### AAPA Presentation Schedule

#### Thursday. Morning Sessions.

| Session 1: | Infectious Disease in Humans and Other Primates – Origins, Dynamics and Evolution. AAAG and AAPA Invited Podium Symposium. Organizers: Anne Stone and Andrew Kitchen. Ballroom A. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **8:00-8:15** | Revealing the evolutionary dynamics of pathogens in primate populations. A. KITCHEN.                                                                                                           |
| **8:15-8:30** | DNA analysis of ancient pathogens. A.C. STONE.                                                                                                                                                     |
| **8:30-8:45** | Primates and emerging infectious diseases. M.P. MUEHLENBEIN.                                                                                                                                          |
| **8:45-9:00** | Ancient DNA and the metagenomics of disease. C. WARINNER.                                                                                                                                           |
| **9:00-9:15** | Understanding the origins of primate retroviruses: Molecular epidemiology in deep time (and deep oceans). M. WOROBHEY, G. HAN.                                                                    |
| **9:15-9:30** | Convergent evolution of escape from hepaciviral antagonism in primates. M.R. PATEL, H.S. MALIK.                                                                                                    |
| **9:30-9:45** | The evolutionary history of *Versinia pestis*. K. BOS, J. KRAUSE.                                                                                                                             |
| **9:45-10:00** | Ancient tuberculosis DNA revealed by Next Generation Sequencing. A.S. BOUWMAN, S. KENNEDY, R. MUELLER, C. ROBERTS, T. BROWN.                                                                    |
| **10:00-10:15** | **BRE**AK                                                                                                                                                                                            |

**Chair:** Andrew Kitchen

| **10:15-10:30** | From the mouths of monkeys: Tuberculosis among synanthropic primates. A.K. WILBUR, L. PFISTER, A.C. STONE, L. JONES-ENGEL.                                                                     |
| **10:30-10:45** | On the ecology of leprosy: Tails from phy-lo-genomics. L. PFISTER, A.C. STONE.                                                                                                                   |
| **10:45-11:00** | The evolution of *Treponema pallidum* in primates. S. KNAUF, K.N. HARPER.                                                                                                                     |
| **11:00-11:15** | Chimpanzees and malaria parasites: Behavioral strategies to limit the infection. S. KRIEF, A. GRUNER, G. SOUNOU.                                                                                 |
| **11:15-11:30** | Addressing the unresolved phylogeny of Leishmania: A Next-Gen and ancient DNA approach. K.M. HARKINS.                                                                                           |
| **11:30-11:45** | Of Lice and men: The study of human evolution from a lousy perspective. D.L. REED, M. ASCUNCE.                                                                                                 |
| **11:45-12:00** | Discussants, CHARLOTTE ROBERTS AND CHARLES NUNN.                                                                                                                                               |

| Session 2: | Skeletal Biology: Bioarchaeology, Paleopathology, and Stress. Contributed Podium Presentations. Chair: Eric Bartelink. 200ABC.                                                                 |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **8:00-8:15** | Patterns of enthesal changes in modern humans and African great apes. M. MILELLA, C.P. ZOLLIKOFER, M. PONCE DE LEÓN.                                                                          |
| **8:15-8:30** | Investigating activity at the Third Cataract (Nubia): Enthesal remodeling at Kerma and Tombos. S.A. SCHRADER.                                                                                        |
| **8:30-8:45** | Osteoarthritis and resource intensification in Prehistoric Central California. C.M. CHEVERKO, E.J. BARTELINK.                                                                                     |
| **8:45-9:00** | The relationship between age, sex and severity of arthritis in a turn of the century African American burial ground in Savannah, Georgia. L.K. GRAHAM, F.L. WILLIAMS. |
| **9:00-9:15** | Evidence of osteoarthritis during the Tiwanaku State in Bolivia and Peru (AD 500-1100). S.K. BECKER.                                                                                         |
| **9:15-9:30** | Knee osteoarthritis and pain: Data from the Osteoarthritis Initiative and their implications for reconstructing past quality of life. E. WEISS.                                                      |
| **9:30-9:45** | Relating posture to spinal osteoarthritis: Histological evidence. J.F. BAILEY, E. LIEBENBERG, A.J. FIELDS, J.A. MATTISON, J.C. LOTZ, P.A. KRAMER |
| **9:45-10:00** | Dental pathology and indicators of environmental stress in the prehistoric population of the Atacama Desert. T. PARDO, M. HUBBE, E. ASPILLAGA, M. URIBE. |
| **10:00-10:15** | **BRE**AK                                                                                                                                                                                            |
THURSDAY MORNING SESSIONS

10:15-10:30 Oral hygiene and patterns of use in teeth of individuals of six sites in northern Caucas dating from Eneolithic Period to Bronze Age. J. GRESKY, N. BEREZINA.

10:30-10:45 Investigating the emergence of tuberculosis in South Africa. T.J. CAMPBELL, A.C. STONE, R.R. ACKERMANN.

10:45-11:00 Poorhouse portrait: Analysis of the burial population in a New York poorhouse and tuberculosis ward cemetery. E. GUTHRIE, L. VIDOLI, D. SEIB, N. VERSAGGI.

11:00-11:15 The health and status of children from the Middle and Late Mississippian periods in the Tennessee. R. SCOPA KELSO.

11:15-11:30 News from the northern New France: A pathological assessment from the 18th Century French military and trading post Fort Michilimackinac. J.L. FUNKHOUSE, M.E. DANFORTH.

11:30-11:45 Population dynamics within graveyards. F. ENGEL.

11:45-12:00 Evaluating the agency of Soviet violence workers through analysis of skeletal trauma in the Tuskulenai case. C.E. BIRD.

Session 3: SKELETAL BIOLOGY: Functional and Evolutionary Morphology. Contributed Podium Presentations. Chair: Lynn Copes. Ballroom B.

8:00-8:15 Severely impaired skeletal acquisition in a mouse model of adolescent Type 2 diabetes. M.J. DEVLIN, C. CONLON, M. VAN VLIET, C. LOUIS, M.L. BOUXSEIN.

8:15-8:30 Hormonal contributions to sex differences in baboon skeletal robusticity. L. COPES, H. DROUGHT, T. PATEL, R. BERNSTEIN.

8:30-8:45 Mechanical and metabolic influences on human cortical bone morphology. C.D. ELEAZER.

8:45-9:00 The relationship between thumb reduction and relative carpal volume in African colobines. S. CARNATION, C. ORR, B. PATEL.

9:00-9:15 A study of postcranial indices, ratios and body mass versus eco-geographical variables in an assessment of phenotypic adaptation to climatic conditions. N. SEGUCHI, C.B. QUINTYN, H. TAKAMUKU.

9:15-9:30 Evidence for a substantial effect of neutral microevolutionary processes in shaping male and female human pelvic morphology. R.F. KAY.

9:30-9:45 Functional morphology of proximal caudal vertebrae in nonprehensile-tailed primates. G. RUSSO, M. SAYRE.

9:45-10:00 Suspensory behaviors and the neck: A comparative analysis of the cervical vertebrae of extant primates. T.K. NALLEY.

10:00-10:15 BREAK

10:15-10:30 Atlanto-occipital joint orientation and posture in catarrhines. N.A. GRIDER-POTTER, R.C. HALLGREN.

10:30-10:45 Three-dimensional head kinematics in chimpanzees and humans: Implications for the study of semicircular canal morphology. N.E. THOMPSON, M.C. O'NEILL, B. DEMES, S.G. LARSON.

10:45-11:00 Semicircular canal morphology as a predictor of platyrrhine locomotor behavior. L.A. GONZALES, M.D. MALINZAK, R.F. KAY.

11:00-11:15 Size and shape maturation of the human cochlea. T. WANNAPRASERT, F. SPOOR, N. JEFFERY.

11:15-11:30 Eye size as a selective determinant of vestibular sensitivity. A.D. KEMP, E. KIRK.

11:30-11:45 Pattern of facial and brain anatomical asymmetries in adult eastern lowland gorillas (Gorilla beringei graueri). Y. HEUZÉ, A. BALZEAU.

11:45-12:00 Integrative aspects of the hominoid mandible. N. SINGH.

Session 4: PALEOANTHROPOLOGY: Primate Evolution. Contributed Podium Presentations. Chair: Robert Anemone. Ballroom C.

8:00-8:15 Ground-truthing a neural-network based predictive model for locating productive fossil localities in the Eocene of Wyoming. R.L. ANEMONE, C.W. EMERSON, B. NACHMAN, G.C. CONROY, R. WATKINS.

8:15-8:30 Let your fingers do the walking: A simple spectral signature model for “remote” fossil prospecting. G.C. CONROY, C.W. EMERSON, R.L. ANEMONE, B. TOWNSEND.

8:30-8:45 A diverse primate fauna from the early Eocene of southwestern Wyoming. B.A. NACHMAN, R.L. ANEMONE, C. BEARD, R. WATKINS.

8:45-9:00 Allometry of calcaneal elongation in euprimate origins. D.M. BOYER, J.T. GLADMAN, J.I. BLOCH.

9:00-9:15 Morphological variation in adapisiform and omomyoid distal phalanges. S.A. MAIOLINO.

9:15-9:30 Dental sexual dimorphism in Eocene euprimates. K.E. FOLINSBEE.

9:30-9:45 Diminutive cercopithecine teeth from Kanapoi, Kenya, and implications for the evolution of body size and diversity in gueons. J. PLAVCAN, C.V. WARD, F.K. MANTHI.

9:45-10:00 Mandibular molar elongation distinguishes Mabokopithecus from other nyanzapithecine genera. R.J. JANSMA, B.R. BENEFIT, M.L. MCCROSSIN.
10:00-10:15  
**BREAK**

10:15-10:30  
The evolution of global endocast shape in primates. K.L. ALLEN.

10:30-10:45  
A comparative morphometric analysis of cranial ontogeny in hominoids and cercopithecines: Implications for the growth patterns of fossil catarrhines. S.A. KOZAKOWSKI, P. GUNZ, D. BEGUN.

10:45-11:00  
*Kenyanthropus* is the earliest plantigrade hominoid. I.D. ARNEY, M.L. MCCROSSIN, B.R. BENEFIT.

11:00-11:15  
A phylogenetically-integrated morphological analysis of the hominoid wrist. T.L. KIVELL, A.P. BARROS, J.B. SMAERS.

11:15-11:30  
In vivo-validated digital models of hip joint range of motion applied to fossil hominoids. A.S. HAMMOND, J. PLAVCAN, L. KORDOS, D.R. BEGUN, C.V. WARD.

11:30-11:45  
Reconstructing the ecology of a forest in late Miocene central Europe using stable isotope trace element analysis. L.C. EASTHAM, R.S. FERANEC, D.R. BEGUN, L. KORDOS.

11:45-12:00  
Appearance of the modern baboon, *Papio hamadryas*, in the Plio-Pleistocene fossil record: Evidence from South Africa. C.C. GILBERT, S.R. FROST, E. DELSON.

**Session 5:**  
Current Bioarchaeological Research in the Near East and Circum-Mediterranean.  
*Invited Poster Symposium.* Organizers: Anna Osterholtz, Megan Perry and Sherry Fox.  
**200DE.**

Over the past 20 years, the contextualized analysis of human skeletal remains has informed archaeological interpretations in many areas of the globe. One region that has seen relatively little bioarchaeological research is the Near East and circum-Mediterranean region. The study of human skeletal remains can address how communities affected and were affected by the domestication of plants and animals and agricultural intensification, the rise of villages and cities, increased trade and exchange, the presence of non-local imperial administrations, and their position at the crossroads of the ancient Old World.

Recently this lacuna has been filled by a number of bioarchaeologists who are integrating skeletal biology into archaeological fieldwork goals and/or revisiting skeletal samples that have long languished in laboratories and museums. This symposium will serve as a forum for researchers interested in the region and present our results to biological anthropologists interested in similar methods and research questions in other areas of the world.

7:30-8:00 am  
Poster set-up.  
11:30-12:00 am  
Poster take-down.

Even numbered poster authors present - 10:00-10:30 am; Odd numbered poster authors present - 10:30-11:00 am.

1  
Hybridization or exploitation? Bioarchaeological evidence for the nature of Corinthian colonial interactions in Albania.  
L.A. SCHEPARTZ, B. KYLE MCILVAINE.

2  
Mapping the spatial distribution of the mortuary remains at Neolithic Alepotrypa Cave, Greece.  
A. PAPATHANASIOUT, S. DESKAI.

3  
Foot for thought? Contextualization of *os tibiale externum* from two Roman period mass graves at Oymağaç Höyük, Turkey.  
S.C. FOX, K. MARKLEIN.

4  
The Royal Hypogeum and Tomb VII of the Middle/Late Bronze Age palace from Qatna (Tell Mishrif, Syria): Burial places of the elite?  
C. WITZEL, S. DEGENGHARDT, H. DOHMANN-PFÄLZNER, P. PFÄLZNER, S. FLOHR.

5  
From piles of bones to coffin-boxes: Making sense of commingled and fragmented human remains from the Middle/Late Bronze Age Tomb VII, Qatna (Tell Mishrif, Syria).  
S. DEGENGHARDT, S. FLOHR, H. DOHMANN-PFÄLZNER, P. PFÄLZNER, C. WITZEL.

6  
Reconstructing a multiple infant burial from the commingled bone assemblage of Tomb VII underneath the Bronze Age palace of Qatna (Tell Mishrif, Syria).  
S. FLOHR, S. DEGENGHARDT, H. DOHMANN-PFÄLZNER, P. PFÄLZNER, C. WITZEL.

7  
A tale of two tombs: Craniosynostoses from the Bronze-Age city of Qatna (Tell Misrife, Syria).  
C.C. BAUER, S. DEGENGHARDT, C. WITZEL, S. FLOHR, P. PFÄLZNER, K. HARVATI.

8  
Bioarchaeology of an Early Bronze Age mortuary complex at Tell Umm el-Marra, Syria.  
E.K. BATEY.

9  
To wean and to die – childhood life course differentials in Middle Bronze Age Sidon.  
H. SCHUTKOWSKI, C. THOMAS.

10  
Marry me, marry my family: Congenital anomalies at Khirbet Qazone.  
J.L. WALKER, M.A. PERRY.

11  
Geographic origins and diet during the Bronze Age in the Oman Peninsula.  
L.A. GREGORICKA.

12  
Cranial depression fractures of the frontal bones from a Bronze Age Arabian commingled tomb.  
R.P. HARROD, A.J. OSTERHOLTZ, D.L. MARTIN.

13  
A feature-based method for the determination of the minimum number of individuals from the Tell Abraq Tomb, UAE.  
A.J. OSTERHOLTZ, D.L. MARTIN.

14  
The children of Amarna: Disease and famine in the time of Akhenaten.  
K. KUCKENS.

15  
Growing up in Akhetaten: A bio-cultural approach to childhood growth.  
A.E. SHIDNER.

16  
A study of cribra orbitalia over time and space in the ancient Nile Valley.  
N.E. SMITH.
**Session 6: Assessing Function via Shape: What is the Place of Geometric Morphometrics in Functional Morphology?**

*Invited Poster Symposium.* Organizers: Claire Terhune and Siobhán Cooke. **301D.**

The past twenty years have seen the rapid expansion and adoption of quantitative methodologies designed to capture and describe complex two- and three-dimensional shapes. Chief among these has been the group of methods making up the geometric morphometric toolkit. Geometric morphometrics is very successful at capturing complex shapes, but it has come under criticism when applied to purely functional questions, especially those derived from the biomechanical literature. To highlight some of these issues, this symposium explores the use of geometric morphometric techniques for assessing functional morphology. We ask a simple question, but one that has many answers: can geometric morphometrics and functional shape analyses be used to address similar functional hypotheses? The research presented in this symposium explores this question through topics ranging broadly across taxa and morphological regions. Through this diverse collection of research we hope to stimulate discussion and highlight new directions for future work in this commonly employed but often debated research area.

| Time          | Event                                      |
|---------------|--------------------------------------------|
| 7:30-8:00 am  | Poster set-up                              |
| 11:30-12:00 am| Poster take-down                           |
| 10:30-11:30   | Discussion. KIERAN MCNULTY and CHRISTOPHER VINYARD (authors at their posters during this time). |

1. Form and function in a sample of platyrhine primates: A three-dimensional analysis of dental and TMJ morphology. S.B. COOKE, C.E. TERHUNE.
2. Understanding the role of diet in shaping the lemuriform mandible: Comparing traditional and geometric morphometric approaches. K.L. BAAB, J.M. PERRY.
3. Geometric morphometrics as a tool in evolutionary biomechanics. D.S. STRAIT.
4. Visualizing artiodactyl ecomorphology with geometric morphometrics. S.C. CURRAN.
5. What is the role of geometric morphometrics in testing functional hypotheses? A case study using 3D pelvic shape. K.L. LEWTON.
6. Shape as a predictor of intermembral index. M. TALLMAN.
7. The relationship between talar morphology and habitual substrate use among living gorilla taxa assessed using 3D geometric morphometrics. R.P. KNIGGE, M.W. TOCHERI, C.M. ORR, K.P. MCNULTY.
8. The talo-crural joint: Interface of genome and use. K. TURLEY, S.R. FROST.
9. Morpho-functional signals in the wrist of extant hominoids derived from 3D geometric morphometrics: The hamate as a test case. S. ALMÉCija, C.M. ORR, M.W. TOCHERI, B.A. PATEL, W.L. JUNGERS.
10. Geometric morphometrics of hominoid infraspinous fossa shape. D.J. GREEN, J. SERRINS, A.R. MARTINY, P. GUNZ.
11. Functional morphology of the Neandertal scapular glenoid fossa. M.E. MACIAS, S.E. CHURCHILL.

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**Session 7: From Kneberg to Now: Seventy-Five Years of Skeletal Analysis of Pre-Columbian Tennesseans.**

*Invited Poster Symposium.* Organizers: Maria Ostendorf Smith and Tracy Betsinger. **301E.**

The first woman full professor in the College of Arts and Sciences at the University of Tennessee, Knoxville, was anthropologist Madeline Kneberg Lewis (1903-1996). She was an archaeologist, artist, and the primary researcher of the large pre-Columbian skeletal samples archaeologically salvaged in Tennessee during the early years of TVA and WPA (1933-1961) hydroelectric dam construction. She was also a driving force in the creation of the Frank H. McClung Museum. Her efforts inventoried, aged, sexed, and differentially diagnosed pathologies over 2000 skeletons. She undertook the skeletal analysis for two signature publications (co-authored with TMN Lewis) in Tennessee prehistory: *Hiwassee Island: An Archaeological Account of Four Tennessee Indian Peoples* (1946) and *Eva: An Archaic Site* (1961). This symposium honors her legacy and showcases the current status of research on the osteological collections her research pioneered.

| Time          | Event                                      |
|---------------|--------------------------------------------|
| 7:30-8:00 am  | Poster set-up                              |
| 11:30-12:00 am| Poster take-down                           |
| 10:30-11:30   | Discussion. DONNA BOYD.                    |

1. Madeline Kneberg and the birth of Biological Anthropology in Tennessee. F.H. SMITH, B.T. SMITH.
2. Health and disease at Ledford Island: A study of Late Mississippian human remains. L.J. HELMS.
3. Patterns in the adult and subadult pathologies in the Late Prehistoric Hiwassee Island osteological sample from East Tennessee. C.D. PARDO, M.O. SMITH.
4. Temporal patterns of auditory exostosis prevalence in pre-Columbian Tennessee: Controlling for geography and subsistence. C.M. JENKINS.
5. Testing the source of the non-embedded projectile point: Inflicted point or pit fill? L.C. CHISHOLM, M.O. SMITH.
6. A biocultural approach to warfare and violence during the late prehistoric period in the Middle Cumberland Region of Tennessee. H.A. WORNE.
7. Bioarchaeological investigations at Fernvale, a Middle Tennessee Archaic site. S. HODGE, T.B. SAUL.
| 8 | Subsistence considerations based on the community health in the late prehistoric Thompson Village site from west-central Tennessee. M.O. SMITH, G.M. MOSHER. |
| 9 | Regional health in late prehistoric East Tennessee: A meta-analysis of Dallas Phase sites. S.M. OWENS. |
| 10 | The co-association of hypoplastic enamel defects, carious lesions, and non-specific stress in subadults from pre-Columbian Tennessee. M.C. WOJCINSKI. |
| 11 | Caries prevalence and the late prehistoric Dallas Phase: A regional cultural pattern of female maize consumption in late prehistoric East Tennessee. T.K. BETSINGER, M.O. SMITH. |
| 12 | Environmental and dietary variation during the Dallas Phase in East Tennessee. M.S. HARLE, S. MEEKS. |
Thursday. All Day Poster Sessions.

Session 8: PALEOANTHROPOLOGY: Early Hominins and Australopithecus. Contributed Poster Presentations. Chair: Adam Sylvester. Clinch Concourse.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1. *Ardipithecus ramidus* proximal capitate morphology most consistent with a locomotor ancestry of palmigrade arboreal clambering. M.S. SELBY, G. SUWA, S.W. SIMPSON, T.D. WHITE, C.O. LOVEJOY.

2. An analysis of the *Ardipithecus ramidus* pelvis reconstruction using 3D geometric morphometric techniques. N.M. WEBB, W.E. HARCOURT-SMITH, H. PONTZER.

3. Great expec-toe-tons: Divergence, convergence, and emergence of the modern hallux. Z.J. THROCKMORTON.

4. Manual phalangeal curvature and locomotion in Primates. S.A. MATARAZZO.

5. Heel-strike and impact transient during bipedal walking: Implications for the acquisition of a habitual bipedal gait. J.T. WEBBER, D.A. RAICHLEN.

6. *Australopithecus afarensis* probably lacks a midfoot break. D.J. PROCTOR.

7. Reconstructing australopithecine midstance using femoral condyle curvature. A.D. SYLVESTER.

8. The original analysis of the manual and pedal phalanges from the Drimolen hominin site, South Africa. D.S. VERNON, C.G. MENTER, A. GALLAGHER.

9. The primate upper arm: A study on the deltoid index. S. MATHEWS, M.F. HÄUSLER, P. SCHMID.

10. A new ~1.5 Ma hominin distal humerus from Ileret, Kenya. M.R. LAGUE, B.G. RICHMOND, D.J. GREEN, D.R. BRAUN, J.W. HARRIS, E. MBUA, H. CHIRCHIR.

11. Changing our focus: Accentuating evolutionary changes of the hominin cranial base. A. BARASH, E. BEEN.

12. A phylogenetic analysis of the hominin clade using postcranial characters. K.D. PUGH.

13. Comparison of endocranial and ectocranial “symmetry planes” and application to the virtual reconstruction of hominid fossils. S. PRIMA, G. SUBSOL, J. BRAGA, J. GARAMENDI, B. COMBÉS, J. DUMONCEL, D. FALK.

14. Cross-sectional morphology of the australopithecine hard palate. M.E. VOSS, C.A. HILL, R.A. MENEGAZ.

15. Macro tooth wear patterns amongst the early hominins of South Africa. A.F. CLEMENT, S.W. HILLSON.

16. Comparison between *Australopithecus afarensis* and *Pan troglodytes* honing facet microwear. M.S. ZOLNIERZ, L.K. DELEZENE, F.E. GRINE, W.H. KIMBEL, M.F. TEAFORD, P.S. UNGAR.

17. HOMINIDS agent based model of Toro-Semiliki Wildlife Reserve: Incorporating a modern mosaic habitat analogy into interpretations of the paleoenvironment and ranging behavior of *Ardipithecus ramidus*. A. RICH STOUT, C. DEIMEL, C. GRIFFITH, J. SEPT, K.D. HUNT, B. LONG.

18. Paleoenvironmental change in Pliocene eastern Africa as inferred from dental microwear texture analysis of fossil Bovidae. J.R. SCOTT, M.C. O’HARA.

19. Spatial analysis of bone recovered from FxJj 20 AB, Koobi Fora, Kenya with implications to early hominin behavior. M.A. TUPPER, S.K. HLUBIK.

20. Community dynamics through space and time in the Hadar and Turkana Basins, Ethiopia and Kenya. A. VILLASENOR, A.K. BEHRENSMEYER, R. BOBE.

Session 9: PALEOANTHROPOLOGY: Primate Evolution. Contributed Poster Presentations. Chair: Biren Patel. Clinch Concourse.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1. Human predation of Pachylemur: Evidence of butchery of extinct lemurs in south central Madagascar. A. COX, V.R. PEREZ, B.E. CROWLEY, C. BORGERS, V. NATALIE, L.R. GODFREY.

2. Stereophrirellen cranial shape: A multivariate approach. E.E. GRIFFITH, L.R. GODFREY.

3. The femoral morphology of *Hadropithecus stenognathus*: A multivariate evaluation. L.R. MEADOR, L.R. GODFREY.

4. Hallucal reduction in sloth lemur and morphological convergence on orang-utans by *Palaeanthropus*. B.A. PATEL, K.E. GOODENBERGER, D.M. BOYER, W.L. JUNGERS.

5. New interpretations of the positional behaviors of the Dominican subfossil, *Antillothrix bernensis*, from the pectoral and pelvic girdles. J.T. GLADMAN, A.L. ROSENBERGER.
**Session 10:** PRIMATE EVOLUTION: Anatomy, Relationships, and Dimorphism.

*Contributed Poster Presentations.* Chair: Gary Aronsen. Clinch Concourse.

7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm

Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1. **Trichromacy and red-hued pelages evolved independently in primates.** C.P. HEESY, B.J. BRADLEY, J.M. KAMILAR.

2. **Activity pattern can only be predicted from eye morphology for haplorhine primates among mammals.** M.I. HALL, E. KIRK, J.M. KAMILAR.

3. **A comparative analysis of hippocampus size and ecological factors in primates.** M. EDLER, C. SHERWOOD, E. GISLSEN.

4. **Variable temporal-insular neuroanatomy in primates with attention to Eastern gorillas (Gorilla beringei).** S.K. BARKS, A.B. BAUERNFEIND, P.R. HOF, W.D. HOPKINS, M. RAGHANTI, M.R. CRANFIELD, A. MUDAKIKWA, A.A. DE SOUSA, K. ZILLES, C.C. SHERWOOD.

5. **Revisiting the social brain hypothesis: Incorporating within-species group size variation into a comparative analysis.** A.A. SANDER, J.A. MILLER, S.K. PATTERSON.

6. **Investigating the relationship between endocranial volume and cranial shape in Alouatta.** L. HALLENAR, M. TALLMAN.

7. **Macroevolutionary comparisons of ecological disparity and craniodental disparity in platyrhine and strepsirrhine primates.** E.M. ST CLAIR.

8. **Distal radioulnar joint morphology of short-tailed semi-terrestrial cercopithecines and its implications for the evolution of hominoid taillessness.** A.E. MACKENZIE, D.R. BEGUN.

9. **Sexual dimorphism in catarrhine sacra: Obstetrics versus body size dimorphism.** E. MOFFETT, S. MADDUX, C. WARD.

10. **Patterns of sexual dimorphism in Pan and Gorilla limb bones.** T.L. PEARMAN, R.S. JABBOUR.

11. **Relative canine size as a fitness signal: a test for positive allometric scaling in intraspecific samples of adult male baboons.** E.B. KLOPP.

12. **Quantitative trait variation in purebred baboons and their hybrids.** C.C. ROSSOUW, R.R. ACKERMANN.

13. **Identifying hominin hybridity in light of taxonomy: Testing a Papio model using craniometrics.** A.M. DAUTARTAS, B.F. ALGEE-HEWITT, K. DRISCOLL, C. ELEAZER, K. GODDE, B.I. HULSEY, A. KRAMER.

14. **Reassessing guenon craniodental morphology: Closer inspection reveals support for the arboreal and terrestrial clades.** S. RAVI, C.C. GILBERT, B.A. PATEL.

15. **Gargantua the gorilla: Evaluating skeletal indicators of unique life history events.** G.P. ARONSEN, C.J. STAGE, K.A. WILLIAMSON.

16. **Multivariate analyses of trabecular bone structure in the proximal femur of living and extinct strepsirrhine primates.** B.A. PERCHALSKI, E.R. SEIFFERT, T.M. RYAN.

17. **Are pygmy tarsiers phyletic dwarves? An allometric analysis of tarsier limb proportions.** N.B. GROW.
| Session 11: PRIMATOLOGY: Sex, Sociality, Ontogeny, Captivity. |
|---|
| Contributed Poster Presentations. Chair: Christopher Schmitt. Clinch Concourse. |
| 7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down. |

| Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm |
| Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm |

| 1 | A preliminary assessment of the primates of Burkina Faso, West Africa. L.P. GINN, J. ROBISON, K.A. NEKARIS. |
| 2 | Social flexibility in the classically monogamous Titi Monkey: A response to increased population pressure. K.A. DINGESS. |
| 3 | Measurement of individual differences in novelty seeking in wild vervet monkeys (Chlorocebus aethiops) using a group-based approach. M.B. BLASZCZYK. |
| 4 | Using a howler monkey hybrid zone (Alouatta pigra x Alouatta palliata) to understand social variation. L. HO, L. CORTES-ORTIZ, T.J. BERGMAN. |
| 5 | Behavioral effects of human activity on wild white-faced capuchins (Cebus capucinus) at Guru Wildlife Refuge and Hacienda in Puntarenas, Costa Rica. S.E. WEBB, M.B. MCCOY. |
| 6 | Assessing the population of proboscis monkeys and threats to their survival in Balikpapan Bay, East Kalimatan, Indonesia. K. SCOTT, V. NIMAN, S. CHEYNE, S. LHOTA, Y. RAYADIN. |
| 7 | Survey of lemur diversity in Mahavavy-Kinkony Wetland Complex, North-Western Madagascar. M.K. SHRM, G. DONATI. |
| 8 | Aye-aye population genomics: Signatures of natural selection. K. THOMPSON, E. LOUIS, A. RATAN, O. BEDOYA-REINA, R. BURHANS, R. LEI, S. JOHNSON, S. SCHUSTER, W. MILLER, P. GEORGE. |
| 9 | The effect of sibling birth on parent-offspring relationships in lemurs. A.L. SCHREIER, N.L. BARRICKMAN, K. KNOTT. |
| 10 | Female geladas form strong bonds with close kin. E.T. JOHNSON, N. SNYDER-MACKLER, J.C. BEEHNER, T.J. BERGMAN. |
| 11 | Intersexual proximity and female dominance in Verreaux’s sifaka (Propithecus verreauxi). K.J. KLING, R.J. LEWIS. |
| 12 | Same sex aggression and reproductive competition: collective action in Alouatta caraya. M. KOWALEWSKI, P. GARBER, R. PAVE, V. FERNANDEZ, M. RAÑO, S. PEKER, G. ZUNINO. |
| 13 | Male chimpanzee aggression toward females: A test of the sexual coercion hypothesis. J.T. FELDBLUM, E.W. WROBLEWSKI, R.S. RUDICELL, B.H. HAHN, A.E. PUSEY, I.C. GILBY. |
| 14 | Intrasexual competition and size dimorphism among polygynous primates. E.M. TENNENHOUSE. |
| 15 | Paternity confusion or reassurance? Why pregnant Hanuman langurs (Semnopithecus schistaceus) are preceptive. E.L. PAIN, A. KOENIG, C. BORRIS. |
| 16 | Perceptive and attractive behaviors during female pregnancy in black and gold howler monkeys: Preliminary results. M. RAÑO, M. KOWALEWSKI, C. VALEGIA. |
| 17 | Maintaining pair-bonds in red-bellied lemurs (Eulemur rubriventer): A preliminary captive study at Duke Lemur Center, Durham, NC. B. SINGLETARY, N. CORTES, S. TECOT. |
| 18 | Copulation calls of Cercopithecus mona in the wild. K. WERLING, K. WORSHAM, M. PATINO, M. RAMSIER, M. GLENN. |
| 19 | Explaining the vocal repertoire of Alouatta palliata, the mantled howler monkey. D.L. MCGUIRE, M.F. BEZANSON. |
| 20 | Seasonal changes in song structure and calling behaviour of the Bolivian Grey Titi Monkey (Callicebus donacophilus). D. KRÜMBERG, K. DINGESS. |
| 21 | Ethological study of manual laterality in sanctuary Chimpanzees (Pan troglodytes). A.N. FRIEND, J.D. NEGREY, L.F. MARCHANT. |
| 22 | Hair cortisol concentrations in wild saddle back tamarins (Saguinus fuscicollis weddelli). N. FOURIE, R. BERNSTEIN, L. PORTER, P. GARBER. |
| 23 | The interplay between behavior and disease: Investigating pathogen transmission dynamics in wild chimpanzees with social network models. J. RUSHMORE, D. CAAILAUD, R.J. HALL, R.M. STUMPF, L.A. MEYERS, S. ALTIZER. |
| 24 | Lousy personalities: Aggression, testosterone, and ectoparasite dynamics in a population of wild brown mouse lemurs. S. ZOHDY, A.D. KEMP, S. TECOT, P.C. WRIGHT, J. JERNVALL. |
| 25 | Diagnosing Mycobacterium in marmosets. G. HOUSMAN, V. BOERE, A.D. GRATIVO, J. MALUKIEWICZ, L. MACHADO PEREIRA, I. DE OLIVEIRA SILVA, C.C. RUIZ-MIRANDA, A. STONE. |
| 26 | Genetics and development of obesity in captive vervet monkeys (Chlorocebus aethiops sabaes). C.A. SCHMITT, S. SERVICE, R.M. CANTOR, A.J. JASINSKA, M.J. JORGENSEN, J.R. KAPLAN, N.B. FREIMER. |
| 27 | Hair plucking in bonobos (Pan paniscus): A consequence of captivity? C.M. BRAND, L.F. MARCHANT. |
| 28 | Changes in social behavior following the application of sensory-integration based therapy in a young adult female chimpanzee (Pan troglodytes). E.J. INGMANSON, T.A. MAY-BENSON, S. BRACCINI, I. PORTON, M.L. BAUMAN. |
30  Measuring gestation length in the chimpanzees of Gombe National Park. E.E. BOEHM, A.E. PUSEY.

31  Changes in orangutan brain ontogeny indicate parallel evolution. J.A. CREEL, S.H. RICE, A.C. DURBAND.

32  Using digital photogrammetry to estimate growth in wild geladas. A. LU, A. STINESPRING-HARRIS, C. MCCANN, J.C. BEEHNER.

33  A camera trapping study of orangutans in the Wehea Forest in East Kalimantan, Indonesia. S.N. SPEHAR, B. LOKEN.

34  DNA mini-barcodes as a tool for primate applied diagnostics and species identification. T.G. ROBBINS, V. NJUMAN.

Session 12:  ANTHROPOLOGICAL GENETICS.

Contributed Poster Presentations. Chair: Ellen Quillen. Park Concourse.
7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1  Novel method for detecting conserved and divergent regions in admixed populations. B.J. KENNEDY.

2  A variance component method for analyzing the effect of ancestry in admixed family-based genetic studies. E.E. QUILLEN, L. ALMASY, R. DUGGIRALA, J.E. CURRAN, M.C. CARLESS, T.D. DYER, J.W. MACCLEUR, D.M. LEHMAN, A. COMUZZIE, H.H. GörING, D.C. GLAHN, J. BLANGERO.

3  Y-chromosome library construction for next-generation sequencing. S.M. MCNULTY, A.T. MIRÓ-HERRANS, C.J. MULLIGAN.

4  FTO (rs99939609) and INSIG2 (rs7566605) allele distributions in human populations. M. GNES, L. ANZIVINO, A. GONZÁLEZ DE LA VEGA, F. DE ANGELIS, O. RICKARDS, M. ORERA CLEMENTE, C. MARTÍNEZ-LABARGA.

5  Assessing the correlation between dermatoglyphics and genetic data in worldwide populations. F.L. PACK, A. DAUTARTAS.

6  Distribution of TYRPI 923C allele across Island Melanesia and possible association with hair color phenotype. H.L. NORTON, E.A. CORREA.

7  Founder effect impacts APOE variability in northern Europe. A.E. MANN, R.K. LEITER, C.R. TILLQUIST.

8  Genetic analysis of some mountain communities of central Italy isolated areas. F. MESSINA, A. FINOCCHIO, M. ROLFO, C. MARTÍNEZ-LABARGA, C. RAPONE, F. DE ANGELIS, M. COLETTA, G. BIONDI, A. BERTI, D. COMAS, O. RICKARDS.

9  Multiple loci provide a more complete picture of Native American evolutionary histories. M.P. ROGERS, C. HUGHES, A. OWINGS, D.M. GOLDBERG, R.S. MALHI.

10  Analysis of cytosine methylation in Native American ancient DNA. R.W. SMITH, D.A. BOLNICK.

11  A tale of two sisters: Mitochondrial HVI sequence variation in Accompong Town Maroons. N. MADRILEJO, H. LOMBARD, J.P. BENN TORRES.

12  Evolutionary impact of recent historical events on the Rama Amerindian population from Nicaragua: Evidence from molecular genetics and isomyony markers. N.F. BALDI, O.M. GRAF, P.E. MELTON, M.H. CRAWFORD.

Session 13: BIOARCHAEOLOGY: aDNA, Paleodemography, Status and Variation.

Contributed Poster Presentations. Chairs: K. Ann Horsburgh and Kara Hoover. Park Concourse.
7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1  Multiple, distinct biological populations in Iron Age Mongolia: The Xiongnu elite cemetery of Borkhan Tolgoi (Egiin Gol valley) reveals an ancestral Turkish component. R.W. SCHMIDT.

2  Preliminary research on hereditary features of Yinxu population. W. ZENG, J. LI, H. YUE, H. ZHOU, H. ZHU.

3  Ancient DNA recovery from Angel Mounds: DNA degradation attributed to archaeological field methods. C. MARSHALL, G. MILLWARD, F.A. KAESTLE.

4  Genetic characterization of the Roman/Parthian Period cemetery at Tall Šēḫ Ḥamad, Syria. J.G. KENNEDY, D.A. MERRIWETHER.

5  Investigating lactase persistence in a Medieval German cemetery: A step towards understanding the rise of the European lactase persistence polymorphism (-13910C/T). A. KRÜTTLI, C. WARINNER, A. BOÜWMAN, P. DELLA CASA, F. RÜHLI.

6  Tetracycline labeling in early christian burials from Kulubnarti, Nubia: Measure of class differences. J.A. MARGOLIS, D.P. VAN GERVEN, G.J. ARMELAGOS.
THURSDAY ALL DAY SESSIONS

7 The evolution of Africa’s domestic cattle: Evidence from complete mitochondrial genomes of modern and archaeological specimens. K.A. HORSBURGH, A. GOSLING, S. PROST.

8 Relationships between European megaliths (6000 year BP) and Southern American cultures: Genetic and archaeological links. A. ARNAIZ-VILLENA, J. ALONSO-RUBIO, V. RUIZ-DEL-VALLE.

9 Using ancient DNA to investigate genetic adaptation to high altitude stressors in Andean populations. L.E. GEORGES, L. FEHREN-SCHMITZ.

10 An ancient crime scene: A genetic investigation of decapitated individuals from prehistoric Pacific Northwest coast warfare. C.E. HUGHES, J.S. CYBULSKI, R.S. MALHI.

11 The Broncoice Sheep Project: The use of ancient mitochondrial DNA analysis of sheep to infer human social interactions during the middle Neolithic in southeastern Poland. M. SHAMOON POUR, J.G. KENNEDY, M. PIPES, S. MILISAUSKAS, J. KRUK, D.A. MERRIWETHER.

12 Postmarital residence in Neolithic Anatolia. M.A. PILOUD.

13 A cranio metric approach to the question of postmarital residence in European Mesolithic and Upper Palaeolithic populations. C.P. BREWSTER. WITHDRAWN

14 Hands up! - Estimating paleodemographic rates from archeological data. S. WEISE, J.L. BOLDSEN.

15 Medieval monastic mortality: Hazard analysis of mortality differences between monastic and non-monastic cemeteries in England. J.C. BOULWARE, S.N. DEWITTE.

16 Status and stature: Analysis of the association between socioeconomic status and adult stature in medieval London c. 1350-1538. B.S. WALTER, S. DEWITTE.

17 A comparison of aging methods and hazard analyses using a skeletal sample from the Larsen Village Cemetery (39WW2) in South Dakota. R.J. WILSON-TAYLOR.

18 Demography and health in Roman York. I.J. McINTYRE.

19 Sub-adults in the Middle and Late Mississippian: Mortality, fertility, and growth rates. R.E. SHATTUCK, K.D. WALLER, K. WILSON, A. NAGEL.

20 Paleodemography and paleoepidemiology in the Middle and Late Mississippian. K.D. WALLER, R.E. SHATTUCK, K. WILSON.

21 “Short people got no reason to live”: Long bone length and selective mortality of children in medieval Denmark. M.B. CHALOUX, B.M. USHER.

22 Social differentiation among Hualcayán burials: A bioarchaeological analysis comparing external long bone measurements in the North-Central Highlands, Peru. R.G. WITT, R.E. BRIA, J.J. LESNIK.

23 Status in prehistory: Exploration of Maya social tiers with cross-sectional geometry. L.K. NOLDNER.

24 Dental evidence of changes in female social status during the Middle to Late Woodland transition. J. BECK.

25 Hunter-gatherer resilience after the agricultural transition in prehistoric Kyushu, Japan. K.C. HOOVER, M.J. HUDSON.

26 Regional variation in mandibular morphology in the prehistoric Japanese populations of the Jōmon and the Okhotsk. R.A. ARENAS, K.C. HOOVER.

27 Evidence for behavioral change between the Middle and Late/Final Jomon period using long bone diaphyseal robusticity. D.T. DILLON, D.H. TEMPLE.

28 Changes in skeletal CSG robusticity and sociopolitical changes in central Italy Sammites (800-200 BC). V.S. SPARACELLO, A. COPPA, V. DERCOLE.

29 The Bronze Age cemetery from Hăpria, Romania. J.M. WATSON, M. CONSTANTINESCU.

30 Dental variation in Iron Age populations of southern Africa. K.A. WARREN, S. HALL, R.R. ACKERMANN.

31 A comparison of Mesolithic and Neolithic population affinities using the cranium and postcranial. N. VON CRAMON-TAUBADEL, J.T. STOCK, R. PINHASI.

32 Bioarchaeological case studies from the early Medieval Site of Pohansko near Břeclav, Czech Republic. K.L. KEITH, V.I. BĂRCUȚEAN, M.D. JANAS, J.R. MCGINTY, A. OAXACA, M.J. DIETZ.

33 A comprehensive bioarchaeological analysis of a Copper Age society from Rome, Italy. P. CATALANO, F. DE ANGELIS, A. ANZIDÈI, M. BRILLI, L. CARBONI, A. CIANFANELLI, S. DI GIANNANTONIO, C. MARTINEZ-LABARGA, G. SCORRANO, O. RICKARDS.

34 The use of musculoskeletal stress markers in determining the effects of workload in a Roman Imperial Necropolis (I-III centuries AD). C. CALDARINI, F. ZAVARONI, V. BENASSI, F. DE ANGELIS, P. CATALANO.

35 Exploration of First Intermediate Period burials at Mendes. A.M. LOPINTO.

36 Making people: Sorting commingled remains from the St. Anthony of Padua Cemetery, Minneapolis, MN 1851-1857. D.M. ALMQUIST, K.T. BLUE.

37 Stress in Archaic Texan hunter-gatherers: An assessment of linear enamel hypoplasias. J. BERBESQUE, G.H. DORAN.

38 Bioarchaeological analysis of Oak View Landing (40DR1): An Archaic population in the Kentucky Lake Reservoir. K.D. GRANT.
| Page | Title                                                                 | Authors                                                                 |
|------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| 39   | An osteological analysis of the Manasota Period Yellow Bluffs site (8SO4) from Sarasota, Florida. | A.A. ELGART, S. PAULE.                                                 |
| 40   | Biological variability of the first forager-farmers in the Sonoran Desert. | R.M. BYRD.                                                             |
| 41   | A review of undescribed human skeletal remains from archaeological sites in Venezuela: Indicators of health, nutrition, and social practices. | M.A. DIBRELL, G.P. ARONSEN.                                            |
| 42   | Ancient burials from the site of Cardón Mocho, province of Catamarca, Argentina. | H.D. DRUBE, B. DESÁNTOLO, G. LAMENZA, A. DI BASTIANO, S. SALCEDA.     |
| 43   | Regional integration, subsistence, and health during the Formative Period in the Lake Titicaca Basin. | D.L. HUTCHINSON, S. JUENGST, K.L. CHAVEZ, S.J. CHAVEZ, L. NORR, T. SCHOBER. |
| 44   | Examining life and community history with 19th century bioarchaeological remains from Pontiac, Michigan. | T.J. SETZER, T. RAMADAN, S. WARD.                                      |
| 45   | Cultural ecology and biological distance among Classic and Postclassic period American Southwest and Mexican populations. | C. RAGSDALE, H.J. EDGAR.                                               |
| 46   | How trade networks impact phenotypic variation among an archaeological population from the Preclassic Maya site of Colha. | B.L. SNOWDEN, A. DURBAND, A.B. HOUK.                                   |
| 47   | Tracking Hunnic cultural influences through cranial deformation. | W. KELSEY, T.A. CRIST, A.D. SOFICARU.                                 |
| 48   | Were the sacrifices in Mound 72 at Cahokia nonlocal? A new perspective from the dentition. | A.R. THOMPSON.                                                         |
| 49   | Burial patterns at the Chelechol ra Orrak cemetery, Republic of Palau. | G.C. NELSON, S.M. FITZPATRICK.                                         |
| 50   | The quantification and assessment of mortuary practices at Morton Shell Mound (16IB3). | J.C. STANTON, N.P. HERRMANN.                                           |
| 51   | Burying the child in Post-medieval Poland: Prenatal vs. postnatal remains. | A.B. SCOTT, T.K. BETSINGER.                                            |
| 52   | The Mummipaedia Project: Crowdsourcing to expand the IMPACT radiological mummy database. | A.D. WADE, A.J. NELSON.                                                |
Thursday. Afternoon Sessions.

Session 14: The Evolution of Biological Anthropology: Defining a Future Discipline.  
\textit{Wiley-Blackwell Invited Podium Symposium.} Organizers: Benjamin Auerbach and Graciela Cabana. \textit{Ballroom A.}

In the 60 years since Washburn’s call for a “New Physical Anthropology,” in part responding first to the Eugenics Movement and then to the Modern Synthesis, biological anthropologists have constantly redefined their role both within anthropology and in relation to associated disciplines. As an outgrowth of this call, researchers in the field have made evolutionary theory and hypothesis testing a priority over descriptive and typological studies. Biological anthropologists have also attempted to integrate study goals with researchers in related fields, such as human genetics, psychology, and organismal biology. Despite these efforts, theoretical developments in these other fields continue to advance at a fast pace, but biological anthropology fails to incorporate those developments into its overall research program. Moreover, our integration with these disciplines, as well as our sibling subdisciplines within anthropology, has been inconsistent and inconstant among biological anthropologists. Without correcting these trends, bioanthropological research might ultimately be courting obsolescence.

This symposium seeks to address these issues with three goals for guiding the future of biological anthropology: 1) ensuring biological anthropology research is based on current knowledge and theoretical developments in associated fields (especially evolutionary biology); 2) reducing the balkanization among anthropological disciplines—event within biological anthropology—and improving interdisciplinary communication with other fields of research; and 3) making ethics and the incorporation of cultural knowledge a centerpiece to the practical application of biological anthropology studies. Using their research as examples, participants will discuss solutions and practical steps toward achieving these goals.

1:00-1:15 Evolving biological anthropology in twelve acts. B.M. AUEBACH, G.S. CABANA.
1:15-1:25 Crossing disciplines to challenge the adaptationist paradigm. R.R. ACKERMANN.
1:25-1:35 Anthropology in the age of phenomics. C.C. ROSEMAN.
1:35-1:45 Integrating data in paleoanthropology: The future role of prehistoric fossils in the genomic present. A.P. VAN ARSDALE.
1:45-2:00 Discussion 1
2:00-2:10 Anthropological primatology: What field primatologists can contribute to the field. J.D. PRUETZ.
2:10-2:20 Narrative, meaning and the future of bioarchaeology. C.M. STOJANOWSKI.
2:20-2:30 Health research in biological anthropology: Integrating evolutionary and biocultural approaches. J.J. SNODGRASS, W.R. LEONARD.
2:30-2:45 Discussion 2
2:45-3:00 \textit{BREAK}
3:00-3:10 Living on the edge: Interdisciplinarity and the future of biological anthropology. B. HALLGRIMSSON.
3:10-3:20 What kind of anthropologist am I? Boundary crossings and the new one-drop rule. C.C. GRAVLEE.
3:20-3:30 Without anthropology, biological anthropology is just biology, only more poorly funded. J. MARKS.
3:30-3:45 Discussion 3
3:45-3:55 Ethical discourse in biological anthropology: Some things borrowed, something new. T.R. TURNER.
3:55-4:05 Getting the word out: Community consultation and continuing engagement in anthropological genetics research. D.H. O’ROURKE, M.G. HAYES.
4:05-4:20 Discussion 4
4:20-4:45 Discussants, MILFORD WOLPOFF, LESLIE AIELLO, JAMES CHEVERUD

Session 15: PRIMATOLOGY: Sex, Aggression and Competition.  
\textit{Contributed Podium Presentations.} Chair: Zarin Machanda. \textit{Ballroom B.}

1:00-1:15 The development of aggressive play behavior in wild chimpanzees. Z.P. MACHANDA, S. KO, M. EMERY THOMPSON, E. OTALI, S.M. KAHLERBERG, M.N. MULLER, R.W. WRANHAM.
1:15-1:30 Juvenile harassment of adults in bonobos and the exploratory aggression and rank improvement hypotheses. K.J. BOOSE, F.J. WHITE.
1:30-1:45 Effect of opponent distance on post-conflict behavior in wild chimpanzees, Kanyawara, Kibale National Park, Uganda. J.A. HARTEL, C.B. STANFORD.
1:45-2:00 Agonistic relationships among female primates: The axes of despotism. A. KOENIG, C.J. SCARRY, B.C. WHEELER, C. BORRIES.
2:00-2:15 Anticipatory stress, territoriality and hunting in wild chimpanzees. M.E. SOBOLEWSKI, J. BROWN, J.C. MITANI.
| Time  | Session Title                                                                 | Presenters                                                                 |
|-------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 2:15  | Short-term consequences of intergroup aggression among tufted capuchin monkeys: Implications for long-term coexistence among unevenly-matched competitors. | C.J. SCARRY, M. TUJAGUE.                                                  |
| 2:30  | Intergroup aggression and within-group cohesion in wild chimpanzees.           | M.N. MULLER, Z.P. MACHANDA, D.K. ENIGK, R.W. WRANGHAM.                    |
| 2:45  | Trade-offs between intra-group reproductive competition and inter-group territorial competition in male chimpanzees. | M.L. WILSON, E.E. WROBLEWSKI, D.C. MJUNGU, S. KAMENYA, R.S. RUDICELL, B.H. HAHN, A.E. PUSEY. |
| 3:00  | **BREAK**                                                                     |                                                                           |
| 3:15  | Context of copulation calls in wild chimpanzees.                               | M. EMERY THOMPSON, Z.P. MACHANDA, M.N. MULLER, S.M. KAHLER, R.W. WRANGHAM. |
| 3:30  | The functional significance of female copulation calls in olive baboons (Papio anubis). | J.T. WALZ, D.M. KITCHEN.                                                  |
| 3:45  | “Following” in olive baboons (Papio hamadryas anubis) results in deviation from the Priority of Access Model: Consortship behavior and genetic paternity. | L.M. DANISH, A. DI FIORE, R.A. PALOMBIT.                                  |
| 4:00  | Male dominance rank, access to females, and mating success in mantled howlers (Alouatta palliata): Testing the Priority-of-Access Model. | L.C. COREWYN.                                                             |
| 4:15  | A functional imaging study of “jealousy” in captive male titi monkeys (Callicebus cupreus). | K.L. BALES, N. MANINGER, T.J. SCHAFFER, W.A. MASON, S.R. CHERRY, S.P. MENDOZA. |
| 4:30  | Male reproductive senescence in the ring-tailed lemur (Lemur catta).           | J.A. PARGA.                                                               |
| 4:45  | Towards a theoretical framework for understanding the variation in sexually-selected traits among multimale-multifemale anthropoid primates. | C. DUBUC, J.P. HIGHAM, A. ENGELHÄRD.                                      |

**Session 16: PALEOANTHROPOLOGY: Early Hominins, Australopithecus, and Paranthropus.**

**Contributed Podium Presentations.** Chair: Scott Williams. **Ballroom C.**

| Time  | Title                                                                 | Presenters                                                                                                                                 |
|-------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1:00  | The endocast of Sahelanthropus tchadensis, the earliest known hominin (7 Ma, Chad). | T. BIENVENU, D. FALK, K. SEMENDEFE, F. GUY, C. ZOLLIKOFER, M. PONCE DE LEÓN, P. TAFFOREAU, H. MACKAYE, A. LIKIUS, P. VIGNAUD, M. BRUNET. |
| 1:15  | The earliest hominins were rigid warsted.                              | C.M. ORR.                                                                                                                               |
| 1:30  | Complex patterns of selection and constraint explain the evolution of the hominin hip bone. | M.W. GRABOWSKI, C.C. ROSEMAN.                                                                                                          |
| 1:45  | More than the sum of its parts? Multivariate analysis of locomotor behavior in Ardipithecus ramidus. | C. ROLIAN, H.M. DUNSWORTH, K. MCNUITY, P. LEMELIN, W.L. JUNGERS.                                                                       |
| 2:00  | Ardipithecus ramidus and the evolution of the human cranial base.      | W.H. KIMBEL, G. SUWA, B. ASFAW, T.D. WHITE, Y. RAK.                                                                                     |
| 2:15  | Fossils from Olduvai Gorge come home and go online.                   | J.K. NJAU, J. KIHIYO, P. MSEMW, A. KWEK, J. PARESSO, A. GIDNA, L.J. HLSUK.                                                               |
| 2:30  | Late Miocene hominin biogeography: Comparative analyses of eastern and southern African faunas. | A.L. RECTOR, K. O'NEILL.                                                                                                               |
| 2:45  | The South African Palaeoecave Survey: A regional GIS approach to palaeoanthropological fieldwork. | K.L. KUYKENDALL, A. REID, K.L. LEWTON, J. BRINK, B. VILLMOARE.                                                                      |
| 3:00  | **BREAK**                                                             |                                                                                                                                         |
| 3:15  | Potential soft organic tissue preserved in association with the Australopithecus sediba fossils from Malapa cave site, South Africa. | R. KEELING, L.R. BERGER.                                                                                                                |
| 3:30  | The number of vertebrae in early hominins: Insights from Australopithecus sediba. | S.A. WILLIAMS, S.E. CHURCHILL, K.R. OSTROFSKY, P. SCHMID, N. FRATER, L.R. BERGER.                                                    |
| 3:45  | A reconstruction of the Sts 65 Australopithecus africanus pelvis with implications for birth in early hominins. | J. ROMANO, A.G. CLAXTON, J.M. DESILVA.                                                                                                  |
| 4:00  | 3D retrodeformation of paleoanthropological fossils based on biomechanical simulation. | G. SUBSOL, S. CANU, B. GILLES, J. BRAGA, S. COTIN, F. THACKERAY.                                                                      |
| 4:15  | Continuous dental erosion and the age at death of Sts 5. B.A. VILLMOARE, K.L. KUYKENDALL, T.C. RAE, C. BRIMACOMBE. |                                                                                                                                         |
| 4:30  | Metopism and early human brain evolution.                             | R.L. HOLLOWAY, D.C. BROADFIELD, K. CARLSON.                                                                                             |
| 4:45  | What did Hadropithecus eat? And why should paleoanthropologists care? | L.R. GODFREY, B.E. CROWLEY, S.J. KING, K.M. MULDOON, E.R. DUMONT.                                                                      |
Session 17: **Food Materials Testing and its Relevance for Primate Biology.**

*Invited Poster Symposium.* Organizers: Erin Vogel, Nayuta Yamashita and Barth Wright. **200DE.**

Research on the mechanical properties of primate foods was initiated by the late Dr. Warren Kinzey in the 1970’s, but received further impetus in the 1990’s from the introduction of portable mechanical devices such as the Darvell HKU tester. Data from these studies have been directed to research questions on topics as diverse as dietary selection, cranio-dental morphology, and social behavior. The results have indicated the mechanical diversity of foods that primates consume and demonstrated how important quantification is for answering these questions. In this symposium, we bring together researchers who have both developed and used some of these methods to try to understand the relationship between the diet, morphology and socioecology of primates. We conclude the symposium with a meta-analysis of the current dataset in relation to primate cranio-dental variation. Such a synthesis is essential for better understanding of the functional significance of variation in cranio-dental morphology within the hominid lineage.

12:00- 1:00 pm Poster set-up. 4:30- 5:00 pm Poster take-down.

1:00-2:00 pm Short Presentations by Authors.

3:30-4:30 pm Roundtable Discussion.

1. **New developments in field mechanics.** P.W. LUCAS.
2. **How hard can it be? Exploring the feeding ecology of sakis.** M.A. NORCONK.
3. **Finite element model of the Cebus mandible under different loading conditions.** C.F. ROSS, L.B. PORRO, C. ORSBON, T. STEWART, A.B. TAYLOR, J. IRIARTE-DIAZ.
4. **Applying Extreme Value Analysis in assessing the material properties of the most challenging foods consumed by primates.** B.W. WRIGHT, C.J. VINYARD, N. YAMASHITA, E.R. VOGEL.
5. **Mechanical food properties and tooth wear differentiate three populations of Lemur catta in southwest Madagascar.** N. YAMASHITA, F.P. CUOZZO, M.L. SAUTHER, P.S. UNGAR, A. RIEMENSCHNEIDER, E. FITZGERALD.
6. **Tough and then some: New directions for a growing Food Science in primatology.** C.J. VINYARD, C.L. THOMPSON, P.J. LUCK, E.A. FOEGEDING.
7. **Co-variation between dietary toughness, chewing efficiency, and dental wear in a wild population of geladas.** V.V. VENKATARAMAN, H. GLOWACKA, J. FRITZ, M. CLAUS, P.J. FASHING, N. NGUYEN, C. SEYOUM, N.J. DOMINY.
8. **Developmental perspectives on feeding in wild tufted capuchins (Cebus libidinosus).** J. CHALK, B.W. WRIGHT, E.R. VOGEL, P.W. LUCAS.
9. **Dietary toughness constrains juvenile feeding efficiency in Phayre's leaf monkeys (Trachypithecus phayrei crepusculus).** K. OSSI-LUPO, A. KOENIG.
10. **Mechanical properties of Pentaclethera macrophylla seed pods and ingestive strategies of the western pied colobus monkey (Colobus polykomos).** D.J. DAEGLING, W.S. MCGRAW, B.R. BURROWS, J.D. PAMPUSH, D.G. BERTIN, F. OURO.
11. **Membrane-plate transition in leaf development may influence feeding by Southern Muriquis (Brachyteles arachnoides, ATELIIDAE, PRIMATES).** M.G. TALEBI, E.A. SALA, P.W. LUCAS.
12. **Do food material properties predict jaw and tooth morphology in primates?.** E.R. VOGEL, S. COINER-COLLIER, R.S. SCOTT, J. CHALK, P. CONSTANTINO, H. GLOWACKA, L. LOYOLA, K. OSSI-LUPO, M. RAGUET-SCOFIELD, M. TALEBI, C.J. VINYARD, B.W. WRIGHT, N. YAMASHITA, N.J. DOMINY, P.W. LUCAS.
13. **Influence of food material properties and cooking on meat-eating performance in humans.** Z. ZHOU, D. WARD, D. SHAPIRO, S. HLUBIK, K.L. DE ROSA, D.J. HOFFMAN, E.R. VOGEL, R.S. SCOTT.
14. **Hominin hard object feeding as inferred from dental chipping analysis.** P.J. CONSTANTINO, A. EDELMANN.

**Session 18:** **Recent Advances in Knowledge of a Major Papionin Taxon: The Kinda Baboon.**

*Invited Poster Symposium.* Organizers: Cliff Jolly, Jane Phillips-Conroy, and Jeff Rogers. **301D.**

Baboons (*Papio*) are among the most extensively researched non-human primates, and their diversity is a staple of comparative primate socioecology, yet the full range of variation in the genus is strikingly under-documented. This symposium will present some of the findings, many of them unexpected, emerging from recent, multi-disciplinary investigation of the Kinda baboon, a taxon that is distinctive and widely distributed, yet previously unstudied in the wild.

12:00-1:00 pm Poster set-up. 4:30- 5:00 pm Poster take-down.

4:00-4:30 Roundtable Discussion.

1. **Kinda baboons in phylogenetic and paleogeographic perspective.** A. BURRELL, C. JOLLY, C. BERGEY, J. PHILLIPS-CONROY, J. ROGERS, T. DISOTELL.
2. **Whole genome DNA sequence analysis of the kinda baboon (Papio kindae).** J. ROGERS, J. PHILLIPS-CONROY, C.J. JOLLY, D. RIO DEIROS, M. RAVEENDRAN, G.L. FAWCETT, K. WORLEY, D.M. MUZNY, R.A. GIBBS.
3. **Cranial shape variation in extant and fossil Papio and its implications for the evolution of the Kinda baboon.** S.R.
Session 19:  From Paleoamerican to Recent Americans: A Celebration of Richard L. Jantz’s Contributions to Biological Anthropology.

Invited Poster Symposium. Organizers: Steve Ousley and Kate Spradley. 301E.

Richard Jantz has been a teacher, mentor, and colleague at the University of Tennessee, Knoxville, for over 40 years, and has recently retired. His numerous contributions to understanding human variation (anthropometric, dermatoglyphic, and osteometric) have greatly impacted many facets of biological anthropology. He also oversaw the establishment and preservation of databases including skeletal observations from modern Americans (the Forensic Data Bank), anthropometrics from Native Americans (from Franz Boas), and worldwide dermatoglyphic observations (from Heinz Brehme), which have and will continue to benefit many anthropologists. Most recently he was a litigant in the Kennewick Man case, highlighting his contributions to understanding the earliest Americans. This symposium reflects Richard Jantz’s depth and breadth of contributions.

12:00- 1:00 pm Poster set-up.  5:00-6:00 pm Poster take-down.

4:00-6:00 pm Discussion. FRED H. SMITH.

1 The Biological Anthropology Database legacy of Richard L. Jantz.  D.R. HUNT, S.D. OUSLEY.
2 Geometric morphometrics and statistical classification: Size matters.  S.D. OUSLEY, M. KENYHERCZ.
3 Investigating shape changes in American White and Black cranial dimensions: A 3d geometric morphometric approach.  B. DUDZIK, L. MEADOWS JANTZ.
4 The African Diaspora: Assessing cranial secular change using geometric morphometrics.  M.K. SPRA DLEY.
5 A head for cranial analysis: 3D investigation of endo- and ectocranial sex dimorphism. N.R. SHIRLEY, E. ABDEL FATAH, R.L. JANTZ, M.R. MAHFOUZ.
6 An investigation of craniometric variation in Paleoamericans from different continents.  K.T. ALSUP.
7 Geometric morphometric analysis of Arikara craniofacial morphology.  A.H. MCKEOWN.
8 Examination of Archaic Period craniofacial variation in the Middle Tennessee River Valley.  N.P. HERRMANN, S.M. ZALESKI.
9 Temporal changes in Arikara femoral torsion.  D.J. WES COTT, D.L. CUNNINGHAM.
10 Secular change in pelvic sexual dimorphism: A 3D study.  K.R. DRISCOLL.
11 Functional morphology and variation: The effects of obesity on the cross-sectional geometry of the humerus.  M.K. MOORE.
12 A comparison of fluctuating asymmetry in the craniofacial skeleton of residents of Mexico and immigrants from Mexico to the United States.  K.E. WEISENSEE, M. SPRA DLEY.
13 Untold tales: Skeletons from the Little Bighorn contrasted with Seventh Cavalry medical documents.  P. WILLEY.
14 Post-traumatic bone loss in Civil War soldiers.  A. GOOTS, K. BRUWELHEIDE, D. OWSLEY.
15 Paleodemography and perinatal mortality from the Agora well, Athens, Greece.  L.W. KONIGSBERG, M.A. LISTON.
16 Aging methods across populations: Focus in Nigeria.  E.H. KIMMERLE, L. KONIGSBERG.
Thursday. EVENING Plenary Session. 5:30-8 pm (Set-up 5-5:30; Take-down 8-8:30) Come by for treats...

| Session 20: | PLENARY POSTERS. Chairs: Juliet Brophy and Mark Teaford. Park Concourse. |
|------------|-----------------------------------------------------------------------|
| 1          | Broader social impacts: Physical Anthropology and the K-12 Classroom. C.M. SCHREIN. |
| 2          | Evolutionary biology offers an effective tool for changing high school students’ attitudes about healthy food choices. D. SHERRY. |
| 3          | Genotyped undergraduates: Better learners and leaders in the personal genomics era. H.M. DUNSWORTH. |
| 4          | Finding the place of race in anthropological discourse: A digital textual analysis. M.A. ALGEE-HEWITT, B.F. ALGEE-HEWITT. |
| 5          | Exhibiting bodies: Confronting the human remains debate in public museums. C. PENTABONA. |
| 6          | Talus, a new mobile application for biological profiling of human skeletal remains. E. NIESPOZDZIEWANSKI. |
| 7          | Best practices for the integration of tablet-based applications into a laboratory course: A case study from the human gross anatomy laboratory. A.F. DOUBLEDAY. |
| 8          | Species concepts in anthropology and their relation to research interests. R.A. JOHNSTON, L.W. COWGILL. |
| 9          | First Miocene record of *Mesopithecus* from the Iberian Peninsula based on Turolian remains from Venta del Moro (Valencia, Spain). D.M. ALBA, P. MONTOYA, M. PINA, L. ROOK, J. ABELLA, J. MORALES, E. DELSON. |
| 10         | A comparison of dental eruption patterns and their possible life history implications in two sympatric fossil catarrhines from Rudabánya, Hungary. D.R. BEGUN. |
| 11         | Analysis of bovid remains from Malapa, South Africa and implications for the paleoenvironment of *Australopithecus sediba*. J.K. BROPHY, D.J. DE RUITER, L.R. BERGER. |
| 12         | A comparison of catarrhine genetic distances against pelvic and cranial morphology: implications for determining hominin phylogeny. S.J. LYCETT, N. VON CRAMON-TAUBADEL. |
| 13         | The evolution of brain size and longevity in mammals. M.R. SHATTUCK, S.A. WILLIAMS. |
| 14         | Life history transitions and the origin of the genus *Homo*. S.C. ANTÓN, J.J. SNODGRASS. |
| 15         | Dental microwear texture analysis and ecological plasticity in *Alouatta belzebul*. M.F. TEAFORD, A. ALBO, P.S. UNGAR. |
| 16         | Effect of posterior curvature on the bending strength of maxillary canines in cercopithecoid monkeys. A.J. RAPOFF, N.T. GARABEDIAN, W.S. MCGRAW, D.J. DAEGLING. |
| 17         | Grébou 1 forest grove in southwestern Côte d’Ivoire is the final refuge for *Colobus vellerosus* in the Sassandra - Bandama inter-fluvial region. S. GONEDELÉ BI, E.A. BITTY, W.S. MCGRAW. |
| 18         | Accelerating deforestation and hunting in protected reserves jeopardize primates in southern Côte d’Ivoire. E. BITTY, S. GONEDELÉ BI, W.S. MCGRAW. |
| 19         | Habitat disturbance and fecal cortisol metabolites in a folivorous strepsirrhine, *Propithecus edwardsi*. S.R. TECOT, M. SILVA, J. JERNVALL, P.C. WRIGHT. |
| 20         | Of monkeys and Maya: Primate species identification from Classic Maya iconography. K.E. SOUTH, S.M. FORD. |
| 21         | Season and aging affect the expression of a hormonal biomarker of life history in lemurs. D.K. BROCKMAN, P.L. WHITEN, S. PRUETT. |
| 22         | Longitudinal changes in macronutrient and hormone concentration in orangutan milk during peak lactation. L.A. MILLIGAN, R. BERNSTEIN, L. WRIGHT, H. DROUGHT, C. LEWIS, K. MURTROUGH, M. POWER. |
| 23         | Bioactive factors in milk: comparisons across nonhuman primates and humans. M.L. POWER, J. SCHULKIN, H. DROUGHT, K. HINDE, R.M. BERNSTEIN. |
| 24         | Determining ovarian follicle reserve from Anti-Mullerian hormone as detected using dried blood spots gathered in a remote field setting. F.C. MADIMENOS, M.A. LIEBERT, T.J. CEPON, P. TALLMAN, J.J. SNODGRASS, L.S. SUGIYAMA, T.W. MCDADE. |
| 25         | Detection of sickle hemoglobin in febrile patients in Leogane, Haiti. T.E. CARTER, M. VON FRICKEN, C.J. MULLIGAN, G. MEMNON, B.A. OKECH. |
| 26         | Spatial analysis of fine-scale Y chromosome variation in Swahili and Yemeni males clarifies the expected distribution of genetic variation in societies with different post-marriage residence norms. R.L. RAAUM. |
| 27         | Further studies on dental calculus as a proxy for stable carbon and nitrogen isotopes: Extraordinarily high levels of δ^13N in prehistoric samples from Chile correspond to findings on traditional biomaterials. G. SCOTT, S.R. POULSON, S.C. KUZMINSKY, V. STANDEN, B. ARRIAZA, I. MUNOZ. |
| 28         | Ad sanctus burial and markers of skeletal health in Medieval Asturias, Spain. N.V. PASSALACQUA. |
| 29         | Estimating age at death in bioarchaeology: A Rostock approach. S.M. HENS, K. GODDE. |
| 30         | Reconstructing stress episode chronology and periodicity among Late/Final Jomon period foragers using incremental microstructures of enamel. D.H. TEMPLE. |
| 31         | Fluctuating and directional asymmetry: Skeletal evidence for life history theory and human evolutionary ecological variation in an archaeological South Dakota Arikara population. E.B. WAXENBAUM, B. ERICKSON. |

*American Journal of Physical Anthropology*
Friday. Morning sessions.

Session 21:  The High Price of Success: Costs of Reproductive Effort in Male Primates and Humans.  
**HBA andAAPA Invited Podium Symposium.** Chair: Alexander Georgiev and Melissa Emery Thompson.  
**Ballroom A.**  
A foundational and widely supported concept in evolutionary biology is that female reproductive success is limited by access to resources while male reproductive success is limited primarily by access to mates. Thus, research programs have emphasized the substantial costs of female reproductive effort but have tended to focus on variation in the benefits obtained by males. However, the processes necessary to achieve reproductive success may carry a high price for males, and the ability to sustain these costs may determine the success of some males and the failure of others. The nature and extent of these costs is expected to vary by mating system and ecological context and can have far-reaching consequences for social behavior and demographic composition of populations. This symposium highlights studies on costs of male reproductive effort in a variety of primate species, including humans. Our contributors will present new research on male behavior, physiology, life history, demography and health in the context of male mating effort and competition. A key emphasis for discussion will be the theorized trade-off between reproductive effort and survival, and whether some males can maintain high reproductive effort despite the costs throughout their lifespan.  

*Chair:* Alexander Georgiev  
8:00-8:15  
**To commit or play the field? Costs and benefits of male mating strategies in hamadryas versus chaema baboons.** S. CHOWDHURY, M. PINES, J. SAUNDERS, L. SWEDELL.  
8:15-8:30  
**Seasonal and social influences on androgen secretion in male geladas.** D.J. PAPPANO, T.J. BERGMAN, J.C. BEEHNER.  
8:30-8:45  
**Is Fatter sexier? Male reproductive strategies in squirrel monkeys, Saimiri sciureus.** A.I. STONE.  
8:45-9:00  
**Reproductive competition in male white-faced capuchin monkeys (Cebus capucinus): variation in testosterone, DHT, and glucocorticoid production.** V.A. SCHOOF, K.M. JACK, T.E. ZIEGLER.  
9:00-9:15  
**The costs of seasonal reproductive effort in Cayo Santiago male rhesus macaques.** J.P. HIGHAM.  
9:15-9:30  
**The energetics of mate-guarding in wild male long-tailed macaques (Macaca fascicularis).** C. GIRARD-BUTTOZ, M. HEISTERMANN, M. AGIL, P. AHMAD FAUZAN, A. ENGELHARDT.  
9:30-9:45  
**BREAK**  

*Chair:* Melissa Emery Thompson  
9:45-10:00  
**Physiological costs of dominance and mating effort in male chimpanzees.** A.V. GEORGIEV, M. EMERY THOMPSON, M.N. MULLER, R.W. WRANGHAM.  
10:00-10:15  
**Alpha male status predicts long life expectancy in wild chimpanzees.** M.S. McCARTHY, C.E. FINCH, C. STANFORD.  
10:15-10:30  
**Cost of male mate competition in bonobos.** M. SURBECK, T. DESCHNER, A. WELTRING, G. HOHMANN.  
10:30-10:45  
**Male bi-maturism and the costs of reproduction in wild Bornean orangutans.** C.D. KNOTT, M. EMERY THOMPSON.  
10:45-11:00  
**From tug-of-war over reproduction to conflict over group membership: A theory of conflict and conflict resolution.** M. PORT.  
11:00-11:15  
**Testosterone, immune function, and life history transitions in the Philippines.** L.T. GETTLER, S.S. AGUSTIN, A.B. FERANIL, T.W. MCDADE, C.W. KUZAWA.  
11:15-11:30  
**Androgens and immune function in human and nonhuman primates.** S.P. PRALL, M.P. MUEHLENBEIN.  
11:30-11:45  
**Discussant,** RICHARD W. WRANGHAM.  

Session 22:  BIOARCHAEOLOGY AND ANTHROPOLOGICAL GENETICS: Skeletal, Genetic, and Isotopic Approaches to Colonization and Migration.  
**Contributed Podium Presentations.** Chair: Corina Kellner. 200ABC.  
8:00-8:15  
**Understanding the colonization of the North American Arctic: The results of whole mitochondrial genome sequencing of Inupiat populations of the Alaskan North Slope.** J. RAFF, M. RZHETSKY, M. HAYES.  
8:15-8:30  
**Cranial morphological variation among ancient North Americans: a test of the coastal migration hypothesis using three-dimensional imaging and geometric morphometric methods.** S.C. KUZMINSKY.  
8:30-8:45  
**A paleoegenetic investigation into the pre-Columbian population history of Central Andean South America.** L. FEHREN-SCHMITZ, B. LLAMAS, W. HAAK, E. TOMASTO-CAGLIAO, A. COUTINHO, S.R. WILLIAMS, R.A. BENFER.  
8:45-9:00  
**Whole mitochondrial genome sequences from South America: Insights into the demographic history of the continent.** E.J. LEE, D. MERRIWETHER.  
9:00-9:15  
**Native American genetic diversity before and after European colonization: Evolution, pathogens, and the environments of the Americas.** J. LINDO, R.S. MALHI.  
9:15-9:30  
**Chanka mobility and diet in the Central Highlands of Peru: A multi-isotope analysis.** E.M. LOFARO, D.S. KURIN, J. KRIGBAUM.
**Session 23:**  **PALEOANTHROPOLOGY: Homo.**  **Contributed Podium Presentations.** Chair: Leslea Hlusko.  **Ballroom B.**

| Time     | Title                                                                 | Authors                                                                 |
|----------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| 8:00-8:15| A new 1 million-year-old hominin distal ulna and other 2012 fossil discoveries from Olduvai Gorge, Tanzania. | L.J. Hlusko, W.B. Reiner, J.K. Najau                                     |
| 8:15-8:30| Earliest evidence of distinctive modern human-like hand morphology from West Turkana, Kenya. | C.V. Ward, M.W. Tocheri, J. Playcan, F.H. Brown, F.K. Manthi            |
| 8:30-8:45| Structure of the Trinil Homo erectus femora.                         | C.B. Ruff, L. Puymerial, R. Macchiarelli, J. De Vos, R.L. Ciochon      |
| 8:45-9:00| A multivariate analysis of the Daka calvaria (BOU-VP-2/66) and implications for Homo erectus taxonomy. | K.B. Carlson, B.M. Christy                                              |
| 9:00-9:15| Early postnatal brain growth in Homo erectus: Incorporating uncertainties. | Z. Cofran, J. Desilva                                                 |
| 9:15-9:30| Exo- and endocranial ontogeny in hominoid primates.                   | M.S. Ponce de León, R. Ledevin, C.P. Zollikofer                       |
| 9:30-9:45| Reconstructing phylogenetic relationships and evolutionary processes in early Homo evolution: Genetic drift or selection? | L. Schroeder, R.R. Ackermann                                           |
| 9:45-10:00| **BREAK**                                                           |                                                                        |

| Time     | Title                                                                 | Authors                                                                 |
|----------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| 10:00-10:15| Bridging the gap between individual fossil evidence, paleopopulation dynamics and hominin evolutionary scenarios. | C.P. Zollikofer, S. Callegari, J.D. Weissmann, N. Tkachenko, M.S. Ponce de León, W.P. Petersen, G. Lake. |
| 10:15-10:30| Food processing reduces thermogenesis following meat or tuber meals in a model omnivorous mammal. | R.N. Carmody, S.M. Secor, R.W. Wrangham                           |
| 10:30-10:45| Masticatory changes associated with mechanical and thermal processing of meat. | K.D. Zink, D.E. Lieberman                                             |
| 10:45-11:00| Masticatory and non-masticatory spatial explanations for mandibular symphseal morphology in extant Homo sapiens. | J.E. Scott                                                             |
| 11:00-11:15| In-vitro analysis of nutrition in Hadza tubers using Hadza simulated cooking techniques. | S. Schnorr, A. Crittenden, F. Marlowe, A. Henry.                   |
| 11:15-11:30| **BREAK**                                                           |                                                                        |

**Session 24:**  **SKELETAL BIOLOGY: Mastication, Jaw and Tooth Form.**  **Contributed Podium Presentations.** Chair: Andrea Taylor.  **Ballroom C.**

| Time     | Title                                                                 | Authors                                                                 |
|----------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| 8:00-8:15| How does food item size affect optimal tooth sharpness?               | M.A. Berthaume, E.R. Dumont, L.R. Godfrey, I.R. Grosse                  |
| 8:15-8:30| The evolution of third molar agenesis in humans.                     | K.E. Carter, S. Worthington, T.M. Smith                                 |
| 8:30-8:45| Tooth root and crown surface areas have different allometric relationships associated with diet in cercopithecines. | M.A. Holmes                                                            |
| 8:45-9:00| Occlusal surfaces and chewing efficiency in modern humans.            | M.F. Laird, H. Pontzer                                                 |
| 9:00-9:15| Mandibular premolar morphology is correlated with mechanically challenging diets in sympatric primates. | K. Schroer, K. Ramirez, B. Wood                                         |
| 9:15-9:30| Incisor microwear and gouging in callitrichines.                     | P.S. Ungar, J. Fay Sliger, S.S. Caporale, M.F. Teaford, C.J. Vinyard, A.B. Taylor |

**American Journal of Physical Anthropology**
Session 25: Advances in the Bioarchaeology of Nubia and Central Sudan. 

Invited Poster Symposium. Organizers: Brenda Baker and Tina Jakob. 200DE.

During the twentieth century, a biocultural approach to the study of human remains from ancient Nubia was developed as large numbers of cemeteries were excavated during archaeological rescue projects south of Aswan, Egypt. Our understanding of ancient Nubia is based mainly on sites between the First and Dal Cataracts (southern Egypt to northernmost Sudan) because few skeletal samples from Upper Nubia and central Sudan (Third Cataract to the south of the Sixth Cataract of the Nile River) existed prior to the 2000s. Recent bioarchaeological fieldwork and research on human remains from sites south of the Dal Cataract have added significantly to our understanding of ancient Nubian societies from the Paleolithic to Christian (medieval) periods and demonstrate considerable variation from Lower Nubian mortuary contexts. Innovative and theoretically informed bioarchaeological research is advancing our understanding of colonialism, social practices including dental ablation and sacrifice, and the health consequences of conflict and illnesses arising from infectious diseases (e.g., brucellosis) and metabolic conditions (e.g., scurvy). This symposium aims to bring together for the first time researchers working on Upper Nubian and central Sudanese samples to share findings on aspects of health, identity, and mortuary practices. Discussion of these issues and the similarities and differences encountered in various locations and between Upper and Lower Nubian groups will stimulate further research and collaborations within these regions.

7:30-8:00 am Poster set-up. 11:30-11:45 am Poster take-down.

11:00-11:30 am Discussion.

1 An introduction to the bioarchaeology of upper Nubia and central Sudan. B.J. BAKER, T. JAKOB.

2 Bioarchaeology at the multiperiod site of Al Khiday 2, central Sudan. T. JAKOB.

3 Dental pathology at Shabona, a Khartoum Mesolithic site. J.J. CROSBY.

4 New results from an old excavation: The biological “place” of Jebel Mouans in the prehistory of Nubia and Sudan. J.D. IRISH.

5 Revisiting Jebel Sahaba: New apatite radiocarbon dates for one of the Nile valley’s earliest cemeteries. D.M. ANTOINE, A. ZAZZO, R. FRIEDMAN.

6 Isotopic variation of geographic origin and diet in Upper and Lower Nubia during the Bronze Age: An examination of sociopolitical effects on population composition and life ways. M. BUZON, S. SCHRADER, A. SIMONETTI, G. BOWEN.

7 The cemeteries of Amara West: Investigating the impact of climate and political change on health and living conditions in an ancient town in upper Nubia (13th – 8th centuries BC). M. BINDER.

8 Dental ablation in Sudan: The construction and performance of social identity. K.L. BOLHOFNER.

9 Going against the grain at Gabati. M.A. JUDD.

10 Analysis of fauna in Post-Meroitic tumuli at the Ginefab School Site, Sudan. J.A. HARRIS, B.J. BAKER.

11 The impact of socio-political changes on activity patterns in a late Meroitic to Christian period community at El-Ginefab, Sudan. B.L. NAGY, B.J. BAKER.

12 Cranial non-metric affinities and kinship ideologies among Post-Meroitic and Christian period Nubians from the 4th Cataract Region, Sudan. K.L. NADO, B.J. BAKER.

13 The descent of Christianity: Religious conversion and social change in Medieval Nubia. A.C. SEIDEL, B.J. BAKER.

14 Early to late Christian burial practices at Mis Island: Religious community and the concept of identity. A. SOLER, C.V. HURST, T.W. FENTON.

15 Life and death in a Medieval Nubian farming community at the Fourth Cataract: An example from Mis Island. C.V. HURST, A. SOLER, T.W. FENTON.
Session 26: Modern Morphometrics in Physical Anthropology II: Papers in Honor of Sokal. *Invited Poster Symposium*. Organizers: Dennis Slice and Bridget Algee-Hewitt. 301D.

This symposium brings together experts in both the field of morphometrics and that of physical anthropology to carry on the work begun over a decade ago, at the 2002 AAPA special session, Modern Morphometrics in Physical Anthropology. We argue that there continues to be a great and immediate need to develop new techniques and to make steady improvements upon our preexisting methods in order to resolve the complex biological questions that are emerging within the present data-driven, genomic, and computationally intensive age. The mathematically tractable, highly adaptable, and efficient methods of geometric morphometrics are playing a critical role in ongoing efforts to increase our explanatory power. The goal of this symposium is to reflect upon the current state of the art: to present the latest theoretical advancements and methodological improvements, to highlight the key innovations in scholarship, and to demonstrate how the synergy between these two fields can continue to open up new avenues of research of interest to theoreticians and practitioners alike. The topics of discussion will cover such diverse areas as primatology, paleoanthropology, biological and forensic anthropology, while also adopting a variety of methodological perspectives and addressing the utility of these approaches to many different research ends.

It is with great sadness that we mark the passing this year of Robert R. Sokal, who contributed much to biostatistics, systematics, anthropology, morphometrics, and many other fields. It is to his memory that this symposium is dedicated.

7:30-8:00 am Poster set-up. 11:30-11:45 am Poster take-down.

10:00-11:30 am Discussion. Charles Oxnard, Chris Klingenberg and Fred Bookstein.

| Photo-remembrances of Robert R. Sokal. | 0 |
|--------------------------------------|---|
| Modern morphometrics 101. D.E. Slice. | 1 |
| After semilandmarks. F.L. Bookstein. | 2 |
| How to measure phenotypic variation in human development and evolution? P. Mitteroecker. | 3 |
| The mechanistic basis for phenotypic variation: an emerging frontier in evolutionary developmental biology. H.A. Janiniczky, W. Mio, N.M. Young, R.S. Marcucio, B. Hallgrimsson. | 4 |
| Morphometrics in forensic science: Steps towards the development of population specific standards. C.E. Oxnard, D. Franklin, A. Cardini, P. O'Higgins. | 5 |
| Craniofacial variation among American, African and Diaspora populations. A.H. Ross, E. Kimmerle. | 6 |
| Crania, coordinates, and clusters: Testing a finite mixture modeling approach for the detection of population structure in modern America using high-dimensional data. B.F. Algee-Hewitt. | 7 |
| Modern human phenotypic variation: Exploring patterns of differentiation within and between continents. M. Hubbe, D.V. Bernardo, T.F. Almeida, T. Hanihara, K. Hanihara. | 8 |
| Applying anthropological shape analysis techniques to archaeological research: Overcoming problems and exploring possibilities. U.S. Vidarsdottir, K. Plomp, C. King, J. Owen. | 9 |
| Quantitative genetic variation and selection on skull shape in humans. N. Martínez-Abadías, M. Esparza, T. Sjøvold, M. Hernández, C.P. Klingenberg. | 10 |
| Quantitative genetic analysis of morphometric data: Challenges and considerations. R.J. Sherwood, K.P. McNulty, D.L. Duren. | 11 |
| Use of geometric data in human factors and ergonomic applications. B. Corner, M. Reed, J. Hudson, G. Zehner. | 12 |
| A man’s face reveals his body height: A GMM approach to ontogenetic and static allometry. K. Schaefer, S. Windhager, D.E. Slice, P. Mitteroecker. | 13 |
| Integrating geometric morphometrics and biomechanics. A.L. Smith, D.S. Strait. | 14 |

*American Journal of Physical Anthropology*
Session 27: Variation in Human Dental Form: A Symposium in Honor of Edward F. Harris.

Invited Poster Symposium. Organizers: Heather Edgar, Loren Lease and Helen Liversidge. 301E.

This symposium is held in recognition of the contributions Edward F. Harris (Professor, University of Tennessee Health Sciences Center) has made throughout his career. Edward received his Ph.D. from Arizona State University in 1977. Following postdoctoral work, his career has been spent in a department of orthodontics. However, his research in dental morphology, metrics, development, and variation has always been anthropological. This research, along with Edward’s support, insights, editorship, and camaraderie, has influenced at least two generations of anthropologists. The breadth and depth of his work is inspiring, and the papers in this symposium, reflect that broad impact.

7:30-8:00 am Poster set-up. 11:00-11:30 am Poster take-down.

10:00-11:00 am Discussion. SIMON HILLSON.

0 Introduction. R. SCOTT

1 Tansies in the field: An odontometric assessment of orthodox perspectives on ontogenetic canalization, dental field theory, and sex dimorphism. B.E. HEMPHILL, L.J. HLUSKO.

2 Sinodonty and beyond: Reasserting the relevance of dental anthropology for understanding the peopling of the New World. W.N. DUNCAN, C.M. STOJANOWSKI, K.M. JOHNSON.

3 Secular change in dental development in New Mexican females. A. RAUTMAN, H. EDGAR.

4 A radiographic study of human mandibular permanent tooth eruption and root stage. H.M. LIVERSIDGE, S. WILMOTT.

5 Size does matter: Variation in tooth size apportionment among major regional North and sub-Saharan African populations. M.W. KENYHERCZ, J.D. IRISH.

6 A descriptive study of African American deciduous dentition. L.R. LEASE.

7 First molar dental fluctuating asymmetry and the pace of life history in non-human primates. S.A. MARTIN, D. GUATELLI-STEINBERG, P.W. SCIULLI.

8 The development of the dentition as a complex adaptive system. A.H. BROOK, T. HUGHES, G.C. TOWNSEND, M.D. BROOK O’DONNELL.
Friday. All Day Poster Sessions.

Session 28: PALEOPATHOLOGY.  
*Contributed Poster Presentations.* Chair: Murray Marks.  
*Clinch Concourse.*

7:30-8:00 am Poster set-up.  
4:00-4:30 pm Poster take-down.

- Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
- Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1. Integrating clinical perspectives and bioarchaeological interpretations: Case analyses from Neolithic Catalhöyük, Turkey.  
J.W. SADVAR, R. HUNTER, B.J. BETZ, C. LARSEN.

2. Sex-based health differences during the transition to agriculture in Ukraine.  
J.K. KARSTEN, G.D. MADDEN.

3. A comparison of visual and radiographic methods for detecting oral pathology in a skeletal sample from Ban Non Wat, Thailand.  
S.A. SHKRUM, N. TAYLES, S.E. HALCROW.

4. Deciduous enamel defects: Perinatal health at Non Nok Tha, Thailand.  
K.M. HAMMOND, J.L. THOMPSON.

5. High incidence of supernumerary and ectopic teeth from Nuvakwetqta (Chavez Pass), AZ.  
C.R. GRIVAS, K.M. JOHNSON.

6. Caries prevalence in ancient Egyptians and Nubians, ca. 14,000 BCE-1,400 CE.  
K. TRIAMBELAS, J.D. IRISH.

7. Periodontal health and post-reproductive tooth loss among Mogollon women.  
A.C. TUGGLE, J.T. WATSON.

8. Age-related trauma incidence in the Gombe chimpanzees.  
C.A. KIRCHHOFF, M.L. WILSON, D.C. MJUNGU, D. COLLINS, S.M. KAMENYA.

9. The effects of resource stress on rates of traumatic injury in medieval and post-medieval southern German and Alpine Austrian populations.  
L.L. WILLIAMS, G. MCGLYNN, C.S. LARSEN.

10. Evidence of possible interpersonal violence in a female bronze age skeleton from Romania.  
E. WILLIAMS, M. CONSTANTINESCU, T.A. CRIST, A.D. SOFICARU.

11. Interpersonal violence in the Paleoamericans of Lagoa Santa, Brazil.  
P. DA-GLORIA, C.S. LARSEN.

12. Conflicting evidence of warfare in Mycenaean Athens, Greece: Bodies versus bronzes.  
S. SMITH, M. LISTON.

13. Archaic trophy taking in the Eastern Woodlands.  
A.E. OSTERHOLT, C.W. SCHMIDT.

14. Three cases of treponematoses in prehistoric Central California.  
L.L. WILLIAMS, G. MCGLYNN, C.S. LARSEN.

15. Vertebral joint disease and trauma with horse riding among ancient Mongolian pastoralists.  
J.T. ENG.

16. Paper Withdrawn.

17. A case of diffuse idiopathic skeletal hyperostosis from Csíksomlyó- Szent Péter és Pál-plébániatemlom site (Harghita county, Romania).  
I. KOVARI, Z. BERNERT, I. BOTAR, E. FOTH, K.K. KISS, A. MARCSIK, B. TOTH, T. HAJDU.

18. The interaction of DISH and Obesity on a pathological anterior pubis.  
K. SAUERWEIN, K.E. STULL, M.D. HAMILTON.

19. Co-occurrence of tuberculosis and an unusual rheumatoid-like arthritis in prehistoric Central California.  
E.M. BURKE, R.E. VARGHESE, E.A. BULGER, C.L. IBARRA, H.M. OJEDA, R.S. JABBOUR, G.D. RICHARDS.

20. A paleopathology case study from the midwestern Archaic.  
A.C. CASSERLY, C.W. SCHMIDT, R.A. SHARKEY.

21. Evidence for the intensive exposure and cross-sex transmission hypotheses in epidemic poliomyelitis mortality patterns in southern Ontario, 1910-1937.  
H.T. BATTLE.

22. A unique constellation of pathological features in a 13th century adolescent male from Illinois: Treponematosis with destructive lesion of the palate, orthopedic complications, and other anomalies.  
L. COSS, D.C. COOK.

23. Treponematoses in pre-Columbian Denmark: A paleopathological, archeometric and historical approach.  
S. SCHWARZ.

24. Diagnosis and evaluation of causative factors for the presence of endemic treponemal disease in a Japanese tropical island population from the Edo period.  
M. HERNANDEZ, M.J. HUDSON, J.T. STOCK.

25. Is this yaws? Possible treponemal induced cranial vault lesions in a young chimpanzee.  
S.S. LEGGE, C.A. KIRCHHOFF.

26. The effect of sex and biological stress on the skeletal expression of infectious disease during the reproductive years.  
J.D. MINSKY-ROWLAND.

27. Paleohistopathology of a Harris line.  
J.J. MISZKIEWICZ, P. MAHONEY.

28. Skeletal stress markers in Korea’s Joseon Dynasty population, and their relationship to burial types.  
E. WOO, S. PARK.

29. Specifying the nonspecific in paleopathology: A stable isotope investigation of metabolic disorders in North-Central Poland.  
L.J. REITSEMA, T. KOZŁOWSKI, M. KRAJEWSKA.

30. Anomalous malocclusions in Windover Pond (8BR246): The origins of anterior dental crowding in the Florida Archaic.  
K.O. MIYAR.

31. 8,000 year old case of thalassemia from the Windover, Florida skeletal population.  
G.P. THOMAS.

32. Multiple myeloma: How a contemporary forensic anthropology case can inform the past.  
S. PAULE, B. HURTADO.
KOODRIN, H. WALSH-HANEY, M. BORGES.

Cancer-related lesions in a contemporary skeletal collection with known cancer cases. H. MAIJANEN, D.W. STEADMAN.

A case of a malign tumour from La Tène Burial Site of Münsingen Rain in Switzerland. N. MOGHADDAM, R. LANGER, S. ROSS, F. MÜLLER, S. LÖSCH.

An unusual case of a solitary osteochondroma on the mandibular symphysis. S.H. BLATT.

Histopathology and differential diagnosis of a pelvic calcification. M.K. MARKS, M.D. HAMILTON.

Ossification of the posterior longitudinal ligament: Reassessing the disease in non-Asian populations. C.N. DARDENNE.

KOODRIN, H. WALSH.

Contributed Poster Presentations. Chairs: Meghan-Tómasita Cosgriff-Hernández & Amanda Agnew. Clinch.

7:30-8:00 am  Poster set-up. 4:00-4:30 pm  Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1 3D analysis of the jaw-basocranium-cervical skeleton in fetal and infant humans and chimpanzees. Implications for shaping the mandibular symphysis. M. COQUERELLE, J. PRADOS-FRUTOS, P. MITTEROECKER, M. BASTIR.

An assessment of the growth and development of the pediatric tongue and mandible within a South African population. E.F. HUTCHINSON, J.A. KIESER, B. KRAMER.

A new look at frontal bone ontogeny. C.L. IBARRA, G.D. RICHARDS.

Ontogenetic scaling of the human nasal capsule using a longitudinal sample. N.E. HOLTON, T.R. YOKLEY, T.E. SOUTHWARD.

A preliminary three-dimensional geometric morphometric analysis of fetal and neo-natal maxillary ontogeny in extant H. sapiens using cross-sectional data. C.L. NICHOLAS.

Influence of angiogenesis on craniofacial bone morphology. C. PERCIVAL, A. WINKLER, K. KAWASAKI, T. PANKRATZ, E. JABS, L. WANG, J. RICHTSMEIER.

Incremental growth lines in melatonin-deficient mice. A.M. PAPAKYRIKOS, Y. WEN, C. AUSTIN, A. KATO, N. TANG, M. ARORA, X. WANG, T.M. SMITH.

Vertebral morphometric evaluation of stress in modern pediatric patients. R.L. HUNTER, A. AGNEW.

Morphological and ontogenetic variation in three osteological correlates of the longitudinal arch. A.N. HEARD-BOOTH.

An examination of pubertal development in human skeletal remains from medieval England. F.C. SHAPLAND.

3D analysis of human ribcage ontogeny. M. BASTIR, D. GARCÍA MARTÍNEZ, W. RECHEIS, A. BARASH, M. COQUERELLE, L. RIOS, A. PEÑA-MELIÁN, P. O'HIGGINS.

An evaluation of three sternal rib end age estimation techniques. N.L. GESKE.

Sternal rib end age estimation: Asymmetry and proxy ribs. K.B. HUFNAGL, D.M. MCCARTHY.

Do two age-related characteristics identified in Korean archaeological skeletal samples influence Transition Analysis final age-at-death estimates? J. KIM, D.W. STEADMAN, S. PAK, D. SHIN.

The influence of body size on adult skeletal age estimation. C.E. MERRITT.

Comparison of the rate of bone degeneration between superior and inferior demifaces of the iliac auricular surface in known-age Portuguese individuals. V. CAMPANACHO, A.T. CHAMBERLAIN, E. CUNHA, J. ALBANESE.

New estimates for ages in historic Italian populations derived from Bayesian analysis: Pubic symphyses. K. GODDE, S.M. HENS.

Root dentine translucency aging in burned human teeth: A preliminary study. I.A. OLDERSHAW, S.E. BAILEY, R.W. WHITE.

Quantifying age related bone loss using measures of anterior cortical width. A.C. BERESHEIM, V.M. DOMINGUEZ, C.M. CROWDER.

Estimating age at death from the femur using histological methods: Problems and prospects. M.J. COSGRIFF-HERNANDEZ, S.D. STOUT.

The use of geographic information system (GIS) software to identify and evaluate the spatial occurrence of drifting osteons in the cortical bone envelope. J.T. HEINRICH.

Does she or doesn’t she: Change in osteon size with age and sex. M.A. STREETER, J. PURCELL, L. LARSON, B. JUMONVILLE, L. MCCORMICK, J. GOLIATH, M.T. COSGRIFF-HERNÁNDEZ, E. DUBIE, T. SCHROEDER, K. BROWN, M. DRAPEAU, R. LAZENBY.
Covariation of haemorrhage structure density and bone resorption in human bone. R.A. WALKER, H.E. CUTLER.

Histomorphometric differentiation of human and nonhuman bone. R.M. STRAND, S.R. MAVROUDAS, V.M. DOMINGUEZ.

Synchrotron light identifies the biogenic uptake of metacinnabar in a bone sample from an Antigua, West Indies, Royal Naval Hospital Cemetery (1793-1822). T.M. SWANSTON, T. VARNEY, I. COULTHARD, G.N. GEORGE, I.J. PICKERING, R. MURPHY, D.M. COOPER.

The ultrastructure of bone: Two new levels of hierarchy revealed by transmission electron microscopy (TEM). H.P. SCHWARCZ, E.A. MCNALLY, G.A. BOTTON, M. LEBON.

Intra-individual changes in major bone constituents studied by Solid State Nuclear Magnetic Resonance Spectroscopy. V. URZEL, Y. SCHULIAR, F. ADAM, A. GRÉLARD, C. COURRÆGES, E.J. DUFOURC, H. DUDAY.

Microfractures in elderly ribs: Contributions to bone quality. A.M. AGNEW, S.D. STOUT, P.W. SCIULLI.

X-ray study on the laterality of the humeral bone mineral density for determination of handedness. F. KANZ, K. GROSSSSCHMIDT, R. RISY, D.U. RISSER.

Investigating the relationship between diabetes mellitus and bone mineral density. S.E. MAY.

Evidence of non-bone cellular and microstructure preservation in skeletonized remains from Middle Bronze Age Italy. S.K. DIBBLEY, T.J. SETZER, B.I. SUNDELL.

The body will eat itself: An investigation into the relationship between bone diagenesis and funerary treatment. T.J. BOOTH.

Determining the effects of defleshing methods on the structural integrity of bone through mechanical testing. B.J. LEEPER, S.E. HENDERSON, A.J. ALMARZA, M.A. JUDD, M.I. SIEGEL.

Raccoon modification of human skeletal remains. J.A. SYNSTELIEN.

The depositional patterning of avian scavenged remains. L.R. PHARR.

Eagle Syndrome in two forensic anthropological cases. T. DEVIA, J. CARTIER, H. WALSH-HANEY.

Identifying the source of bone marks via optical profilometry 3D images. S.K. WÄRMLÄNDER, J. NIAU.

Defining postmortem changes in western Montana. J.R. SPENCER, T.N. HUEY.

Determination of the postmortem interval in western Montana: A preliminary study on perimortem and postmortem characteristics in blunt force fractures. E.R. STEVENS.

Using citrate concentration to determine postmortem interval of forensically-significant skeletal material. A.C. ZIMMER, V.F. DETURI, J.L. MULLER.

Effects of wrappings on the decomposition process. S.M. BELL, A.C. DURBAND, M.K. SPRADLEY, J.M. CHILDERS.

The differential burn patterns in a hanging specimen compared to a specimen positioned on the surface. A.N. WILLIAMS.

The Lubischew’s test, an useful statistical tool for Forensic Anthropology. J. JIMÉNEZ-ARENAS, J. ESQUIVEL, A. SERRANO-ROMAS.

Geometric morphometric analysis of human footprints. J. DOMJANIC, M. FIEDER, H. SEIDLER, S. PETRAK, D. UJEVIC, P. MITTEREOCKER.

Automated approaches to geometric morphometrics. J. PUENTE, D.M. BOYER, J.T. GLADMAN, I.C. DAUBECHIES.

The effects of X-ray irradiation on obtaining CODIS STR profile from X-rayed teeth. E.L. KNAPP.

An investigation into the effects of X-ray on the recovery of DNA from skeletal remains. K.L. ZIEGLER, G. CONLOGUE, R. BECKET, T. BLYTH, G. ARONSEN, L. FEHREN-SCHMITZ.

Obstacles and results of screening ancient skeletal samples with real-time PCR. M.A. NIEVES-COLON, K.M. HARKINS, A.C. STONE.

Assessing damages: Testing the assumptions of a non-destructive protocol for DNA extraction from modern human teeth. C. BOWERS, B.F. ALGEE-HEWITT, G.S. CABANA.

Anthropological studies on mummified human brains from archaeological fields in Korea. C. OH, S. LEE, M. KIM, Y. KIM, D. LIM, D. SHIN.

Set apart: Why were these men dumped in that grave? K.J. WELCH, T. CRIST, L.L. TAYLOR, M. FARALDO, M. CONSTANTINESCU.
### Session 30: FUNCTIONAL MORPHOLOGY: Above the Neck.

**Contributed Poster Presentations.** Chair: Magdalena Muchlinski. **Park Concourse.**

| Time                | Even numbered poster authors present for discussion | Odd numbered poster authors present for discussion |
|---------------------|-----------------------------------------------------|--------------------------------------------------|
| 7:30-8:00 am        | 10:00-10:30 am and 2:00-2:30 pm                     | 10:30-11:00 am and 2:30-3:00 pm                   |
| 4:00-4:30 pm        |                                                     |                                                   |
| 4:30 pm             |                                                     |                                                   |

1. **What do primate auditory ossicles tell us about hearing patterns in living and extinct taxa?** M. COLEMAN, K.E. MANFREDI.

2. **Functional correlates of cochlear shape.** A.D. GOSELIN-ILDARI, E. KIRK, E.M. LUDEMAN.

3. **Dendritic morphology of pyramidal neurons across the visual stream: A direct comparison of chimpanzees and humans.** B.M. SCHILDER, O. ADEYO, O. GRINKER, A. KNOP, W.D. HOPKINS, B. JACOBS, C.D. STIMPSON, C.C. SHERWOOD.

4. **To whisk or not to whisk: Implication of proportions of myosin fiber type on the functional anatomy of vibrissa musculature in primates.** M.N. MUCHLINSKI, E.L. DURHAM, T.D. SMITH, L.A. PARR, A.M. BURROWS.

5. **Electromyography of chimpanzee mastication:** Muscle recruitment order. T. WALSH, E. PLATTS, J. IRIARTE-DIAZ, C.F. ROSS.

6. **Aye-aye jaw adductors: Anatomy, architecture, and allometry.** J.M. PERRY, A. HARTSTONE-ROSE, K.E. MACNEILL, A.L. HECKLER.

7. **Mandibular kinetics of gnawing in the Aye-aye (Daubentonia madagascariensis) and biomechanical modeling of anterior tooth use.** M.C. TOLER, C.E. WALL.

8. **Relationship of internal and external condylar morphology to feeding behavior and diet in Tai Forest monkeys.** K.E. SKORPINSKI, D.J. DAEGLING, W.S. MCGRAW.

9. **Spatial variation in mandibular bone stiffness and its effect on structural bending stiffness: A test case using the Tai Forest monkeys.** K.N. LE, D.J. DAEGLING, A. DUQUE, J.D. PAMPUSH, W.S. MCGRAW.

10. **Mandibular remodeling in sympatric West African cercopithecids.** S.E. LAD, D.J. DAEGLING, W.S. MCGRAW.

11. **Deciduous enamel thickness and chewing mechanics in human children.** P. MAHONEY.

12. **Enamel thickness in durophagous and folivorous primate species.** J.D. PAMPUSH, S.W. MCGRAW, D.J. DAEGLING.

13. **The effects of dietary hardness on occlusal variation and the masticatory apparatus of savanna baboons.** E. MUZZALL, R. CAMPBELL, M. CAMPBELL, R.S. CORRUCCINI.

14. **Does the primate zygomatic arch respond to food material properties?** H.M. EDMONDS.

15. **The placement of the maxillo-zygomatic suture in primate midfacial skeleton: An investigation on Old World Monkeys and New World Monkeys.** Q. WANG, J. MAKEDONSKA, C. BYRON, D. STRAIT.

16. **Cranial suture complexity alters sutural mechanical behavior: An FEA investigation.** C.J. ZAMBRANO, R.J. SADLEIR, D.J. DAEGLING.

### Session 31: HUMAN BIOLOGY.

**Contributed Poster Presentations.** Chair: Michael Masters. **Park Concourse.**

| Time                | Even numbered poster authors present for discussion | Odd numbered poster authors present for discussion |
|---------------------|-----------------------------------------------------|--------------------------------------------------|
| 7:30-8:00 am        | 10:00-10:30 am and 2:00-2:30 pm                     | 10:30-11:00 am and 2:30-3:00 pm                   |
| 4:00-4:30 pm        |                                                     |                                                   |
| 4:30 pm             |                                                     |                                                   |

1. **C-reactive protein, early life, and growth in the Gambia.** H. SHATTUCK-HEIDORN, M. REICHES, S.E. MOORE, A.M. PRENTICE, P.T. ELLISON.

2. **Characterization of human cortical gene expression across development in relation to glucose utilization.** M.R. MCGOWEN, K.N. STERNER, J.L. BAKER, C.C. SHERWOOD, C.W. KUZAWA, H.T. CHUGANI, L. LIPOVICH, L.I. GROSSMAN, D.E. WILDMAN.

3. **Evolutionary ecology of nausea and vomiting of pregnancy in Yasawa Island, Fiji.** L.J. MCKERRACHER, M. COLLARD, J. HENRICH.

4. **Exploring potential risk factors of fetal origins of diabetes: Maternal stressors during pregnancy and birth outcomes among women in a hospital in the municipality of Caguas, Puerto Rico.** J. ARROYO, E. CHO, C. NOBLE, K. PEREZ.

5. **Associations between metabolic hormones and macronutrients in human milk.** E.A. QUINN.

6. **Preferences for male voices and faces among breastfeeding and non-breastfeeding women in Manila.** M.J. ESCASA-DORNE.

7. **Heightened diurnal endocrine levels in healthy women with a family history of hypertension: Reproducibility over the menstrual cycle.** G.D. JAMES.

8. **The relationship between clinical markers of frailty and measured physical activity using accelerometers: Results of a SAGE sub-study among older adults in India.** M.A. LIEBERT, J. SNODGRASS, T.J. CEPON-ROBINS, T.E. GILDNER, A. MATHUR, S.R. WILLIAMS, P. KOWAL, S. CHATTERJI.
Cerebral hemisphere dominance and craniofacial constraint of the visual system: Evidence for the development of astigmatism and reduced visual acuity in humans. M.P. MASTERS, S. RISSER.

Hierarchical analysis of population structure by isonymy in the city of Binghamton, NY. K.E. SHERIDAN, S.P. INGRASSIA.

Is sickle-cell trait as benign as is usually assumed? C.N. FLANSBURG, A. STONE, D. GODFREY, L. MADRIGAL, E. GONZALEZ.

The decline of tuberculosis: A study of mortality rates. K.L. HOLLOWAY, M. HENNEBERG.

Session 32: PALEOANTHROPOLOGY: Homo and Reconstructing Environment.

Contributed Poster Presentations. Chair: Katarina Harvati. Park Concourse.
7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.
Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

Ecomorphology of the bovid astragalus: Body size, function, phylogeny, & paleoenvironmental reconstruction. W. BARR
Serengeti micromammals: Testing the predictive ability of owl pellet assemblages for reconstructing paleohabitats. S.J. CASTEDO, D.N. REED, W. DIRKS, T. HARRISON.
Microtomographic assessment of mineralization patterns to inform isotope paleoenvironment reconstruction. D.R. GREEN, T.M. SMITH, P. TAFFOREAU.
Investigating paleoclimate in the Levant: Carbon and nitrogen isotope analysis of gazelles and rodents. A.M. COWPER, J. LEICHLITER, K. HACK, M. BELMAKER, M.J. SPONHEIMER.
New calculation of habitable land area during glacial periods and its implications for Pleistocene hominin population size. J.R. GAUTNEY, T.W. HOLLIDAY.
Distinguishing cut marks from carnivore tooth marks using scale-sensitive curvature of mark profiles. B. KEEPPERS, M.A. GLEASON, J.A. PARKINSON, J.S. RETI, P. WEIS, T. PLUMMER, R.S. SCOTT.
What 1st metatarsal cortical thickness distribution reveals about locomotion of Sterkfontein and Swartkrans hominins. T. JASHASHVILI, M.R. DOWDESWELL, K.J. CARLSON, D. STRATFORD, M. DAMIANO, R. NSHIMIRIMANA.
Comparative analysis of intercusp dimensions and crown morphology between the deciduous second molar and permanent first molar within the same maxillary arcade. K.S. PAUL, S.E. BAILEY.
Endostructural morphology of the late Early Pleistocene human dental remains from Ladi Aalad and Mulhuli-Amo, Danakil (Afar) depression of Eritrea. C. ZANOLLI, L. BONIOLI, F. CANDILIO, A. COPPA, D. DREOSSI, D.W. FRAYER, Y. LIBSEKAL, L. MANCINI, L. ROOK, T. MEDIN, C. TUNIZ, R. MACCHARELLI.
Caries and other oral pathology in the Broken Hill (Kabwe) cranium. S.A. LACY.
The health of early Homo. L. VAN BLERKOM.
Pathology of LB1 (Flores, Indonesia): Down syndrome considered. R. ECKHARDT, S. CHAVANAVES, M. HENNEBERG.
A quantitative approach for the late Pleistocene hominins brain size. A. SERRANO-RAMOS, J. JIMÉNEZ-ARENAS, J. ESQUIVEL-GUERRERO.
A morphometric analysis of the frontal squama in fossil and recent humans. S. ATHREYA, J. DE LA CUÉTARA, T. MARKS, E. BRUNER.
Zygomaxillary suture morphology in Pleistocene and Holocene Homo. C.E. BURNS, A.N. SPORLEDER, S.D. MADDUX.
Renewed paleontological investigations in the Olteţ River Valley of Romania and the new paleontological locality of Râpa. C.E. TERHUNE, S. CURRAN, A. PETCULESCU, C. ROBINSON, M. ROBU, E. STIUCA.
New Neanderthal remains from Kalamakia cave, Mani peninsula, Southern Greece. K. HARVATI, A. DARLAS, S.E. BAILEY, T.R. REIN, S. EL ZAATARI, L. FIORENZA, O. KULLMER, E. PSATHI.
Variation in the Neandertal pelvis. C. VANSICKLE.
Human childbirth: An obstetrical dilemma or a solo act. N.L. FALK-SMITH.
Culture-genetic models of information exchange among Pleistocene human populations. M. KISSEL.
New ways of understanding hand stencils in French and Spanish cave art. R.M. HARRISON, P. PETTIT.
Tooth wear and culture in the Middle Paleolithic humans from Near East. L. FIORENZA.
Cervicometrics and intra-Iberomaurusian phenotypic variability. C.L. CARVER, C.M. STOJANOWSKI.
Regional variation in the cross-sectional geometric properties of southern African Later Stone Age foragers: An examination of humeri from three distinct ecroregions. M.E. CAMERON.
Sexual differentiation in humeral bilateral asymmetry during the Late Holocene at Roonka Flat, South Australia. E.C. HILL, A.C. DURBAND, K. WALSH.
Is thicker better? Testing adaptation hypotheses for cranial vault thickness. H.E. MARSH.
Ancient footprints in Ciur-Izbiec Cave, Romania: Preservation and re-analysis. D. WEBB, M. ROBU, O. MOLDOVAN.
**Friday. Afternoon Sessions.** Don’t forget the Business Meeting @ 5:45, Ballroom A.

**Session 33:**  **Reconciling ‘Stress’ and ‘Health’: What Can Bioarchaeologists Learn from Other Sub-disciplines?**  
*Invited Podium Symposium.* Organizers: Laurie Reitsema and Britney McIlvaine.  
*Ballroom A.*  

Stress models in bioarchaeology account for synergistic interactions of environmental constraints, biology, cultural buffering systems, and psychological disruption in contributing to a physiological stress response. One potential adverse impact of stress at both the individual and the population level is decreased health. However, there is only an imperfect relationship between stress and health: certain skeletal stressors may not engender a decline in overall health, and vice versa. Furthermore, health is an abstract concept with a continuum of expressions and with no single individual or population representing perfect health. Despite an indirect correlation between stress and health, many bioarchaeological studies commonly claim to measure health in ancient populations. What is actually being measured is skeletal stress, which is then used as a proxy for health. This symposium begins to bridge the concepts of stress and health by using modern perspectives to quantify their interrelatedness. The papers drawn together here provide new insight into our current understanding of health in bioarchaeological populations.

*Chair: Laurie Reitsema*

| Time  | Title                                                                 | Authors                                                                 |
|-------|----------------------------------------------------------------------|----------------------------------------------------------------------|
| 1:30-1:45 | A look at the literature: Recent developments and long-term trends in the interpretation of skeletal stress markers and ancient health. | B.K. McILVAIN, L.J. REITSEMA.                                        |
| 1:45-2:00 | Defining, operationalizing, and assessing the relationship between stress and health in contemporary Tanzanian mothers and children. | W.M. Wilson, J.A. Decaro.                                             |
| 2:00-2:15 | Intra-household variation in anemia status and its relationship with self-perceived health in the Mexican Family Life Survey: Implications for Bioarchaeology. | B.A. Piperata, M. Hubbe, K. Schmeier.                                |
| 2:15-2:30 | Stress, social inequality, and growth retardation: Exploring the multidimensionality of stature variation in past populations. | G. Vercellotti.                                                       |
| 2:30-2:45 | Health and disease: Exploring the consequences of infection on nutritional status. | S. Tanner.                                                            |
| 2:45-3:00 | In sickness and in death: What do age, stress, and illness in life tell us about skeletal remains? | R. Leahy, D.E. Crews.                                                |
| 3:00-3:15 | Dental bioindicators of health: At the intersection of bioarchaeology and contemporary human biomonitoring programs. | A.E. Dolphin.                                                        |
| 3:15-3:30 | Integrating pathophysiology, human biology, and epidemiology in studies of human remains: Towards a clearer vision of stress and health in bioarchaeology. | H.D. Klaus.                                                          |
| 3:30-3:45 | **BREAK**                                                                 |                                                                      |

*Chair: Britney McIlvaine*

| Time  | Title                                                                 | Authors                                                                 |
|-------|----------------------------------------------------------------------|----------------------------------------------------------------------|
| 3:45-4:00 | Addressing the osteological paradox using high resolution stable isotope analysis. | P.A. Sandberg, M. Spohheimer, J. Lee-Thorp, D. Van Gerven.          |
| 4:00-4:15 | Apples, oranges, and incremental lines: A fresh look at enamel formation and long bone growth in prehistoric Illinois. | D.C. Cook.                                                           |
| 4:15-4:30 | Health in post-Black Death London (1350-1538): Age patterns of periosteal new bone formation in a post-epidemic population. | S. Dewitte.                                                          |
| 4:30-4:45 | Childhood physiological stress and longevity. | R.H. Steckel.                                                        |
| 4:45-5:00 | Paradox and promise: The role of recent advances in paleodemography and paleoepidemiology to the study of ancient “health” patterns. | J.J. Wilson.                                                         |
| 5:05-5:15 | Discussant, Alan Goodman.                                             |                                                                      |
| 5:15-5:30 | Discussant, Daniel Temple.                                            |                                                                      |

**Session 34:**  **ANTHROPOLOGICAL GENETICS.**  
*Contributed Podium Presentations.* Chair: Moses Schanfield.  
*200ABC.*  

| Time  | Title                                                                 | Authors                                                                 |
|-------|----------------------------------------------------------------------|----------------------------------------------------------------------|
| 1:30-1:45 | Genomic copy number variation within and between species is a major driver of primate evolution. | O. Gokcumen, R. Iskow, Q. Zhu, P. Babb, W.E. Johnson, A.C. Stone, Y. Gilad, C. Lee. |
| 1:45-2:00 | Evolvability and integration in human and non-human primate limbs. | B.I. Hulsey.                                                          |
| 2:00-2:15 | Potential genetic determinants of dental arch form. | S.F. Miller, K. Vela, C. Takeuchi, P. Hancock, T.E. Southard, D. Gratton, L.M. Moreno Uribe. |
| 2:15-2:30 | The genetic architecture and evolution of brain folding and neural network in a pedigreed Papio population. | E.G. Atkinson, J. Rogers, M.C. Mahaney, L.A. Cox, J.M. Cheverud.          |
| 2:30-2:45 | Natural selection acts to maintain diversity between Out of Africa and sub-Saharan African populations in genes related to neurological processes and brain development. | J.A. Hodgson, A. Al-Meeri, C.J. Mulligan, R.L. Raaum.                |
| 2:45-3:00 | The signature of language and geography on the genetic structure of human populations in Africa. | M.E. Schaeffer, S.R. Joyce, J.C. Long.                              |
3:00-3:15 The origin of two Ethiopian communities according to HLA genes: Admixture with Asian and Sub-Saharan people. F. DE ANGELIS, A. GARZOLI, A. BATTISTINI, A. IORIO, G. DE STEFANO.

3:15-3:30 The partition of genetic distance into drift and admixture components. A.J. KOEHL, J.C. LONG.

3:30-3:45 BREAK

3:45-4:00 The correlation of skeletal and molecular data: Concordance of cranial, dental, mitochondrial DNA, and Y-Chromosome DNA. B.C. HERRERA, T. HANIHARA, K. GODDE.

4:00-4:15 Genetic diversity in indigenous populations from Central Mexico and its implications for the peopling of the Americas. M.G. VILAR, R. GOMEZ, H. ZILLGES, D. BROOKS, A. SANDERS, J.B. GAIESKI, A.C. OWINGS, M.A. MERAZ, T.G. SCHURR, THE GENOGRAPHIC CONSORTIUM.

4:15-4:30 Global patterns of ABO polymorphism suggest strong balancing selection and very low effective population size after the human colonization of America. F.A. VILLANEUA, K.N. SAFI, J.W. BUSCH.

4:30-4:45 Neolithic human mitochondrial haplogroup H genomes and the genetic origins of Europeans. W. HAAK, P. BROTHERTON, J. TEMPLETON, G. BRANDT, J. SOUBRIER, C.J. ADLER, S.M. RICHARDS, C.S. DER SARKISSIAN, R. GANSLMEIER, S. FRIEDERICH, V. DRESELY, M. VAN OVEN, J. KORLACH, S.Y. HO, L. QUINTANA-MURCII, D.M. BEHAR, H. MELLER, K.W. ALT, A. COOPER, THE GENOGRAPHIC CONSORTIUM.

4:45-5:00 Analysis of archaic introgression in Ötzi the Tyrolean Iceman, a 5300 year-old prehistoric modern human. A. SAMS, J. HAWKS.

5:00-5:15 Preliminary report on the anthropology of 15 X STR loci. M.S. SCHANFIELD, D. TIESMA, T. DIEGOLI, M. COBLE, M. CRAWFORD.

5:15-5:30 Genome-wide associations for Parkinson’s disease on the X chromosome. M.F. KELLER, M.A. NALLS, A. SINGLETON.

Session 35: LIFE HISTORY, REPRODUCTION AND ENERGETICS.

Contributed Podium Presentations. Chair: Herman Pontzer. Ballroom B.

1:30-1:45 Comparison of the metabolic costs of feeding in a range of food types in small-bodied primates. C.E. WALL, J. HANNA, M.C. O’NEILL.

1:45-2:00 Does pregnancy really inhibit women’s mobility? Insights from a longitudinal energetic study. C.M. WALL-SCHEFFLER.

2:00-2:15 Measuring and predicting daily energy expenditure of highly active humans in natural environments. C. OCObOCK, H. PONTZER, J. GOOKIN.

2:15-2:30 Daily caloric intake in relation to food abundance and female reproductive state in wild Bornean orangutans (Pongo pygmaeus wurmbii) in a peat-swamp habitat. T.D. BRANSFORD, M.A. VAN NOORDWIJK, E.R. VOGE.

2:30-2:45 Primate energy expenditure and life history. H. PONTZER, D.A. RAIChLEn, A.D. GORDON, K.K. SCHROEPFFER, B. HARE, H.M. DUNSWORTH, B.M. WOOD, M.T. IRWIN, R.W. SHUMAKER, E.V. LONSDORF, S.R. ROSS.

2:45-3:00 Measuring constraints on selection in human and chimpanzee life histories. J.H. JONES.

3:00-3:15 Trade-offs between reproduction, aging and lifespan: Biomarkers, confounders and genetic factors. G. JASIENSKA.

3:15-3:30 Rethinking lifetime reproductive effort in humans: does early weaning provide the fuel to extend the human lifespan? J.M. BRAGG, B. BOGIN, C.W. KUZAWA.

3:30-3:45 BREAK

3:45-4:00 The fertile window in the human ovarian cycle. R.D. MARTIN.

4:00-4:15 The neuroendocrinology, behavioral pharmacology and frontal neuroanatomy of dopamine in mother-reared and nursery-reared rhesus monkeys (Macaca mulatta). S.B. SERAPHIN, P.L. WHITTEN, M.M. SANCHEZ, J.T. WINSLOW.

4:15-4:30 Bioactive factors in macaque milk: Relationships with maternal physiology and infant growth. R. BERNSTEIN, H. DROUGHT, M. WECHSLER, K. HINDE.

4:30-4:45 Does personality matter? Early life behavioral phenotype and subsequent survival, growth, and reproduction in female rhesus macaques. K. HINDE, J.P. CAPITANIO.

4:45-5:00 Country roots: Non-urban environments and the impact of socio-economic status on growth in a British cemetery assemblage. E.M. GAROFALO, C.B. RUFF.

5:00-5:15 Growth and development in the genus Pan: A life history approach. C.S. BRIMACOMBE.

5:15-5:30 First molar eruption and life history in living wild chimpanzees. T.M. SMITH, Z. MACHANDA, A. BERNARD, R. DONOVAN, A.M. PAPAKYRIKOS, M.N. MULLER, R. WRANGHAM.

Session 36: PRIMATOLOGY: Feeding Ecology, Energy and Nutrition.

Contributed Podium Presentations. Chair: Mitchell Irwin. Ballroom C.

1:30-1:45 Digestive strategies: Scaling of feeding time and gut retention. L. YAO, K. ISLER, R.D. MARTIN, C.F. ROSS.

1:45-2:00 Age and sex differences in the behavior, diet, and gut microbial communities of wild black howler monkeys (Alouatta pigra). K.R. AMATO, S.R. LEIGH, A.D. KENT, C.J. YEOMAN, R.M. STUMPF, M. TORRALBA, M. GILLIS, B.A.
CHARACTERIZATION OF THE GASTROINTESTINAL BACTERIAL COMMUNITIES OF WESTERN LOWLAND GORILLAS (Gorilla gorilla gorilla). A. GOMEZ, C.J. YEOMAN, B.A. WHITE, K. PETRZELKOVÁ, A. TODD, R.M. STUMPF, K.E. NELSON, M. TORRALBA, M. GILLIS, B.A. WILSON, S.R. LEIGH.

CROSS-COMPARISON OF THE USE OF KETONES AND URINARY C-PEPTIDE OF INSULIN AS A MEANS OF ASSESSING ENERGETIC STATUS IN WILD BONOBOS (Pan paniscus); Iyemba Forest, DR Congo. A.K. COBDEN.

NUTRITIONAL CONTENT OF FALLOUT AND PREFERRED FOODS IN THE DIET OF THE SANJÉ MANGABEY (Cercocebus sanjei), Udzungwa Mountains National Park, Tanzania. G. PAGES, C.L. EHARDT.

COMPARISON OF THE NUTRITIONAL COMPOSITION OF FOODS CONSUMED BY HOWLER MONKEYS (Alouatta pigra and A. caraya) IN MEXICO AND ARGENTINA. N. RIGHINI, V.A. FERNANDEZ, J.M. ROTHMAN.

NUTRITIONAL ECOLOGY AND NUTRIENT BALANCING IN A RAINFOREST SIFAKA. M.T. IRWIN, J.M. ROTHMAN, D. RAUBENHEIMER, J. RAHARISON, C.A. CHAPMAN.

EFFECTS OF FRUIT ODOR ON FRUIT CONSUMPTION AND SEED DISPERAL BY Microcebus murinus and M. ravelobensis IN A TROPICAL DRY FOREST IN NORTHWESTERN MADAGASCAR. K. VALENTA, R.J. BURKE, S.A. STYLER, D.A. JACKSON, S.M. LEHMAN.

BREAK

IS THERE A ROLE FOR COLOR-SENSITIVE FORAGING IN FOLLIVOROUS SIFAKA (Propithecus verreauxi)? C.C. VEILLEUX, D.A. BOLNICK, A. DI FIORE, R.J. LEWIS.

ARE PRIMATE FOLLIVORES ECOLOGICALLY CONSTRAINED? A COMPARATIVE ANALYSIS OF BEHAVIORAL INDICATORS OF WITHIN-GROUP FEEDING COMPETITION. K.M. ELLIS.

THE MEANING OF WEANING IN WILD PHAYRE’S LEAF MONKEYS (Trachypithecus phayrei crepusculus). C. BORRIES, E. LARNEY, A. LU, K. OSSI-LUPO, A. KOENIG.

SOCIAL LEARNING OF FOOD PREFERENCES IN JUVENILE CHIMPANZEEES. V. WOBBER, F. WARNEKEN.

THE ONTOGENY OF SEX DIFFERENCES IN RING-TAILED LEMUR FEEDING ECOLOGY: COSTS OF REPRODUCTION AND NICHES PARTITIONING. T. O’MARA.

RESPONSES TO RESOURCE BOTTLENECKS IN A SYMPATRIC HYLOBATID COMMUNITY. A.A. ELDER.

DIFFERENCES IN FOOD AVAILABILITY MAY GUIDE THE FORAGING DECISIONS OF CAPTIVE MARMOSETS (Callithrix spp.). D.F. GOMES, J. BICCA-MARQUES.

Session 37: Concepts and Realities – Humans in Time and Space: Papers in Honor of Fred Hines Smith. Invited Poster Symposium. Organizers: James Ahern and Ivor Jankovic. 200DE.

Fred Hines Smith, former AAPA president, has had a lasting influence on various fields of research on human origins and evolution. His conceptual ideas and models, his meticulous studies of fossils, his involvement in the development of the field of paleoanthropology in Croatia, his influence on generations of students, many of which are now scholars of human origins themselves, are just some among many contributions that he had over the years. This year’s AAPA meetings are held in Fred’s home state and in the place where he first held an academic position. Furthermore, the sequel to one of Fred’s most influential works (edited with Frank Spencer), Origins of Modern Humans: A World Survey of the Fossil Evidence is in publication. Thus, it is now appropriate to honor Fred’s many contributions. This symposium brings together an array of papers that all share a common theme that has been central to Fred’s work: conceptual understanding built upon detailed analyses of human biology in time and space. Reflecting Fred’s own body of work, many of the contributions are on later human evolution, while some focus on variation and evolution of more recent populations.

12:30-1:30 pm Poster set-up. 5:00-5:30 pm Poster take-down.

4:30-5:00 pm Discussion. ERIK TRINKAUS, MILFORD WOLPOFF, FRED H. SMITH.

1 Exploratory multivariate analysis of shape in commingled fossil assemblages. T. COLE, M. COLE, D. CUNNINGHAM.

2 Peeling back the layers: additional evidence for the date of the Petralona skull (Homo heidelbergensis). M.A. LISTON, A. BARTSIKAS.

3 Reconsideration of the mandibular mental foramen position in the genus Homo. R.M. QUAM, J. ARSUAGA.

4 The developmental and evolutionary significance of occipital bunning: A comparative morphometric study. M.E. UTZINGER, R.G. FRANCISCUS, T.E. SOUTHARD.

5 Long bone growth trajectories in late Pleistocene Homo. A.M. BUSBY, M. SESELJ.

6 Re-evaluating the functional and adaptive significance of Neandertal nasofacial anatomy. T.R. YOKLEY, N.E. HOLTON.

7 Three-dimensional geometric morphometric analysis of late Pleistocene femora: Taxonomy and functional morphology. V.T. HUTCHINSON.

8 Fred Smith and the Croatian Paleoanthropology. I. JANKOVIC.

9 Is there evidence for assimilation in Australasia? A.C. DURBAND.

10 The evidence for modern human origins in Central Europe: 30 years since Smith’s seminal review. J.C. AHERN.
Session 38: Nonhuman Primates in Human-Modified Habitats: Explorations in Ethnoprimatology.

Invited Poster Symposium. Organizer: Kerry Dore. 301D.

It has become increasingly difficult for primatologists to study free-ranging non-human primates that are not significantly impacted by anthropogenic disturbances. The emergent field of ethnoprimatology combines theories and methods from primatology, cultural anthropology, endocrinology, parasitology, epidemiology, geography, history and others to provide nuanced understandings of the interactions between humans and non-human primates. These studies often elucidate varied conservation strategies that are custom-fit to the needs of the country, environment and human cultural context in which these non-human primates are situated.

The posters in this symposium include a survey of current ethnoprimatological studies and highlight new theoretical approaches to ethnoprimatology. Topics include: the use of geographic information systems and GPS in ethnoprimatology; overlapping resource use between humans and non-human primates; the effect of anthropogenic habitat disturbance and/or tourism on non-human primate behavior, stress and parasite load; disease transmission between humans and non-human primates; conflict dynamics between humans and non-human primates; the role of exotic and ornamental primates; conflict dynamics between humans and non-human primates. The goal of this symposium is to facilitate collaboration between researchers utilizing approaches from different disciplines to examine human and non-human primate interactions. As humans and human-modified habitats will play an increasingly larger role in studies of non-human primates in the near future, the results of ethnoprimatological research are especially important and relevant.

12:30-1:30 pm Poster set-up. 5:00-5:30 pm Poster take-down.

4:00-4:30 pm Roundtable Discussion.

1 A preliminary report on the interactions between humans and squirrel monkeys in the southern Costa Rica countryside. L. KAUFFMAN.

2 The rhesus macaques (Macaca mulatta) of India: A liminal animal. L.D. WOLFE.

3 Using a hierarchical generalized linear model to predict crop damage by vervet monkeys (Chlorocebus aethiops) in St. Kitts, West Indies. K.M. DORE.

4 Shared space in a sacred forest: Habitat use by humans and Javan gibbons (Hylobates moloch). M. REISLAND, J. LAMBERT.

5 The role of exotic and ornamental plants in the feeding ecology of mouse lemurs (Microcebus murinus) at Berenty Private Reserve, Madagascar. K. FISH.

6 Varying responses to tourist interactions by white-faced capuchins (Cebus imitator) and mantled howlers (Alouatta palliata) in a Costa Rican wildlife refuge. T. MCKINNEY.

7 Monkey tourism in Japan: How travel health knowledge, attitudes and practices may influence pathogen transmission. H.N. DEHAYS, M.P. MUEHLENBEIN.

8 Habituation to tourists: Protective or harmful? J.L. WESTIN.

9 Extending ethnoprimatology: An exploration of human/orangutan interactions in an urban zoological garden. A. PALMER, N. MALONE, J. PARK.

10 The looming legacy of deforestation for red colobus monkeys in Kibale National Park. K.M. MILICH.

11 How Mentawai Island primate characteristics affect hunters' prey choice. L.M. PACIULLI, K. SABBI.

12 Nonhuman primates and "Others": Multispecies ethnography in the Dzanga Sangha Dense Forest Reserve (RDS), Central African Republic. M.J. REMIS, C.A. JOST ROBINSON.

13 Anthropogenic impacts on primate distribution and matrix-edge dynamics in a Bolivian forest. I.I. DIAZ.

14 Primate habitat selection near humans in northern Madagascar: The edge of a primary forest vs. forest fragments. B.Z. FREED.

15 An ethnoprimatological assessment of human impact on the parasite ecology of silky sifaka (Propithecus candidus). J.E. LOUDON, E.R. PATEL, C. FAULKNER, B. SCHOPLER, R. KAMER, C.V. WILLIAMS.
Saturday. Morning sessions.

Session 39: Ethical Practice in Biological Anthropology: Continuing the Dialogue. *Invited Podium Symposium.* Chair: M. Elle Saine and Heather Shattuck-Heidorn. Ballroom A.

During the 2012 AAPA Open Forum, “The Ethics of Practice and the Practice of Ethics: an open dialogue among bioanthropologists”, it became clear that many researchers felt that the available ethical training and resources do not adequately address the unique needs of researchers in biological anthropology. Participants identified several areas of focus as deserving attention within our community, including the ethics inherent in field work, common challenges in working with skeletal remains, and the need for interdisciplinary conversation concerning professional relationships within our field. This symposium aims to address these identified needs, as well as other ethical challenges in our field. The symposium offers perspectives both on the application of ethics to procedural topics such as repatriation, field site management, and gaining family consent, and to emerging ethical topics that necessitate discussion, such as the Open Access movement. It is our sincere hope that by extending the current discourse on ethics, we can work to address the unique ethical challenges and questions that biological anthropologists engage during their research.

*Chair:* Heather Shattuck-Heidorn

8:00-8:15 Ethical practice in biological anthropology: An introduction to the 2013 symposium. M. Saine, H. SHATTUCK-HEIDORN.

8:15-8:30 Applying the Belmont principles to physical anthropology. S. STINSON.

8:30-8:45 Ethics of field site management and oversight. K.B. CLANCY.

8:45-9:00 Building a code of best practices for field primatology. K.C. MACKINNON, E.P. RILEY.

9:00-9:15 Ethical questions in human reproductive ecology. M.W. REICHES.

9:15-9:30 Laying the Yanomami to rest: The endless saga of the blood samples. K.M. WEISS.

9:30-9:45 Informed consent and building a skeletal sample. K.M. HARTNETT.

9:45-10:00 Ethical practices for outdoor anthropological research facilities with willed body donation programs. S.R. MAVROUDAS.

10:00-10:15 **BREAK**

*Chair:* M. Elle Saine

10:15-10:30 “Stand fast and suffer long”: The ethics of repatriation. J.T. WATSON, J. MCCLELLAND, T. PITEZEL.

10:30-10:45 Ethical challenges for biological anthropologists working in mass fatality contexts. B.J. FIGURA.

10:45-11:00 Do biological anthropologists have an ethical obligation to identify themselves as anthropologists? Reflections at the AAA x AAPA intersection. K.B. STRIER.

11:00-11:15 Professional publishing and professional ethics in biological anthropology. P.T. ELLISON.

11:15-12:00 DISCUSSION, GRACIELA CABANA and TRUDY TURNER.

Session 40: PRIMATOLOGY: Ranging, Distribution and Genetics. *Contributed Podium Presentations.* Chair: Kate Detwiler. 200ABC.

8:00-8:15 Tangible or intangible frontiers: Qualifying interactions between humans and chimpanzees in fragmented landscapes. S. BORTOLAMIOL, M. COHEN, M. CIBOT, S. KRJEF.

8:15-8:30 The role of ecology and human activities in determining abundance and occupancy within fragmented primate communities of northern Madagascar. M.A. BANKS, J. OCLIN.

8:30-8:45 Carnivore-Primate Interactions across fragmented and contiguous forests in N.E. Madagascar. Z.J. FARRIS, B. GERBER, E. PATEL, S. KARPANTY, M.J. KELLY.

8:45-9:00 Stable isotopes indicate forest fragmentation affects cheirogaleid lemurs. B.E. CROWLEY, M.B. BLANCO, S.J. ARRIGO-NELSON, M.T. IRWIN.

9:00-9:15 Is the fit right? Lemur species-area curves in a fragmented landscape. T.S. STEFFENS, S.M. LEHMAN.

9:15-9:30 Are lorises really slow? Ecological context of rapid locomotion in slow lorises (Nycticebus). K.A. NEKARIS, C.R. STARR.

9:30-9:45 Evaluating the utility of GPS collars for studies of ranging by large-bodied, arboreal, forest-dwelling primates. A. DI FIORE, A. LINK.

9:45-10:00 Distribution of the Indochinese Silvered langurs in the Mekong Delta Region of Vietnam. H.H. COVERT, D.M. HOANG.

10:00-10:15 **BREAK**

10:15-10:30 Ancient DNA genomics of Madagascar’s extinct subfossil lemurs: Palaeopropithecus ingens genetic diversity. G. PERRY.
| Time     | Session 41: Skeletal Biology and Bioarchaeology: Diet and Identity. | Chair                        | Location        |
|----------|---------------------------------------------------------------|------------------------------|-----------------|
| 8:00-8:15| Investigating inter-laboratory variability in stable isotope data. | W.J. PESTLE, M.T. WEIRAUCH, B.E. CROWLEY | Ballroom B      |
| 8:15-8:30| Dietary reconstruction of the Fishergate House juvenes using a new method of dentine microsampling for stable isotope analysis. | N.M. BURT                    |                 |
| 8:30-8:45| Cultural replacement and diet in Peru’s prehispanic central coast. | K. GERDAU RADONIC, G. GOUDE, K. MAKOWSKI, P. CASTRO DE LA MATA, G. ANDRE, H. SCHUTKOWSKI |                 |
| 8:45-9:00| Living on the seashore: A consideration of lifestyle among Formative Period fisherpeoples of northern Chile. | C. TORRES-ROUFF, W.J. PESTLE, K.J. KNUDSON, F. GALLARDO |                 |
| 9:00-9:15| Stable isotopic analysis of human diet in the Cape region of Baja California Sur. | T.M. SCHOBER                  |                 |
| 9:15-9:30| Immigration and diet in Montreal during the 17th and 18th centuries: An isotopic analyses of archaeological populations. | J. VIGEANT                    |                 |
| 9:30-9:45| Dietary patterns in Medieval northern Spain. | A.T. MACKINNON, E.J. BARTELINK, N.V. PASSALACQUA |                 |
| 9:45-10:00| From valley to coast: An isotopic study of Albanian diet across three millennia. | S.A. KLINE, E.J. BARTELINK, T.W. FENTON |                 |
| 10:00-10:15| Break                                      |                              |                 |
| 10:10-10:30| Oral health and dietary change during the Epipalaeolithic-Neolithic transition in Northwest Africa. | I. DE GROOTE, L. HUMPHREY. |                 |
| 10:30-10:45| Foodways and polity Formation: A bioarchaeological analysis of the Xiongnu using dental microwear texture analysis and pathological conditions. | J.J. BEACH, C.W. SCHMIDT. |                 |
| 10:45-11:00| Resource and mortuary patterns as an interpretation of spatial use at Cerro Mangote, Panama. | A.E. HUARD                   |                 |
| 11:00-11:15| Middle Cumberland regional relationships and the Mississippian geopolitical landscape. | G.M. VIDOLI, H. WORNE, D.W. STEADMAN, C.R. COBB |                 |
| 11:15-11:30| Grasshopper’s children: Bioarchaeological reconstruction of social age identity. | D. NIKITOVIC                |                 |
| 11:30-11:45| The use of the body in the creation of collective identity: A bioarchaeological examination of Wisconsin Effigy Mound mortuary ritual. | W.L. LACKEY-CORNELISON, L.G. GOLDSTEIN |                 |
| 11:45-12:00| Markers of corporate identity: Variation in postmortem treatment and burial deposition in the Wisconsin Late Woodland effigy mound tradition. | J.B. CORNELISON, L.G. GOLDSTEIN, W.L. LACKEY-CORNELISON |                 |

**Session 42:** Paleoenthropology: Later Homo.  
Chair: P. Thomas Schoenemann. Ballroom C.

| Time     | Subject                                                                 | Chair                  | Location |
|----------|-------------------------------------------------------------------------|------------------------|----------|
| 8:00-8:15| Orangutan sleep architecture: A comparison between orangutan, chimpanzee and human sleep behavior. | D.R. SAMSON, R.W. SHUMAKER |          |
| 8:15-8:30| Sense and sensitivity in Neandertals and Denisovans. | J. HAWKS               |          |
| 8:30-8:45| Honey exploitation by chimpanzees and hunter-gatherers indicates an ancient use of fire by humans. | R.W. WRANGHAM, Z. MACHANDA |          |
| 8:45-9:00| Structural asymmetries in the human brain assessed via MRI. | L.M. KITCHELL, P. SCHOENEMANN, M. LOYET |          |
| 9:00-9:15| Skhul V segmentation and Broca’s region asymmetries in Neandertal endocasts. | P. SCHOENEMANN, R.L. HOLLOWAY |          |
Impact of Tool Use on brain development of non-human primates. A.R. BRITTINGHAM, D.R. HURST, P. SCHONEMANN, B. AVANTS, J.C. GEE.

Evidence of a common neural substrate for stone toolmaking and language syntax: An activation likelihood estimate metanalysis. K. BABCOCK, R.A. MAHANEY.

Using formal languages to determine the similarity of Paleolithic stone toolmaking and language syntax. R.A. MAHANEY.

BRAK

Trabecular bone architecture in the thumb of recent Homo sapiens, Pan, and Late Pleistocene Homo: Taxonomic differences and evidence for handedness. N.B. STEPHENS, T. KIVELL, N. NGUYEN, D.H. PAHR, T. GROSS, J. HUBLIN, M.M. SKINNER.

Reconstructing the craniofacial maturation of Neandertals. F.L. WILLIAMS.

The use of Arctic samples as a proxy for Neandertals: Cautions and advances from incisor microwear texture analysis. K.L. KRUEGER.

A radiogenic strontium isotope analysis of Neandertal prey movement patterns in the Dordogne Valley of France. J.M. HODGKINS.

Neandertal lumbopelvic anatomy and the biomechanical effects of a reduced lumbar lordosis. M.C. FOX, K.K. WHITCOME.

Variation in running foot strike patterns in two habitually unshod Kenyan populations. K.G. HATALA, D.E. LIEBERMAN, H.L. DINGWALL, E.R. CASTILLO, R.E. WUNDERLICH, P. OKUTOYI, T. SIGEI, A. ANJILA, Y. PITISILADIS, B.G. RICHMOND.

Anatomically modern humans as a ‘self-domesticated’ species: Insights from ancestral wolves and descendant dogs. R.G. FRANCISCUS, S.D. MADDUX, K. WIKSTROM SCHMIDT.

Dental connections between Late Pleistocene and Holocene Khoesan populations in southern Africa. W. BLACK, R.R. ACKERMANN, J. SEALY.

Session 43: The Bioarchaeology of Disease Ideologies.

Invited Poster Symposium, Organizers: Carlina de la Cova and John Crandall. 200DE.

Anthropologists have long documented illnesses, disease, and stress among the remains of past peoples. Bioarchaeologists, those studying ancient human biocultural interactions, have long diagnosed and described illnesses, identified the physically handicapped and sought to understand the evolution and ecology of ancient diseases. Increasingly, anthropology has pointed out the ways that health afflictions, injuries, and disabilities also have social lives. Through contextualized, careful archaeological research, bioarchaeologists have advocated placing health and disease data in cultural, regional, and temporal contexts to comprehend the social experience of disease and disability. Papers in this session build on this work to understand the symbolic, social and political dimensions of illness in the past using the concept of disease ideologies. Disease ideologies refer to communities’ understandings of illness or disability phenotypes. These etiologies include cultural comprehension of disease causation, moralization of the ill or an illness, and the ways social metaphors make sense of sickness. By using the concept of disease ideologies, we explicitly draw on theories commonly used in medical anthropology. In doing so, papers in this session seek to initiate greater dialogue between medical and cultural anthropologists, bioarchaeologists, and paleopathologists in order to bring their expertise to bear in unraveling the social and biological complexities of illness, disease, and disability in the past.

7:30-8:00 am Poster set-up. 11:30-12:00 am Poster take-down.

10:00-11:30 Participants will present in the order in which they appear, followed by discussant CHARLOTTE ROBERTS

1 Bioarchaeology and “disability”: Using the present to inform interpretations of past impairment. C.A. ROBERTS.

2 Functional impairment and physical stress in the past: How physiotherapy ideologies can contribute to bioarchaeological interpretations. R.J. GILMOUR, M. BRICKLEY, T. PROWSE.

3 Presentation Withdrawn.

4 Lives of deprivation or lives of industry: Possible cerebral palsy on the Mary Rose. R. DREW.

5 Normative ideologies of sample construction in bioarchaeological studies. R.J. WATKINS.

6 Race, disease, disability, and medical ideologies tied to the American anatomical collections. C.M. DE LA COVA.

7 The past as prologue: Changing disease ideologies surrounding HIV/AIDS in Zimbabwe. D.S. SIMMONS.

8 Infectious diseases, beliefs and treatment before antibiotics: Examples from Portuguese culture and skeletons. A. SANTOS, J. SUBY.

9 Illness, identity and the Mesoamerican infant: A regional perspective. J.J. CRANDALL, D.L. MARTIN, J.L. THOMPSON.

American Journal of Physical Anthropology
| 10 | Fraility, social identity and treponemal disease in the Southeastern US. S.A. MATHENA, M.K. ZUCKERMAN, N.P. HERRMANN. |
| 11 | Identifying traumatically induced brain injury (TBI) and disability in Medieval England AD1066-AD1600. J. PEACOCK. |
| 12 | Religious and medical healing in Medieval Irish society. R.E. SCOTT. |
| 13 | The violence of everyday life: Pathology, trauma, and community membership at Harappa. E. BLEVINS, B. COX, G. ROBBINS SCHUG. |

**Session 44:** Forensic Anthropology, Human Rights and Bioarchaeology of the Individual: A Tribute to the Life and Work of Karen Ramey Burns.
*Invited Poster Symposium.* Organizer: Megan Moore. 301D.

Modern Biological Anthropology owes much of its current focus and direction to the work and contribution of Dr. Karen Ramey Burns. She helped to develop and mentor forensic teams around the world. Her reach extended all across the Americas to North Africa, Europe, and Melanesia. She testified as an expert witness in trials at the local, state, and international levels. She helped to identify individuals from mass graves in Guatemala and Bosnia, among others. As a Fulbright Scholar, she spent a year as a faculty member of Universidad de los Andes in Bogotá, Colombia, where she was a founding member of the non-governmental forensic anthropology team EQUITAS. With DMORT, she worked with recovery and identification of national mass disasters of the World Trade Center and Hurricane Katrina. She helped teach courses for the International Criminal Investigative Training Assistance Program of the US Department of Justice. She had her hand in the bioarchaeology of a Roman necropolis looking for evidence of an early documented genocide. Kar Burns investigated the bioarchaeology of the individual, namely the cases of Amelia Earhart and Revolutionary War hero Casimir Pulaski. These contributions are the inspiration for this symposium, with friends/contributors speaking to each of the areas of biological anthropology that she helped to shape.

7:30-8:00 am  Poster set-up  11:30-12:00 am  Poster take-down.

10:30-11:30 Roundtable Discussion by the authors and discussant, MICHAEL WARREN.

| 1 | Dr. Karen Burns: Pioneer in forensic anthropology at the University of Florida. M.W. WARREN. |
| 2 | The legacy of Dr. Karen Ramey Burns: A focus on the individual in forensic and bioarchaeological contexts. J.D. BETHARD, M.K. MOORE. |
| 3 | The human in what remains: Reflections of Dr. Karen Ramey Burns. F.J. BAIRES. |
| 4 | Human rights in Colombia and the creation of EQUITAS, an independent organization for the support of victims. A. GUATAME-GARCIA. |
| 5 | Training and empowerment in Forensic Anthropology on an international level: How the life’s work of Dr. Karen Ramey Burns has inspired training in Colombia. E.A. DIGANGI. |
| 6 | What happened to Wilma? Demonstrative evidence in an FBI cold case. A.M. SMITH, C. DARDENNE, W. WOODWARD, B. BENSON. |
| 7 | The legacy of Dr. Karen Ramey Burns: A focus on the individual. S.A. HOLTZMAN, W. HAGLUND, M.K. MOORE. |
| 8 | Presenting evidence concerning human remains: Improving expert testimony. J.M. MCCULLOUGH, C.N. DARDENNE. |
Saturday. All Day Poster Sessions.

Session 45: BIOARCHAEOLOGY: Subsistence, Methods, and Archaeology.

**Contributed Poster Presentations.** Chair: Christopher Knusel. Clinch Concourse.

7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

- Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
- Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1. **Application and use of Cyclododecane, Part II: En Bloc removal of osteological remains.** A.E. FAZOLLAH, M.J. WOOD, B.M. WRAY-MILLER.

2. **Bioarchaeology in 3D: Employing three-dimensional technology in the field and in the lab.** C.J. KNUSEL, S.D. HADDOW, J.W. ANDERSON, M.D. CEBULA, E.A. BULGER, G.D. RICHARDS.

3. **Reconciling old maps with their curated collections: The implementation of technology to the riddle of curated commingled remains.** M.N. PANAKHYO, J. FUNKHAUSER.

4. **Putting pieces together again: Statistical formula for os coxa and sacrum.** M. MILLER.

5. **Increasing the quality of your bioarchaeological data through the use of tablet-based software.** A.E. AUSTIN.

6. **Distinguishing between stone tool burnishing and pot polish.** D.V. KOPP, J. RABB.

7. **Human bone artifacts as markers of prehistoric populations: Critical assessment of evidence from Central California.** H.M. OJEDA, J.Y. ANDERSON, M.D. CEBULA, E.A. BULGER, G.D. RICHARDS.

8. **Diet in the mountains: Using dental pathology to assess subsistence strategies in Paa-ko, New Mexico.** E.C. BLANKENSHIP-SEFCZEK, T.D. RANDALL.

9. **Bioarchaeological analysis of dental health and diet in Tonga.** C. STANTIS.

10. **Dental microwear: A window into dietary texture during the Late Bronze Age and Early Iron Age in East Lokris Greece.** J.R. DE GREGORY, N.P. HERRMANN.

11. **Microwear texture analysis of mandibular molars recovered from four Medieval sites in England and Ireland.** N.A. SCHMALZ, T.J. FINAN, J.M. ORGAN.

12. **Dental microwear texture analysis at Tell Dothan.** R. VAN SESSEN, C. SCHMIDT, S. SHERIDAN, J. ULLINGER, M. GROHOVSKY.

13. **Age as a factor in inter-tissue spacing of stable carbon isotopes in juvenile human remains.** A. NORRIS, L. WILLIAMS, T. DUPRAS, S. WHEELER.

14. **High spatial resolution isotopic analysis of human primary bone: New methods for reconstructing short-term environmental and dietary change using the endosteal lamellar pocket.** C.M. MAGGIANO, C.D. WHITE, F.J. LONGSTAFFE.

15. **Validation of bone apatite purification protocols for stable isotope analysis in bioarchaeology by Solid-State Nuclear Magnetic Resonance spectroscopy.** K. SALESSE, V. URZEL, E. DUFOUR, D. CASTEX, J. BRUZEK, E.J. DUFOURC.

16. **Using stable isotopes to ascertain paleo-foraging strategies through the study of woodland bison behavior.** B.F. KENNEY, B.E. CROWLEY.

17. **Isotopic measures of intra-individual variation in fetal bone collagen and apatite.** L. WILLIAMS, A. NORRIS, T. DUPRAS, S. WHEELER, M. TOCHERI.

18. **Dietary variation of individuals from the Angel Site and Caborn-Welborn Villages: Implications on the Vacant Quarter Hypothesis.** E.E. ALONZI, M.R. SCHURR.

19. **Whet your apatite: A dietary reconstruction using stable carbon isotopes from human tooth enamel at Tell Dothan.** R.M. AUSTIN, J. FRIEDMAN, L. GREGORICKA, J. ULLINGER, S. SHERIDAN.

20. **A methodological comparison for stable carbon and nitrogen isotope analysis and applications to diet reconstruction.** M. SNEAD, M. MIKULSKI, M. SCHIRZINGER, L. GREGORICKA, J. ULLINGER, S. GUSE SHERIDAN.

21. **Stable isotope analysis of human bones from Roman Ephesus (Turkey, 2nd and 3rd ct. AD).** S. LÖSCH, N. MOGHADDAM, K. GROSSSCHMIDT, D.U. RISSER, F. KANZ.

22. **Neolithic transition in central and south-eastern Italy: An isotopic approach.** G. SCORRANO, R. LELLI, F. DE ANGELIS, G. BIONDI, M. BRILLI, M. CALATTINI, C. CONATI BARBARO, O.E. CRAIG, M. GORGOGLIONE, A. MANFREDINI, C. MARTÍNEZ-LABARGA, F. RADINA, M. ROLFO, M. SILVESTRINI, C. TOZZI, O. RICKARDS.

23. **Human dietary reconstruction from stable carbon and nitrogen isotope analysis in Anglo-Saxon England.** C.A. DETER, P. MAHONEY.

24. **A death in the borderlands: Oxygen isotope evidence for mobility from a Pithos Burial at Oqlanqala, Azerbaijan.** S.E. NUGENT.

25. **Water isotopes of Ontario: Investigating the applications of hydrogen and oxygen isotopes as geographical indicators.** M.L. MANT, A.N. NAGEL, H. POINAR, T. PROWSE, M. KNYF.
Session 46: FUNCTIONAL MORPHOLOGY: Locomotion.

Contributed Poster Presentations. Chair: Patricia Kramer. Clinch Concourse.

7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1 Comparing forelimb skeletal anatomy in gray squirrels and primates. S.A. GREEN, H. PONTZER.
2 Scaling of forearm muscle architecture in primates. A. HARTSTONE-ROSE, K.L. ALLEN, K.E. MACNEILL, K.M. REILLY, D. MARCHI.
3 The comparative and functional anatomy of the forelimb musculature of Humboldt’s woolly monkey (Lagothrix lagotricha). L. HAYS, V. WHEELER, M. MUCHLINSKI, J. ORGAN, S. ABSHIRE, T. BUTTERFIELD, A. DEANE.
4 Three-dimensional moment arms and architecture of chimpanzee (Pan troglodytes) leg musculature. N. HOLOWKA, M.C. ONEILL.
5 Hand postures during vertical clinging and grasping: Implications for digit length in primates. L.E. JOHNSON, D. SCHMITT.
6 Cross-sectional geometry of chimpanzee finger bones. I.J. WALLACE, B.A. PATEL.
7 Preliminary investigation of forelimb use among cercopithecoid primates in Côte d’Ivoire’s Tai Forest. E.E. KANE, E.A. BITTY, D. DAEGLING, W.S. MCGRaw.
8 Exploring the influence of suspension on ulna articular surface shape in anthropoid primates. T.R. REIN, K. HARVATI.
9 Clavicular curvature and locomotion in anthropoid primates: A 3-D geometric morphometric analysis. N. SQUIYRES.
10 Fiber type composition of spinal extensors is geared toward facilitating rapid spinal extension in the leaper, Galago senegalensis. E. HUQ, A.B. TAYLOR, C.E. WALL.
11 The relative effects of locomotion and posture on vertebral scaling. M. CARTMILL, K. BROWN.
12 Extensive convergence between giant panda and hominoid vertebral formulae. L.A. PETRULLO, M.R. SHATTUCK, S.A. WILLIAMS.
13 Segment-specific analysis of prehensile tail use and morphology in Cebus capucinus and Alouatta palliata. A.C. NISHIMURA.
14 A preliminary quantitative comparison of the internal trabecular architecture of the ilia of chimpanzees and orangutans by high-resolution x-ray computed tomography (HRXCT). D. SHAPIRO.
15 The bicondylar angle in modern humans and its relationship to joint stresses and locomotor economy. M.R. DARR, H. PONTZER, A. WARRENER.
16 Lower limb joint mechanics in men and women. A.G. WARRENER.
17 Predicting impact stiffness and rate of loading during human walking and heel-strike running. B.J. ADDISON, D.E. LIEBERMAN.
18 Size or sex—which is more important for determining optimal velocity? P.A. KRAMER, S.G. LAUTZENHEISER, M. OUCHIDA.
19 The effect of burden, velocity and gradient on the energetic expenditure of walking in females. J. EYRE, S. VIJGEN, P.A. KRAMER.
20 Effects of bipedal infant-carrying on thoracic and pelvic rotations in walking gait. K.E. JELENc, K.K. WHITCOME.
21 Costly courtship: The energetic burden of walking together. J.M. WAGNILD, C.M. WALL-SCHEFFLER.
22 Complications in cross-species comparisons of joint kinematics: An example from the primate foot. T.M. GREINER.
23 Does footwear change energy expenditure? Application to understanding the energetics of extinct bipeds. S.G. LAUTZENHEISER, P.A. KRAMER.
24 The effect of the achilles tendon on trabecular structure in the primate calcaneus. S. KUO, M.J. DEVLIN, J.M. DESILVA.
25 Locomotor diversity and midfoot mobility in gorillas. C. PRANG, M.W. TOCHERI.
26 Skeletal correlates of climbing behavior in the ankles of rainforest hunter-gatherers. T.S. KRAFT, V.V. VENKATARAMAN, J.M. DESILVA, N.J. DOMINY.
27 The A.L. 333-160 fourth metatarsal from Hadar compared to that of humans, great apes, baboons and proboscis monkeys: Non-evidence for pedal arches or obligate bipedality in Hadar hominins. J. MELDRUM, P.J. MITCHELL, E.E. SARMIENTO.
28 Scaling patterns of talar articular surfaces within Euarchonta. G.S. YAPUNCICH, D.M. BOYER.
29 Human walking and developmental bone morphology: An integrated functional perspective. T.M. RYAN, D.A. RAICHLEN, Z.R. HUBBEll, S.M. SUKHDEO, J.H. GOSMAN.
30 Postnatal growth of the long bones in the African apes. A. GALLAGHER.
31 The effects of locomotor category on the ontogeny of skeletal robusticity in two strepsirrhine species. C.J. PAYETTE, T. PATEL, S.M. TOMMASINI, L.E. COPES, R. BERNSTEIN.
SATURDAY ALL DAY SESSIONS

32 Changes in long bone strength correspond to shifts in locomotor behavior during development in chimpanzees (Pan troglodytes). L.A. SARRINGHAUS.

33 Locomotor anatomy of gray langurs (Semnopithecus entellus). C.E. UNDERWOOD, D.R. BOLTER, A.L. ZIHLMAN.

34 Strategies in below branch locomotion in non-specialized quadrupeds. P.K. WOOLDRIDGE, M.C. GRANATOSKY, D. SCHMITT, C.E. MILLER.

35 Locomotor anatomy of patas monkeys (Erythrocebus patas). A. ZIHLMAN, C. UNDERWOOD.

Session 47: SKELETAL BIOLOGY AND FORENSIC ANTHROPOLOGY: Cranial Variation, Ancestry, Ecogeography, Sex and Size.

Contributed Poster Presentations. Chairs: Heather Garvin and Sabrina Sholts. Clinch Concourse.

7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

1 Craniofacial variation I: Within-population Procrustes analysis in a sample of Armed Services personnel. C.J. BERKLEY, B. CORNER, D.E. SLICE.

2 Craniofacial variation II: Head shape prediction from anthropometric measurement and ancestry. K.J. SODA, B.D. CORNER, D.E. SLICE.

3 Craniofacial variation III: Efficient, landmark-free superimposition of head surface scans. B.J. POMIDOR, B. CORNER, D.E. SLICE.

4 Craniofacial variation IV: Visualization of surface variation derived from whole head scans. D.K. STOYANOVA, B. CORNER, D.E. SLICE.

5 The reality of virtual anthropology: Testing the utility of computer generated models for the quantitative assessment of the cranium. A.D. WHEAT, B.F. ALGEE.

6 Covariance patterns in the human skull: A phylogenetic approach to the structure of human cranial variation. D.V. BERNARDO, W.A. NEVES, T.F. ALMEIDA.

7 Modularity and integration in the human cranial vault. T.S. YUZWA, S.D. OUSLEY.

8 Shape analysis of the human zygomatic bone – Data evaluation. A. RÜDELL, S. SCHLAGER.

9 Shape analysis of the human zygomatic bone - Surface registration. S. SCHLAGER, A. RÜDELL.

10 Craniofacial changes between children with otitis media with effusion and control. A.P. CULLEN DOYLE, J. SWATRZ, M.L. CASSELBRANT, W.J. DOYLE.

11 The relationship between dental crowding and cephalometric measurements in contemporary New Mexicans. S.R. DANESHAVARI, H.J. EDGAR.

12 Association between gonial angle and mandibular torus. K. COSCUNA, A. MARTINETTI.

13 Investigating the relationship between mandibular skeletal form and Stafne’s defect using geometric morphometrics. S.B. SHOLTS, S. WÄRLÄNDER.

14 Investigating sexual dimorphism of the mandible using 3D geometric morphometrics. K.A. HAUTHER, B. DUDZIK.

15 Sexual dimorphism in the hyoid of recent human populations: A functional morphometric approach. M.K. BLUME, T.D. WEAVER.

16 The lateral angle and cranial base sexual dimorphism: A morphometric evaluation. N. LYNNERUP, M. DUQUESNEL.

17 Morphological variation of modern human browridges. H.M. GARVIN.

18 Human craniofacial sexual dimorphism and Rensch’s Rule. D.L. MESSER, S.D. OUSLEY, P. TUAMSUK.

19 Quantifying sexual dimorphism in the cranium: A preliminary analysis of a novel method. A.M. CASADO.

20 Sexual dimorphism in human skull: The effect of size correction. T.F. ALMEIDA, D.V. BERNARDO, M. INGLEZ, W.A. NEVES.

21 Non-metric cranial and pelvic traits as a measure of sexual dimorphism in a modern South African population. K.E. STULL, M.W. KENYHERCZ, E.N. L’ABBÉ.

22 Variation by variation: Differences in sexual dimorphism of the skull between African-Americans and European-Americans. A.G. KITTOE.

23 Sexual dimorphism and health in prehistoric Thailand. A.L. CLARK, N. TAYLES, S.E. HALCROW.

24 Regional variation in sexual dimorphism among African and Diaspora populations. A.L. HUMPHRIES, M.L. TISE, E.H. KIMMERLE.

25 Pelvic and appendicular skeletal variability in humans. H.K. KURKI.

26 Trunk modularity in recent human populations: A preliminary look at rib and pelvic covariation. E.R. MIDDLETON.

27 Environmental plasticity of intralimb indices. E.E. POWELL, M.H. ROTH, H.M. GARVIN.

American Journal of Physical Anthropology
Ecogeographic patterning in maxillary sinus form among modern humans. L.N. BUTARIC.

Form variation in human long bone joints: A comparative geometric morphometric analysis of variation in the knee and elbow. S.D. STEVENS, U.S. VIDARSDOTTIR.

Variability in bone length and proportions of the arm and hand. K.R. RECTENWALD.

Introducing new variables into morphometric body mass reconstruction. C.W. RAINWATER, E.R. MIDDLETON.

Secular changes in robusticity of limb bones in Americans. A.K. STROMQUIST, S.D. OUSLEY.

Going out on a limb: Does obesity have a systemic effect on limb bone morphology? N.M. REEVES.

Secular change in the knee joint and the effects of obesity. K.I. HARRINGTON, D.J. WESCOTT.

Secular change in the length and breadth of the bones of the upper limb. A.C. SMITH.

The influence of body mass on humeral strength: An ontogenetic perspective. C.L. GIROUX, L.W. COWGILL.

Does height matter? Evaluating the need for height specific stature estimation equations. X.D. LAUCH.

Comparative study of metric sexing software using the os coxa. B. MCMULLAN.

The subpubic angle: A new method for assessing sex in a single os-coxa. K. MCGUIRE.

Sex estimation of juvenile human crania using 3D assessment of craniofacial architecture. M.K. STOCK, D. REYNOLDS, A.J. MASTERS, T.G. BROMAGE.

Sex determination by discriminant function analysis of lumbar vertebrae. K.R. OSTROFSKY, S.E. CHURCHILL.

Current practices in physical anthropology for sex estimation in unidentified, adult individuals. A.R. KLALLES.

The determination of sex and ancestry of patellae and calcanei from the Hamann-Todd Anatomical Collection. P.S. URDZIK.

Ancestral estimation using E.A. Marino’s analysis of the first cervical vertebra applied to three modern ethnic groups. V.M. SWENSON.

Variation in nonmetric traits of the pelvis between population groups. G.T. LAVALLO, K.M. SPRADLEY.

Is dental metric variation more sensitive to differences among regional populations than dental morphology? A case study from coastal Kenya. A.R. HUBBARD.

Applying statistical classification methodologies to morphological dental trait data in forensic studies. F. CANDILIO, L. BONDIOLI, A. CUCINA, M. LUCCI, A. COPPA.

Dental morphological analysis of Roman-Era burials from the Dakhleh Oasis, Egypt. S.D. HADDOW.

A world apart: Dental variation and the New York African Burial Ground. A.T. MAYES, L. RANKIN-HILL, M. BLAKEY.

Are socioethnic groups biologically meaningful entities? A tooth size allocation analysis of the Baltis of northern Pakistan. M. GUZMAN, B.E. HEMPHILL.

Using admixture mapping to identify genetic linkages with variation in human facial shape. D.K. LIBERTON, P. CLAES, S. BELEZA, G. BARSII, H. TANG, M.D. SHRIVER.

Assessing the forensic utility of the zygomaxillary suture in ancestry estimation. A.N. SPORLEDER, C.E. BURNS, S.D. MADDUX.

Determination of ancestry in historical skeletal populations: Two case studies from French colonial sites in the U.S. H. GUZIK, M. DANFORTH, D.N. COOK, T. CARGILL.

Cranial variation among three regional groups in Mexico. C. FIGUEROA-SOTO, M. SPRADLEY.

Are there 40 kinds of Hispanics in New Mexico? H.J. EDGAR, S. BLOOM, K. RUSK, M. HEALY, C. MOSLEY, K.L. HUNLEY, T. LANE.

Forensic anthropometry: Reconstructing body dimensions of partially hidden persons in CCTV surveillance images. T. SCOLERI, M. HENNEBERG.

Determination of body surface area from a whole-body CT scan. C. PRIMEAU, C. VILLA, H. HOUGEN, N. LYNNERUP, B. HESSE.

Session 48: PRIMATE DENTITIONS, DIETS AND GROWTH.

Contributed Poster Presentations. Chair: Mary Kelaita. Park Concourse.

7:30-8:00 am Poster set-up. 4:00-4:30 pm Poster take-down.

Even numbered poster authors present for discussion - 10:00-10:30 am and 2:00-2:30 pm
Odd numbered poster authors present for discussion - 10:30-11:00 am and 2:30-3:00 pm

A tooth atlas for the developing dentition of Hylobates lar based on radiography and histology. W. DIRKS, A.P. BARROS, C. DEAN.

Pace of dental eruption and epiphyseal fusion in captive Macaca mulatta. A.R. ELLER, S. BUCKLEY, T. EDWARDS, S.R. FROST, F.J. WHITE.
**Pattern differences in the resorption and exfoliation of deciduous teeth between captive and wild *Pan troglodytes*. E.E. HAMMERS.

**Molar development and life history in four macaque species.** N. TANG, A. KATO, K. HINDE, E. MILLER, T.M. SMITH.

**Molar enamel thickness in four macaque species.** A. KATO, N. TANG, A.M. PAPAKYRIKOS, K. HINDE, E. MILLER, Y. KUNIMATSU, E. HIRASAKI, D. SHIMIZU, T.M. SMITH.

**Stable isotope time-series in teeth: Targeting the innermost enamel layer.** S.A. BLUMENTHAL, K.L. CHRITZ, T.E. CERLING, T.G. BROMAGE, R. KOZDON, J.W. VALLEY.

**Dietary variability yields novel dental microwear textures for geladas.** A.E. SHAPIRO, V.V. VENKATARAMAN, P.J. FASHING, N. NGUYEN.

**Molar wear in a wild population of known-age mountain gorillas from Volcanoes National Park, Rwanda.** H. GLOWACKA, K.K. CATLETT, G.T. SCHWARTZ, A. MUDAKIKWA, T.G. BROMAGE, M.R. CRANFIELD, K.A. FAWCETT, S.C. MCFARLIN.

**Preliminary examination of buccal dental microtexture in primates.** A. ALIAGA, A. ROMERO, J. GALBANY, A. PÉREZ-PÉREZ.

**Anterior dental microwear in sympatric *Callicebus brunneus* and *Ateles marginatus*.** L.K. DELEZENE, M.F. TEAFORD, P.S. UNGAR.

**A new method for assessing dietary differences using interproximal tooth wear analysis.** A.L. WARREN.

**Revisiting incisor allometry and diet (again): New 2D and 3D approaches to an old question.** A.S. DEANE, M. JUSMA.

**Dental metric variation in two species of howler monkeys and their hybrids.** M.A. KELAÏTA, P.A. DIAS, L. CORTES-ORTIZ.

**Modularity and shape variation of upper P4-M1 teeth in modern humans.** A. ROMERO, S. TORRIJO, J. GALBANY, F.V. RAMÍREZ-ROZZI, J. DE JUAN, A. PÉREZ-PÉREZ.

**Morphological integration of the maxillary dentition and the cranium in hominoids.** A. NESBITT, K.L. BAAB.

**A geometric morphometric analysis of lower deciduous first molars and their succedaneous dentition.** M.J. STRINDEN, M.L. SAUTHER, F.P. CUOZZO, J.I. YOUSSOUF.

**Dominance rank and exposure to predators in wild Blue monkeys (*Cercopithecus mitis stuhlmanni*).** D. WESTPHAL, C. MUTAI, M. CORDS.

**The dual role of vigilance behavior in tufted capuchin monkeys.** V.M. MULE, C.J. SCARRY.

**Effects of predator presence on the behavior of bald-faced saki monkeys (*Piθecia urorata*) in the Peruvian Amazon.** D.B. ADAMS, D.M. KITCHEN, A. HURST.

**Introduced mammal predation of wild lemurs at Bezà Mahafaly Special Reserve, Southwestern Madagascar: An assessment of predator scat samples.** M.J. STRINDEL, M.L. SAUTHÉ, F.P. CUOZZO, J.I. YOUSSOUF.

**Forest meat consumption in rural northeastern Madagascar: Its extent, incentives, and impact on local lemur and human populations.** C. BORGÉRSON, L.R. GODFREY.

**Competition for woodland and forest resources between humans and nonhuman primates in Tana River, Kenya.** J. WIECZKOWSKI, L. ALLEN, D.N. MBORA.

**Spatial position in feeding trees and its relationship to nutritional quality in wild howler monkeys (*Alouatta palliata*).** C.H. LIPTROT, J.M. ROTHMAN, E.R. VOGEL.

**Feeding ecology of Gray’s bald-faced saki monkey (*Piθecia urorata*) during a single dry season in southeastern Perú.** A.L. HURST, J.E. LAMBERT, D.B. ADAMS.

**Resource use by yellow-tailed woolly monkeys in disturbed and undisturbed forests.** F.M. CORNEJO, M. CHOCCE, N. VEGA, C. TELLO.

**Local-level habitat differences and patterns of feeding ecology in groups of *Propithecus coquereli*, NW Madagascar.** K.C. MCGOOGAN, S.M. LEHMAN.

**Nitrogen limitation in Bornean orangutans in a peat swamp habitat.** E.F. BALLARE, C. KNOTT, E.R. VOGEL.

**Diet composition of savanna chimpanzees at Toro-Semliki Wildlife Reserve, Uganda.** C. DEIMEL, M. HIRSCHAUER, K.D. HUNT.

**The role of the hunter: Stable isotope evidence of hunting in adult male chimpanzees.** G.E. FAHY, M.P. RICHARDS, J. RIEDEL, J. HUBLIN, C. BOESCH.
14 Patterns of ant-fishing for carpenter ants (Camponotus spp.) by Gombe and Mahale chimpanzees. R.C. O'MALLEY, H. NISHIE.
15 Seasonal intake of polyphenols and cellulose in two wild lemur populations (Lemur catta and Propithecus verreauxi). A. FOGEL, J. WILLIAMS, N. YAMASHITA.
16 It's all in the wrist: Manipulative dexterity in white-handed gibbons (Hylobates lar). J.M. PRIME.
17 Assessing site specific changes in endocranial shape associated with frugivory in primates. D.R. HURST, P. SCHUENEMANN, B.B. AVANTS, J.C. GEE.
18 Ingestive behavior of the red (Procolobus badius) and black and white (Colobus polykomos) colobus monkeys in the Tai Forest, Côte d'Ivoire. B.R. BURROWS, W.S. MCGRAW, D. BERTIN, F. OURO, D.J. DAEGLING.
19 Prepping for pregnancy: Energy balance, hormone production and diet quality during preconception in Sanje mangabeys (Cercocebus sanjei). G.M. MCCABE, D. FERNANDEZ.
20 Microbial adaptations facilitate non-ruminant Theropithecus gelada grazing behavior in northern Ethiopia. G.A. BRITTON, C.J. YEOMAN, P.J. FASHING, N. NGUYEN, L. SWEDELL, B.A. WHITE, B.A. WILSON, R.M. STUMPF, K.E. NELSON, M. TORRALBA, M. GILLIS, S.R. LEIGH, N. DOMINY.
21 Roundworms on the Red Island: Gastrointestinal parasite intensity in four lemur species from the Tsingyavoivo region, Madagascar. K.L. ALLDREDGE, M.T. IRWIN, L.R. GODFREY.
22 Cross-species parasite patterns: Pinworm prevalence in captive lemurs. I.A. SCHNEIDER-CREASE, R. SCHOPLER, L.J. DIGBY.
23 Do capuchins change the forest through the trees? C. ZIPPER, E. PHILLIPS, A.M. THOM, S.M. WATTS, M. BEZANSON.
24 How many points does it take to determine a home range? A meta-analysis of home range calculation methods from GPS collar data. A.R. KLEGARTH, A. FUENTES, H. HOLLOCHER.
25 GIS analysis of the ranging behaviors of red-capped mangabeys (Cercocebus torquatus) from Sette Cama, Gabon. C.A. COOKE, R. MOUSSOPO.
26 Ranging patterns of solitary floaters owl monkeys. M. CORLEY, A. SAVAGIAN, M. ROTUNDO, E. FERNANDEZ-DUQUE.
27 Edge effects on body mass and habitat use in two sympatric species of mouse lemurs in a Madagascar tropical dry forest. R.J. BURKE, S.M. LEHMAN.
28 Living on the edge: Patterns of habitat use in Saguinus midas. M.J. VERES.
29 Seasonal variation in group movement patterns in the Sanje mangabey (Cercocebus sanjei), Udzungwa Mountains National Park, Tanzania. E.K. LLOYD, C.L. EHARDT.
30 Habitat preferences and population assessment of Microcebus murinus in the remaining transitional littoral forest of Petriky, South-East Madagascar. M.M. MALONE, G. DONATI.
31 Sleep site selection of proboscis monkeys (Nasalis larvatus) in West Kalimantan, Indonesia. K.L. FEILEN, A.J. MARSHALL.
32 Differences in owl monkeys (Aotus spp.): An examination of nesting site preference and behavioral budgets in three species of captive Aotus. L. CASE, K. GRAHAM.
33 Living together in the night: Abundance and habitat use of sympatric and allopatric populations of slow lorises and tarsiers (Nycticebus and Tarsius), R.A. MUNDS, K. NEKARIS, V. NJMAN, B. GOOSSENS.
34 Densities, distribution and detectability of a small nocturnal primate (Javan slow loris Nycticebus javanicus) in a montane rainforest. V. NJMAN, J.A. PAMBUDI, D. ACHMED, K.A. NEKARIS.
35 Predicting subgroup size in a lemur with high fission-fusion dynamics. S.M. HOLMES, A.D. GORDON, E.E. LOUIS, S.E. JOHNSON.
36 Preliminary evidence suggests that two-male siamang (Symphalangus syndactylus) groups at Way Cangkuk live in larger, higher quality home ranges than monogamous groups. S. LAPPAN, L. MORINO, M. KINNAIRD, T. O'BRIEN, N. ANDAYANI.
37 When animals disappear: An examination of factors influencing which individuals disappeared from a wild population of lemurs. R.J. LEWIS.
38 Locomotion of Angolan black and white colobus monkeys (Colobus angolensis palliatus) in coastal Kenya's Diani Forest. N.T. DUNHAM, W. MCGRAW.
39 Locomotor kinetics of two semi-wild macaque species (Macaca assamensis and M. arctoides) in Thailand: A preliminary report. E. HIRASAKI, S. MALAIIVIJITONOND, Y. HAMADA.
Saturday. Afternoon sessions.

Session 50: Understanding Primate Communities Across Spatial, Temporal and Phylogenetic Scales. 

Invited Podium Symposium. Organizers: Jason Kamilar, Lydia Beaudrot and Kaye Reed. Ballroom A.

Understanding the factors influencing the diversity of primate communities is important for studies of primate evolutionary history, primate behavioral ecology, and the development of conservation strategies. Previous research on primate communities has focused largely on present day communities of primates with less attention given to historical communities, the role of spatial scale in structuring communities, or interactions between primates and other taxa. It has been more than 10 years since a symposium on primate communities has been convened. During this time, there have been important advances in GIS, ecological informatics, macroecology, and phylogenetics, which have enabled scientists to address new questions in community ecology research and have focused attention on the importance of variation in spatial, temporal and phylogenetic scales for structuring communities. This symposium will uniquely include a wide variety of perspectives to understand the diversity of both present and past primate communities across a variety of scales. We will discuss the current state of primate community ecology and paleoecology research, the availability of new methods and data, and future directions in the field. Participants will come from several specialties relevant to primate communities, including behavioral ecology, conservation biology, biogeography, and paleoecology. This will promote valuable discussion among scientists and undoubtedly draw attention to promising directions for synthetic research across subfields.

Chair: Jason Kamilar

1:00-1:15  Why study primate communities? The importance for anthropology and ecology, current knowledge, and future directions. J.M. KAMILAR, L. BEAUDROT, K.E. REED.

1:15-1:30  Correlates of dispersal limitation in African mammal communities. L. BEAUDROT, J.M. KAMILAR, K.E. REED.

1:30-1:45  Using spatial structural equation modeling as a novel approach to understanding primate community composition and diversity. K.H. BANNAR-MARTIN.

1:45-2:00  Exploring phylogenetic beta diversity in Neotropical primate assemblages: historical, ecological and neutral processes underlying patterns of nestedness and turnover. M.M. GAVILANEZ, R.D. STEVENS.

2:00-2:15  Evolutionary ecology of pitheciinae communities: Evidence for energetic equivalence or phylogenetically structured environmental variation? S.M. LEHMAN.

2:15-2:30  Feeding niche overlap and differentiation among sympatric vertebrate frugivores at Gunung Palung National Park, West Kalimantan, Indonesia. A.J. MARSHALL.

2:30-2:45  Primates on the menu: Predation as a factor affecting primate communities. L.R. BIDNER.

2:45-3:00  Shifting the focus in primate community ecology: Utilizing patch foci to study unhabituated dry habitat chimpanzees. S.M. RUSSAK.

3:00-3:15  BREAK

Chair: Kaye Reed

3:15-3:30  Parasites and primate communities: Amplification and dilution effects. C.L. NUNN, H.S. YOUNG, R.H. GRIFFIN, J. CLARK.

3:30-3:45  African primate, carnivore and ungulate communities exhibit a proclivity toward random phylogenetic structure. K.E. REED, J.M. KAMILAR, L. BEAUDROT.

3:45-4:00  Biogeographic evolution of Madagascar's primate communities: Endemism, elevation, and the fossil record. K.M. MULDOON, L.R. GODFREY.

4:00-4:15  The dietary competitive environment of early Eocene euprimates in North America. L.K. STROIK.

4:15-4:30  Primate paleoeccommunities in the early Miocene of Africa: Why are apes and monkeys so rarely found together? A. GROSSMAN.

4:30-5:00  DISCUSSANT, JOHN FLEAGLE.

Session 51: PRIMATOLOGY: Ecology, Behavior and Flexibility.

Contributed Podium Presentations. Chair: Monica Wakefield. 200ABC.

1:00-1:15  Primate socioecology: Where are we, what are we doing here, and where are we going? A. FUENTES.

1:15-1:30  Individual and group level factors shape the social sphere of individual mountain gorillas (Gorilla b. beringei). D. CAIALLAUD, F. NDAGIJIMANA, V. VECCELLIO, T.S. STOINSKI.

1:30-1:45  Weaning in the Virunga mountain gorilla (Gorilla beringei beringei) – factors causing variation in weaned age. W. ECKARDT, A.W. FLETCHER.

1:45-2:00  The function of long calls in western gorillas (Gorilla gorilla): Behavioral flexibility in ape communication. R. SALMI, D.M. DORAN-SHEEHY.
2:00-2:15  Acoustic determination on the dialects of wild chimpanzee (*P. t. verus*) calls in Sierra Leone. A.R. HALLORAN, C.T. CLOUTIER, T.S. KARIMU, S. MONDE.

2:15-2:30  An investigation of a Shigellosis outbreak in a rhesus macaque population: The importance of rank and status. J.A. IDA, A.V. RUIZ-LAMBIDES, A.S. DIETRICH.

2:30-2:45  Meat transfer among savanna chimpanzees at Fongoli, Senegal: The female perspective. S. LINDSHIELD, J.D. PRUETZ.

2:45-3:00  A cross community comparison of female chimpanzee (*Pan troglodytes schweinfurthii*) social behavior in Kibale National Park Uganda. M.L. WAKEFIELD, K.D. WILD.

3:00-3:15  **BREAK**

3:15-3:30  Stress and affiliation in wild black-handed spider monkeys: Do females tend-and-befriend? M.A. RODRIGUES.

3:30-3:45  Impact of early life experience on fitness-relevant demographic outcomes in wild white-faced capuchin (*Cebus capucinus*) males in Lomas Barbudal, Costa Rica. S.E. PERRY.

3:45-4:00  Hungry, tired, and stressed: Why are lemurs females dominant to males? M. LAFLEUR, M. SAUTHER, F. CUOZZO, N. YAMASHITA, R. BENDER.

4:00-4:15  “Top-down” socialization of sex-typed behavioral development in *Lemur catta*? S.L. MEREDITH.

4:15-4:30  Timing of hibernation bouts in eastern dwarf lemurs. M.B. BLANCO, P.H. KLOPFER.

4:30-4:45  Too hot, too cold, or just right: Thermal challenges facing mantled howling monkeys (*Alouatta palliata*) in a dry tropical forest. C.L. THOMPSON, S.H. WILLIAMS, K.E. GLANDER, M.F. TEAFORD, C.J. VINYARD.

4:45-5:00  What's eating *Microcebus?* Endo- and ectoparasite ecology of *Microcebus griseorufus* at Beza Mahafaly Special Reserve, Madagascar. I.A. RODRIGUEZ, E. RASOAZANABARY, L.R. GODFREY.

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Session 52: **HUMAN BIOLOGY.**

*Contributed Podium Presentations.* Chair: Julienne Rutherford. **Ballroom B.**

1:00-1:15  Population variation of level 2 detail in dermatoglyphs: A study of heritability and environmental influence. N.A. FOURNIER.

1:15-1:30  Ethnic variation of DNA methylation identified in Leptin's C/EBPαTFBS. M. MOSHER, H. AL-AZZAWI, R. STÖGER, M. SCHANFIELD.

1:30-1:45  Botanical medicines for diuresis: Cross-cultural comparisons. R.A. HALBERSTEIN.

1:45-2:00  The impact of testosterone fluctuations on competition in women. L.L. BECKER, S. PRALL, E. SHATTUCK, M. MUEHLENBEIN.

2:00-2:15  A sensitivity analysis of the impact of househoulded consumer-producer ratios on the hazard of out-migration among the Karen. D. PARKER, J. WOOD, S. TOMITA, S. DEWITTE, J. SIRICHAISINTHOP, L. CUI.

2:15-2:30  Changes in selection on height and BMI during the demographic transition: The case of rural Gambia. A. COURTIO, L.J. RICKARD, V. LUMMAA, A.M. PRENTICE, A.J. FULFORD, S.C. STEARNS.

2:30-2:45  Beyond stress: “Biological Sensitivity to Context” as an evolutionary construct and its implications for psychosocial markers in field research. J.A. DECARO, C.L. BOXMEYER, A. GILPIN, J.E. LOCHMAN, J. PIERUCCI, M. MCINNIS, L. JIMENEZ, M. THOMAS.

2:45-3:00  Phenotypic plasticity in humans: Lessons from the immune system. N. SHORT, K. KEETON, R. FERNANDEZ-BOTRAN, F. CRESPO.

3:00-3:15  **BREAK**

3:15-3:30  The effect of maternal stress on newborn birth outcome and methylation profiles: Efficiency of RRBS technology in population studies. C.J. MULLIGAN, D.A. HUGHES, N.C. D’ERRICO.

3:30-3:45  Influence of placental characteristics on birth weight and evidence for population differences in placental morphology: A preliminary report from Cebu, Philippines. J.N. RUTHERFORD, V.A. DEMARTELLY, N.R. LEE, D.E. WILDMAN, C.W. KUZAWA.

3:45-4:00  What can we predict from first birth interval? I. NENKO, G. JASIENSKA.

4:00-4:15  The benefits of girlhood in the patriarchy: Natal familial composition, institutional care setting and child health outcomes in Jamaica. R.G. NELSON.

4:15-4:30  Childhood social disadvantage, cardiometabolic risk, and chronic disease in adulthood. A.L. NON, M. REWAK, I. KAWACHI, E. LOUCKS, S. BUCA, L.D. KUBZANSKY.

4:30-4:45  Body frame variation and adiposity in development, a longitudinal study of ‘Cape Coloured’ children. T.A. LUCAS, M. HENNEBERG.

4:45-5:00  Prevalence of Portuguese preschool obesity and associations with family characteristics and child behaviours. C. PADEZ.
### Session 53: Skeletal Biology: Postcranial Function and Biomechanics

**Contributed Podium Presentations.** Chair: Scott Simpson. Ballroom C.

| Time       | Title                                                                 | Authors                                                                 |
|------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1:00-1:15  | Bilateral asymmetry of humeral torsion and length in African apes and humans. | A.P. Barros, C. Soligo.                                                 |
| 1:15-1:30  | Skeletal estimates of upper limb effective mechanical advantage do not predict joint strength or speed in living humans. | J.M. Maki.                                                             |
| 1:30-1:45  | The biomechanics of power generation during human high-speed throwing. | N.T. Roach, D.E. Lieberman.                                             |
| 1:45-2:00  | Differentiation of bone functional adaptations in the forelimb and hind limb. | K.J. Carlson, I.J. Wallace, S. Judek.                                   |
| 2:00-2:15  | Why do knuckle-walking African apes knuckle-walk? | S.W. Simpson, C.O. Lovejoy, B. Latimer.                                |
| 2:15-2:30  | Gait mechanics of inverted walking: Implications for the evolution of suspensory locomotion. | M.C. Granatowsky, D. Schmitt.                                          |
| 2:30-2:45  | Activity and functions of the human gluteal muscles in walking, running, sprinting and climbing. | J.L. Bartlett, B.J. Sumner, R.G. Ellis, R. Kram.                      |
| 2:45-3:00  | Stance and swing phase joint mechanics in chimpanzee bipedal walking.  | M.C. O'Neill, L. Lee, B. Demes, N. Thompson, S.G. Larson, J.T. Stern, Jr., B.R. U Berger. |

#### Break

| Time       | Title                                                                 | Authors                                                                 |
|------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| 3:00-3:15  | Locomotor ontogeny and limb bone length and strength proportions in mountain and lowland gorillas. | M.L. Burgess, C.B. Ruff, S.C. McFarlin, A. Mukadikiwa.                |
| 3:15-3:30  | Femoral morphology and evolution of hominoid locomotion: Insight from fetuses of humans and great apes. | N. Morimoto, C. Zollikofer, M. Ponce de Leon.                         |
| 3:30-3:45  | Activity type and level influence growth rate, remodeling, and diaphyseal geometry of cortical bone. | K.N. Rabye, D.J. Green, D.R. Begun, B.G. Richmond, S.C. McFarlin.     |
| 3:45-4:00  | Ontogenetic changes in the human tibial and femoral diaphyses: Mechanobiological analysis of cortical shape from a whole-bone perspective. | Z.R. Hubbell, J.H. Gosman, C.N. Shaw, T.M. Ryan.                     |
| 4:00-4:15  | Ontogeny of bipedalism: Changes in the location and direction of the ground reaction force in toddlers. | A. Zeiningher.                                                        |
| 4:15-4:30  | Relationship between foot proportions and gait performance in modern bipeds. | K.K. Whitcome, R.E. Dyer, E.E. Miller.                                 |
| 4:30-4:45  | Effects of limb proportions on sloped terrain locomotion. | R.W. Higgins.                                                        |
| 4:45-5:00  | -                                                                     | -                                                                     |

### Session 54: Bone to Be Wild: An Invited Session in Honor of George J. Armelagos’ Career and Mentorship

**Invited Poster Symposium.** Organizers: Molly Zuckerman and Debra Martin. 200DE.

George Armelagos’s research has delved into several of the most profound theoretical and practical issues in physical anthropology: the health impacts of the Neolithic transition, the fallacy of the biological race concept, the origins of syphilis, the great human epidemiological transitions, the utility of evolutionary approaches to studying human variation, ancient diseases, and food choice, diet, and nutrition. He has also played a central role in the establishment and development of bioarchaeology, now a highly influential and interdisciplinary field within anthropology. His scholarly accomplishments are surpassed only by his commitment to mentorship and collaboration. In that spirit, this symposium brings together research from his several generations of grad students as well as others who trained under him. The posters reflect the interdisciplinary and biocultural frameworks that he pioneered, and the cross- and inter-generational collaborations that he fostered.

**12:00-1:00 pm** Poster set-up. **3:30-5:00 pm** Poster take-down.

| Number | Title                                                                 | Authors                                                                 |
|--------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1      | Life and death in 19th century Peoria, Illinois: Taking a biocultural approach towards understanding the past. | A.L. Grauer, L.A. Williams, M.C. Bird.                                 |
| 2      | Reflections on an education in Bio-cultural Anthropology at Emory University. | T.G. Schurr.                                                           |
| 3      | George Armelagos and changing idea about the realities of race, human variation, and racism. | A.H. Goodman, M. Blakey, J.L. Jones.                                   |
| 4      | Achieving synthesis: New York’s African Burial Ground and the influences of George J. Armelagos. | M.L. Blakey, L.M. Rankin-Hill.                                         |
| 5      | Searching for the invisible people in the African Diaspora: Biocultural perspectives. | L.M. Rankin-Hill.                                                     |
| 6      | George Armelagos and four-field Anthropology: A force against future fission of the discipline. | P.J. Brown.                                                            |
| 7      | Moving beyond genetic race: Developmental contributions to human variation in New Zealand. | Z.M. Thayer, C.W. Kuzawa.                                             |
Evolution, ecology and political economy: Biocultural perspectives on nutrition and disease in the works of George Armelagos. T. LEATHERMAN, A. GOODMAN, B. THOMAS.

Taking a closer look at the institutionalized: The late 19th century Colorado Insane Asylum. A.L. MAGENNIS.

Excavating method, theory and data with George: Bringing together bioarchaeology and social theory. D.L. MARTIN.

Disease dynamics in Åland, Finland - 1750 to 1950. J. MIELKE.

A bioarchaeological legacy: The academic family tree of George Armelagos. V.R. PÉREZ, H. BAUER-CLAPP.

Orthodontist needed! Crooked teeth at the New Kingdom site of Amarna, Egypt. J.C. ROSE, K. BRAICH, K.E. STILES.

Were calories really a problem for the Classic Maya of Copan and K’axob? Evidence from paleopathological indicators. R. STOREY.

Explorations in paleodemography: An overview of the artificial Anasazi agent-based modeling project, with new observations on demographic estimation. A.C. SWEDLUND, L. SATTENSPIEL, R.S. MEINDL, G.J. GUMERMAN.

"From man’s sweat and God’s love, beer came into the world": The significance of beer and brewing in reconstructing the health and nutrition of ancient agriculturalists. B.L. TURNER, M.J. LIVERMORE.

Food for thought: The contributions of George Armelagos to food and culture studies. R.J. WIDMER.

Reconstructing early-life lead exposure and biocultural beginnings: The Armelagos Effect in African diasporic bioarchaeology. J.L. JONES, A.H. GOODMAN, D. AMARASIRIWARDENA, M.L. BLAKEY, M.E. MACK.

Session 55: CEMENTOCHRONOLOGY.

Contributed Poster Presentations. Chairs: Stephan Naji, Thomas Colard and Benoit Bertrand. 301D.

12:00- 1:00 pm  Poster set-up. 4:30- 5:00 pm  Poster take-down.

2:00-2:30 pm  All authors will be present for discussion.

1 Cemntochronology, to cut or not to cut? S. NAJI, T. COLARD, B. BERTRAND, E. D’INCAU, L. LANTERI, E. BRANDT, J. BLONDIAUX.

2 Cemntochronology: A test of accuracy by age groups on a reference population. T. COLARD, B. BERTRAND, S. NAJI, A. DEBROUCKER, P. MARCHANDISE, J. BLONDIAUX.

3 Microstep by microstep across dental cementum - Microanalysis of the alternating yearly deposits. B. BERTRAND, T. COLARD, S. NAJI, P. MARCHANDISE, L. GEANT, G. FALGAYRAC.

4 Age-at-death estimation of pathological individuals. A complementary approach using teeth cementum annulations. G. ROBBINS SCHUG, B. BERTRAND, T. COLARD, S. NAJI, C. POLET.

5 Adult individual age, reliability of estimation using cementochronology. C. RUCKER.

6 Cementochronology (TCA) - Evaluation of a semi-automated counting software. M. KUENZIE.

7 Testing inter-teeth variability in adult individual age-at-death estimate using cementochronology (TCA). L. LANTERI, A. SCHMITT, B. FOTI, S. NAJI.

8 Functional morphology of the human dentition and its probable influence on tooth cementum thickness and incremental line count. G. GRUE, A. LIPPITSCH.

9 Impact of periodontal disease on cementochronology. A. DE BROUCKER, T. COLARD, J. BLONDIAUX, B. BERTRAND, S. NAJI.

10 Cementochronology and gender: A reappraisal of adult survival in past societies. P. MARCHANDISE, J. BLONDIAUX, B. BERTRAND, S. NAJI, T. COLARD.

11 A reappraisal of ancient hypotheses on stress markers using cementochronology. E. BINET, J. BLONDIAUX, T. COLARD, S. NAJI, D. PIRON.

12 The Leprosarium of Saint Thomas d’Aizier: The cementochronological proof of the medieval decline of Hansen disease in Europe? J.P. BLONDIAUX, T. COLARD, A. DE BROUCKER, C. NIEL, S. NAJI.