico with paleogenomic evidence from Xaltocan.** A.W. REYNOLDS, J. MATA-MÍGUEZ, E.R. RODRIGUEZ-ALEGRÍA, L. OVERHOLTZER, N. ROHLAND, D. REICH, D.A. BOLNICK.
- 5 **Reconstructing admixture and migration dynamics of post-contact Mexico.** J. RODRIGUEZ-RODRIGUEZ, J. BLANCO-PORTILLO, A. IOANNIDIS, A. MORENO-ESTRADA.
- 6 **Genome-wide admixture patterns in Afro-Caribbean populations from the Lesser Antilles.** M.A. NIEVES-COLON, A.C. STONE, J. BENN-TORRES.
- 7 **Linking the past to the present, anthropological genetic approach to African and Indigenous American interaction in the Caribbean.** J. BENN TORRES, H. FULLER.
- 8 **Selection mapping to identify Flavivirus response loci in the Americas.** O.A. GARCIA, K. ARSALANIAN, D. WHORF, M. SHRIVER, L.G. MOORE, T. BRUTSAERT, A.W. BIGHAM.
- 9 **Genomic Adaptation to High Altitude Among Peruvian Quechua.** A.W. BIGHAM, M. KIYAMU, G. ELIAS, J.L. ISHERWOOD, F.S. LEE, M. RIVERA-CHIRIA, F. LEON-VELARDE, T.D. BRUTSAERT.
- 10 **Genome wide data from pre-Columbian South America.** L. FEHREN-SCHMITZ, C. POSTH, P. SKOGLUND, B. LLAMAS, W. HAAK, J. KRAUSE, D. REICH.
- 11 **Investigating region-specific natural selection and admixture-associated selection in the Indigenous peoples of the Americas.** C.M. BAILENTINE, A.W. REYNOLDS, A. MIRÓ-HERRANS, J. MATA-MÍGUEZ, M. RZHETSKAYA, J.A. RAFF, M. HAYES, D.A. BOLNICK.
- 12 **Ancient Mitochondrial DNA Analysis at MisiÓN Salesiana, Tierra del Fuego.** S. WININGEAR, J.M. MOTTA, M.A. NIEVES COLÓN, K. HARKINS, P. GARCIA LABORDE, R.A. GUICHÓN, A.C. STONE.
- 13 **Genomic insights into early maritime adaptations in Western Patagonia.** C. DE LA FUENTE, V. MORENO-MAYAR, M. ALFONSO-DURRUTY, F. MORELLO, M. VILAR, S. WELLS, P.F. CAMPOS, E. WILLERSLEV.

Session Macaques in the study of human conditions - In celebration of 80 years of Cayo Santiago
71:

Invited Poster Symposium. Chair: Qian Wang.

Texas VII.

Since Rhesus macaques (*Macaca mulatta*) were introduced into Cayo Santiago, Puerto Rico in 1938, with the subsequent development in the 1970's of the Caribbean Primate Research Center (CPRC) for biomedical research, Cayo Santiago and the CPRC have for over 80 years provided a unique resource for stimulating studies in physical anthropology, behavioral, and biomedical sciences. It has helped to establish Rhesus macaques, among other Old World Monkeys including its close relatives baboons and other macaques, as primate models for the study of multiple human conditions, and how they display life history, growth, physiology, pathologies, and behavior similar to those in developing and aging humans. This symposium celebrates eighty

years of unique contributions of Cayo Santiago and the CPRC to the scientific community, and offers a stage for researchers from around the world to review and display recent and ongoing studies of Old World Monkeys represented by macaques and their relatives. The studies presented here on growth, function, pathology, behavior, and especially genetics in the genome age in Rhesus monkeys and their relatives, will discuss both the historical and recent impact of studies such as those at Cayo Santiago and the CPRC (and elsewhere) on our understanding of non-human primate and human morphology, development, genetics, and behavior. These studies also provide a broader background for understanding how studies of non-human primates can contribute to anthropological and evolutionary studies, and to medical relevance and applications. And finally again, these studies illustrate the unique role that centers of non-human primate studies such as the CPRC have provided historically and can continue to provide to better understand both normal and pathological conditions in humans.

- 1 **Functional genetic variation among rhesus macaques (*Macaca mulatta*): A newly recognized and powerful tool for research.** M. RAVEENDRAN, R. HARRIS, J. ROGERS.
- 2 **Modeling the Genetic, Epigenetic, and Neural Mechanisms Mediating Variation in Complex Human Social Behavior in Rhesus Macaques.** M.L. PLATT.
- 3 **Genetic correlations in the canine-premolar honing complex of the rhesus macaques of Cayo Santiago.** A.M. HARDIN.
- 4 **Gingival Gene Expression Profiles to Stage Progression of Periodontitis: Of Monkey and Man?** J.L. EBERSOLE, R. NAGARAJAN, O.A. GONZALEZ.
- 5 **Odontogenic Abscesses in Rhesus Macaques (*Macaca mulatta*) of Cayo Santiago.** H. LI, W. LUO, A. FENG, M.L. TANG, T.B. KENSLER, E. MALDONADO, O.A. GONZALEZ, M.J. KESSLER, P.C. DECHOW, J.L. EBERSOLE, Q. WANG.
- 6 **Arthritis in Rhesus macaques (*Macaca mulatta*) from Cayo Santiago.** B.M. ROTHSCHILD, Q. WANG, J.E. TURNQUIST, C.J. DEROUSSEAU, M.J. KESSLER, K.P. PRITZKER.
- 7 **Exploring a connection between matriline dominance rank and linear enamel hypoplasia in Cayo Santiago rhesus monkeys.** Z. BENDERLOGLU, D. GUATELLI-STEINBERG.
- 8 **A test of the “Brain Pleiotropy Hypothesis” for the relationship between brain size and dental development in rhesus macaques.** H. GLOWACKA, G.T. SCHWARTZ.
- 9 **Intra-demic morphological variation: using the Cayo Santiago macaques to model plasticity in the fossil record.** H. TABOADA, S.C. ANTÓN, S.A. WILLIAMS, M.F. LAIRD, M.K. STOCK, C.I. VILLAMIL, S.E. BAUMAN SURRET, O. GONZALEZ-VELEZ, C.A. SCHMITT, C. DUBUC, J.P. HIGHAM.
- 10 **Adult female baboons demonstrate craniofacial age-related changes that have the potential to bias inferences made from assessments of their intrapopulation variation.** J.L. JOGANIC, Y. HEUZÉ.
- 11 **Understanding human craniofacial bone properties and biomechanics - a perspective on macaques, baboons, and beyond.** P.C. DECHOW.
- 12 **Morphological integration in macaque limb development: implications for understanding human development.** L.P. KOHN, B. RICCI, J.E. TURNQUIST, M.J. KESSLER, J.D. BERARD.
- 13 **Consistency and diversity of male life history and social structure: Insights from long-term study of Japanese macaques (*Macaca fuscata*).** T. KAWAZOE.
- 14 **Sexual selection in male rhesus macaques: genes, physiology, morphology, behavior, & life-history.** J.P. HIGHAM.
- 15 **Developmental pacing in *Macaca mulatta* from two types of managed environments: captive and free-ranging.** A.R. ELLER.
- 16 **Galen, macaques and the growth of the discipline of human anatomy.** G. TRKALJ.

Session Non-human genetic variation and population genetics

72:

Contributed Poster Presentations. Chair: Negin Valizadegan.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:00-6:00 pm

- 1 **The Association between Aggression and the Gut Microbiome in Wild Chimpanzees (*Pan troglodytes*).** N. VALIZADEGAN, R. STUMPF.
- 2 **Anthropogenic disturbance as a determinant of gut microbiome structure in Madagascar's ring-tailed lemurs (*Lemur catta*).** S.L. BORNBUSCH, L.K. GREENE, C.M. DREA.
- 3 **Microbiome variability associated with age, sex, and social group in *Gorilla beringei*.** E.C. CANCELLIERE, J.M. ROTHMAN, A.M. GOMEZ.
- 4 **The Influence of Social Networks on Similarity of Gut Microbes in the Common Vampire Bat (*Desmodus rotundus*).** K. YARLAGADDA, A. RAULO, S. RIPPERGER, G. CARTER.
- 5 **Kinship, Social Relationships, and the Gut Microbiome.** L.O. DIAKIW, S. TECOT, A. RAULO, A. LANE, A.S. ARROYO, S. RAZANAJATOVO, A. MANCINI, A. CHANDRASHEKAR, A. PUITZA, S. CASSALETT, R. LAMELA-LOPEZ, K.R. AMATO, A.L. BADEN.
- 6 **Effects of Environment and Relatedness on the Gut Microbiome of Ugandan red colobus monkeys.** T. WHITNEY, D.

CHRISTIE, M.J. RUIZ-LOPEZ, C.A. CHAPMAN, T.L. GOLDBERG, N. TING.

7 **Free-ranging access improves the gut microbiome of captive *Eulemur*.** S.R. GORVETZIAN, L.K. GREENE, C.M. DREA.

8 **Seasonal changes in the metabolome of wild black howler monkeys (*Alouatta pigra*).** E.K. MALLOTT, K.R. AMATO.

9 **Evolutionary implications of primate skeletal DNA methylation patterns and their relationship to skeletal phenotypes.** G. HOUSMAN, E.E. QUILLEN, A.C. STONE.

10 **Gene expression in the primary visual cortex differs amongst phenotypically distinct primates.** T.M. ZINTEL, J.J. ELY, M. RAGHANTI, W.D. HOPKINS, P.R. HOF, C.C. SHERWOOD, J.M. KAMILAR, A.L. BAUERNFEIND, C.C. BABBITT.

11 **Phylogenetic and phylogeographic evidence for two species of muriqui (genus *Brachyteles*).** P.B. CHAVES, T. MAGNUS, L. JERUSALINSKY, M.G. TALEBI, K.B. STRIER, P. BREVES, F. TABACOW, R.H. TEIXEIRA, L. MOREIRA, R. HACK, A. MILAGRES, A. PISSINATTI, F.R. DE MELO, C. PESSUTTI, S.L. MENDES, T.C. MARGARIDO, V. FAGUNDES, A. DI FIORE, S.L. BONATTO.

12 **Phylogenetic history of the primate AMY gene family.** C.M. GAGNON, M.E. STEIPER.

13 **Habitat degradation and proximity to villages explain population structure in Critically Endangered black-and-white ruffed lemurs (*Varecia variegata*).** A.L. BADEN, A.N. MANCINI, S. FEDERMAN, J.M. KAMILAR, S. HOLMES, S.E. JOHNSON, E.E. LOUIS, JR, B.J. BRADLEY.

14 **“Go West”: East-west gene flow in aye-ayes (*Daubentonia madagascariensis*) supports the western-rainforest refugia hypothesis.** M.L. AYLWARD, E.E. LOUIS JR., G.H. PERRY, S.E. JOHNSON.

15 **Y-Chromosome Introgression: An Analysis of Spermatogenesis Genes Between *Macaca mulatta* and *Macaca fascicularis*.** C.A. RUIZ, A.J. TOSI.

16 **Genetic diversity of color vision in four sympatric New World primates (*Ateles*, *Lagothrix*, *Pithecia*, *Plecturocebus*) at the Tiputini Biodiversity Station in Amazonian Ecuador.** M. SNODDERLY, C. VEILLEUX, S. KAWAMURA, E. FERNANDEZ-DUQUE, A. LINK, A. DI FIORE.

17 **Color vision and the ecology of nocturnal mammals: insights from leaf-nosed bats (Phyllostomidae) and primates.** A.D. MELIN, K. KRIES, M.A. BARROS, G. DUYTSCHAEVER, J.D. ORKIN, D.M. PESSOA.

18 **Heritability of coloration in *Mandrillus sphinx*.** J.K. SCHAFER, A.D. GORDON, B. NGOUBANGOYE, J.M. SETCHELL.

19 **Genetic determinants of brain size: *ASPM* coding variation is associated with brain morphology in chimpanzees.** S.V. SINGH, N. STAES, W.D. HOPKINS, S.J. SHAPIRO, B.J. BRADLEY, C.C. SHERWOOD.

20 **Neurogenetic roots of language: *KIAA0319* SNP variation associated with aspects of brain morphology in chimpanzees.** M. ROSENSTEIN, N. STAES, S.J. SHAPIRO, W.D. HOPKINS, C.C. SHERWOOD, B.J. BRADLEY.

21 **Is Genetic Drift to Blame for a High Incidence of Testicular Dysgenesis Syndrome in Semliki Chimpanzees (*Pan troglodytes schweinfurthii*)?** A.M. RICH, C. DEIMEL, F. KAESTLE, S.K. BREEDEN, M.D. WASSERMAN, K.D. HUNT.

22 **The evolution of TLR7 and TLR8 in yellow fever virus endemic areas.** N.S. TOROSIN, P. SHOWERS CORNELI, L.A. KNAPP.

23 **Duplication and convergent evolution of the pancreatic ribonuclease gene (*RNASE1*) in a non-colobine primate, the mantled howler monkey (*Alouatta palliata*).** M.C. JANIAK, A.S. BURRELL, T.R. DISOTELL.

24 **Derived codon substitution in the Catechol-O-methyltransferase (COMT) gene may have implications for behavioral variation in hamadryas baboons (*P. hamadryas*).** A.J. FUCHS, J.M. KAMILAR.

25 **The potential of the Georgie Project (Portuguese Water Dog) for discerning genetic from extra-genetic influences in structural and material variations in anthropoid limb bones.** J.G. SKEDROS, M.S. DOUTRE, M.D. PETERSON, D.J. WEAVER, J.S. SMITH, K. CHASE, K.G. LARK.

Session Primate Postcranial Functional Morphology

73:

Contributed Poster Presentations. Chair: Catalina I. Villamil.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:00-6:00 pm

1 **Functional morphology of the cervical spine in tree-gouging primates.** A.C. NISHIMURA, G.A. RUSSO.

2 **Size and the morphology of the C2 (axis) vertebra in primates.** C.I. VILLAMIL.

3 **Macroevolution of tail morphological diversity in primates and other mammals.** S.T. MINCER, G.A. RUSSO.

4 **Sacral Morphology of Prehensile-Tailed Primates in Relation to Biomechanical Loading.** H. SHOWALTER.

5 **Effects of Body Size and Sex on Prehensile Tail Use in Mantled Howler Monkeys (*Alouatta palliata*).** K.T. ZHU.

6 **Oh, Galago, What Big Hands (and Feet) You Have!: The Proportionally Large Cheiridia of Infant *Galago senegalensis*.** M.S. SCHAEFER, L.T. NASH.

7 **Prehensility in Hominins: anatomical qualifications of “precision grip”• in living & fossil primates.** C. BEMIS, D. GEBO, M. IRWIN, K. SAMONDS.

8 **Functional Morphology of the Monkey Hindfoot.** S. KUO, B.A. PATEL, C.M. ORR, C.V. WARD.

9 **Scaling relationships of axonic patterning in the hands and feet of primates.** G.S. YAPUNCICH, D.M. BOYER.

- 10 **Xenarthran Pisiform Morphology and its Relation to Hominoid Locomotor Diversity.** L.M. GAVAZZI, K.M. KJOSNESS, P.L. RENO.
- 11 **Associations between humeral head curvature and habitat use in cercopithecids.** A.J. RAPOFF, E.E. KANE, N. DUNHAM, D.J. DAEGLING, S. MCGRAW.
- 12 **An investigation of the association between forelimb bone and muscle morphology in non-human primates.** H.M. SCHANER, M. TALLMAN.
- 13 **Great ape thorax and shoulder ““ adapted for arboreality or knuckle-walking?** D. RUBINSTEIN, S.G. LARSON, N.E. THOMPSON.
- 14 **Constraint, Integration, and Evolvability of the Primate Shoulder Functional Trait Complex.** E.R. AGOSTO, B.M. AUERBACH.
- 15 **Odd-nosed monkey scapular morphology is convergent with hominoids and atelines.** M.S. SELBY, C. LOVEJOY, C.D. BYRON.
- 16 **Geometric morphometrics of the neonatal thorax in prosimians.** S.M. ZALESKI, T.D. SMITH, V.B. DELEON.
- 17 **The ligamentum teres femoris is present in some infant orangutans.** M.N. MUCHLINSKI, A. HARTSTONE-ROSE, A.S. HAMMOND.
- 18 **Re-examining birth constraints in non-human primates.** N.M. LAUDICINA, M. CARTMILL.
- 19 **Effect of pelvic girdle articulation methods on interobserver error in measurements of the bony pelvis of apes.** E.A. MOFFETT, E.R. MIDDLETON.
- 20 **Iliac flare is related to body mass and gut size in apes, but not in monkeys.** E.K. BOYLE, S. ALMÉCIJA.
- 21 **Taxonomic distinction of two species of macaque (*Macaca mulatta* and *Macaca fascicularis*) through morphometric analysis of the os coxa.** M.A. CONAWAY, B.A. KENYON, N. VON CRAMON-TAUBADEL.
- 22 **Morphological variation in the pelvis of gorilla subspecies may not track ecomorphological predictions.** L.M. FATICA, A.S. HAMMOND, S.C. MCFARLIN, S. ALMÉCIJA.
- 23 **Digitizing the Nissen/ Riesen Chimpanzee Longitudinal Radiographic Series.** N. KOLL, A. LAMEESAH, N.E. THOMPSON.
- 24 **Metacarpal Ratio (2Mc:4Mc) and Its Relation to Sexual Dimorphism in Primates with Different Mating Strategies.** E.N. HART.

Session 74: Methods in Human Skeletal Biology and Bioarchaeology

Contributed Poster Presentations. Chair: Arysa Gonzalez.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:00-6:00 pm

- 1 **Dentine Without Borders: An improved dental macrowear scoring method with cross-cultural application.** E.M. LAGAN, D.E. EHRLICH, S.M. PESCE.
- 2 **Assessing methods for estimating linear enamel hypoplasia prevalence in the field: implications for bioarchaeological practice.** A.R. HUBBARD, G. VERCCELLOTTI, H.M. JUSTUS, A.M. AGNEW.
- 3 **Identifying intentional dental ablation: An assessment of diagnostic criteria using non-human primates.** K.G. TREMBLAY, S.E. BURNETT.
- 4 **2D- and 3D-Micromorphological Cutmark Analyses.** A. GONZALEZ R., C.W. SCHMIDT, B. POBINER.
- 5 **Revised Criteria for Reducing Observer Error in the Histological Assessment of Linear Microcracks.** V. DOMINGUEZ, A. AGNEW.
- 6 **Estimating the *in vivo* location of the talar head using surface markers.** S.G. LAUTZENHEISER, M. OCHOA, P.A. KRAMER.
- 7 **Use of back-scattered scanning electron microscopy to quantify bone tissue characteristics in mid-thoracic human ribs.** A.C. BERESHEIM, S.K. PFEIFFER, M.D. GRYNPAS, A. ALBLAS.
- 8 **Scurvy and cribra orbitalia: A new approach to differentiate orbital roof lesions from an analysis of Medieval Fishergate House, York, UK.** B.N. GARDNER, T. JAKOB.
- 9 **A comparison of craniometric methods: Reliability of 3D scanning methods to direct hand-held measurements.** M.R. HOFFMAN, E.E. HAMMERL.
- 10 **Trial and Error: Addressing the Advantages and Limitations of 3D Modeling for Bioarcheological Samples.** P.J. LEWIS, S. MITCHELL, E. DE SANTOS.
- 11 **Revisiting the site: Improved techniques of digitally documenting archaeological and forensic excavations.** T. PARSONS, R.P. HARROD.
- 12 **Bacterial succession inside marrow-containing bones as a tool for estimating PMI.** A.M. LYNNE, N. RUBLE, P.J. LEWIS.
- 13 **Applying Geostatistics and a Bayesian Assignment Model to Unidentified Migrants Recovered Along the US-Mexico Border.** R.T. KRAMER.
- 14 **The Efficacy of 3D Models for Sex-Scoring Crania from Archaeological Contexts in Southern Peru.** T.J. SNYDER, S.C.

KUZMINSKY, T.A. TUNG.

15 **Estimating age-at-death of archaeological remains: A comparison of Transition Analysis and traditional estimation methods.** M. PHILLIPS, A. NORRIS, B.J. BAKER.

16 **New regression equations for adult living stature estimation in a South African population group using measurements from MRI scanograms.** M.A. BIDMOS, D. BRITS, P. MANGER.

17 **Out of the box: A critical evaluation of the forensic anthropologist's skeletal remains storage standards.** D. LOPEZ, E.A. ARMEROS, H. WALSH-HANEY.

18 **A new method for soft tissue removal for osteological analysis and preservation.** J. SCHOFIELD.

19 **The potential of cranial reconstruction for osteological analysis and human identification.** S. VALORIANI, M. BORRINI.

20 **A test of the (hu)MANid sex and ancestry estimation program on a diverse sample of modern, historic, and prehistoric mandibles.** P.A. LYNCH, K.A. CARPENTER, M.W. KENYHERCZ, H.M. GARVIN.

21 **Testing the beta version of rASUDAS on extant human populations: promises and pitfalls.** R.L. PERASH, L.E. CIRILLO, S.J. COLE, C.N. HULSE, M.J. SCHROEDER, C.E. SKIPPER, G. SCOTT.

22 **Reevaluating the Relationship between Anemia and Cranial Porosities in a 13th Century Ancestral Puebloan Population.** C.B. MCPHERSON.

23 **Purification of dental calculus organic and carbonate biofractions improves correlations with bone stable isotope ratios.** S.C. DENT, D.L. HUTCHINSON, K.M. HEDMAN, M.A. FORT, S.H. AMBROSE.

24 **A Walk Through Time: Reconstructing A Holocene Footprint From Central Alaska.** G.M. SMITH, T. PARSONS, E.T. PEREZ, T.J. TEESE, R.P. HARROD.

Session Primate evolution and anatomy

75:

Contributed Poster Presentations. Chair: Monya Anderson.

Zilker 1/2/3.

Authors present 1:30-2:30 pm and 5:00-6:00 pm

1 **New fossil dentary of *Chiromyoides* (Euarchonta, Plesiadapiformes): implications for ecological niche and body size.** L.M. SCHAEFFER, D.M. BOYER.

2 **Paleoclimate reconstruction from pedogenic carbonates from the early Miocene Wayando Formation, Mfangano Island, Lake Victoria, Kenya and the impact on early ape evolution.** K.R. HILLIS, L.A. MICHEL, D.L. FOX, S.G. DRIESE, D.L. PEPPE, T. LEHMANN, K.P. MCNULTY.

3 **What's in a name? Revisiting the taxonomy of *Limnopithecus*, a problematic small catarrhine from the early Miocene of eastern Africa.** R.J. JANSMA, K.P. MCNULTY.

4 **Post-canine dental variation and species diversity in small-bodied dendropithecids from middle Miocene deposits at Maboko, Kenya.** E.R. DAVIS, B.R. BENEFIT, M.L. MCCROSSIN, R. JANSMA.

5 **First fossil ape specimen from the early Miocene locality Magare, Kenya.** K.P. MCNULTY, T. LEHMANN, R.J. JANSMA, S.N. MUTETI.

6 **The upper dentition of middle Miocene *Oreopithecus*-like catarrhines from Maboko Island, Kenya and its implications for nyanzapithecine taxonomy.** B.R. BENEFIT, R. JANSMA, M.L. MCCROSSIN.

7 **Earliest hominid evidence of caries lesion and dental calculus from the Middle Miocene (12.5 Ma) -- implications for dryopithecin diet and metabolism.** J. FUSS, G. UHLIG, M. BÖHME.

8 **Ape quest in the Vallès-Penedès Basin (2014)“2017): Fieldwork results and prospects for the future.** D.M. ALBA, S. MOYÀ-SOLÀ, D. DEMIGUEL, I. CASANOVAS-VILAR, M. GARCÉS, J.M. ROBLES, J. MADURELL-MALAPEIRA, S. ALMÉCIJA.

9 **New cercopithecoid specimens from the early Miocene of Buluk, Kenya, and significance for dentognathic variation in the Victoriapithecidae.** E.M. LOCKE, B.R. BENEFIT, E.R. MILLER, I. NENGO.

10 **A small-bodied catarrhine from the Miocene of India: additional evidence of an undersampled radiation.** K.D. PUGH, C.C. GILBERT, B.A. PATEL, C.J. CAMPISANO, N.P. SINGH, M. SINGLETON, J. FLEAGLE, R. PATNAIK.

11 **Hominoids and associated fauna from AlsÓtelekes, a new late Miocene locality in Hungary.** D.R. BEGUN, J. KELLEY.

12 **Review of Cercopithecidae from Upper Laetolil Beds, Tanzania, indicates presence of *Theropithecus*: biogeographic and taxonomic implications.** S.R. FROST, C.C. GILBERT, E. DELSON.

13 **Assessment of an associated partial skeleton of *Paracolobus mutiwa* (Leakey, 1982) from West Turkana KNM-WT 16827.** M. ANDERSON.

14 **Reevaluation of the craniofacial morphology of *Theropithecus brumpti*: Implications for secondary sexual characteristics and reconstruction of its socio-sexual behavior.** D. GETAHUN, J.P. HIGHAM, S.A. WILLIAMS.

15 **A new interpretation of Madagascar's megafaunal decline: the “Subsistence Shift Hypothesis”.** L.R. GODFREY, N. SCROXTON, B.E. CROWLEY, S.J. BURNS, M.R. SUTHERLAND, V.R. PÉREZ, P. FAINA, L. RANIVOHARIMANANA.

16 **Is Lemuriformes an adaptive radiation?** E.L. FULWOOD.

17 **Evolutionary and functional implications of the development of the talar posterior trochlear shelf in euprimates.** H.J. FENG, G.S. YAPUNCICH, R.H. DUNN, E.R. SEIFFERT, D.M. BOYER.

18 **Insights into the primitive brain of primates: Treeshrew cranial endocasts and geometric morphometrics analysis.** G. SAN MARTIN FLORES, L. NAGENDRAN, M. SILCOX.

19 **Genetically patterned dental phenotypes show evidence for diet-related evolutionary change in platyrhine primates.** C.A. SCHMITT, S.B. COOKE, M.F. BRASIL, T.A. MONSON, L.J. HLUSKO.

20 **Biomechanical correlates of premolar root variation in robust and gracile capuchins.** S.E. BAUMGARTEN, A.L. SMITH, K.A. WRIGHT, B.W. WRIGHT, R.S. SCOTT, C.F. ROSS, D.S. STRAIT.

21 **A quantitative genetic approach to assessing hominoid mandibular evolution.** L. SCHROEDER, N. VON CRAMON-TAUBADEL.

22 **New perspectives on cranial form in Euarchontoglires: A geometric morphometric study of primates and their kin.** L. NAGENDRAN, G.A. SAN MARTIN FLORES, M.G. ATELL, O.C. BERTRAND, R. BHAGAT, M.M. LANG, S. LÓPEZ-TORRES, K.R. SELIG, D.L. WARD, B. VIOLA, M.T. SILCOX.

23 **Zygomatic shape among primates.** A. PETTIT, B. VILLOMOARE.

24 **Patterns of integration in the hominoid skeleton: a case-study on the wrist.** A. PEÑA, B.A. PATEL, C.M. ORR, S. ALMÉCIJA.

25 **Investigating form-function relationships in the bonobo hand and thumb.** T. VAN LEEUWEN, M. VANHOOF, J. STEVENS, E. VEREECKE.

26 **Unique features of pelvic brim morphology and associated musculature in *Pongo*.** B.M. SHEARER, M. MUCHLINSKI, A.S. HAMMOND.

27 **Body size estimates of Miocene fossil apes and predicting mass across phylogenetic time.** M. GRABOWSKI, K.G. HATALA, T.F. HANSEN, W.L. JUNGERS.

28 **Accuracy of human-based morphometric equations for predicting bonobo body mass.** C.S. WALKER, G.S. YAPUNCICH, A. BOWIE, R. BELAIS, S.E. CHURCHILL.

29 **The relative congruence of cranial regions and molecular data in hominoid phylogenetic reconstruction.** J.R. GAUTNEY.

30 **Sensitivity analysis of semilandmark sliding method and evolutionary model choice in ancestral state reconstructions: The hominoid facial skeleton as a test case.** A.D. PRUCHA, S. ALMÉCIJA.