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**Program of the 85th Annual Meeting of the
American Association of Physical Anthropologists
April 12 – 16, 2016**

To be held at the

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Message from the Program Chair

Welcome to the 85th Annual Meeting of the American Association of Physical Anthropologists in Atlanta 2016! Our meeting officially begins on Wednesday, April 13 with the **Undergraduate Research symposium**, followed by the **AAPA welcoming reception**. Earlier on Wednesday, the Committee on Diversity has organized a **Women's Mentoring Workshop and an IDEAS Workshop (Increasing Diversity in Evolutionary Anthropology)**. Once again, we are having dedicated time for posters from 4:00 to 6:00 (5:00 – 6:00 on Saturday), so that everyone will have time to participate in the poster sessions. The time of day is ideal for an “enhanced” afternoon break at 4:00. Posters will be up all day, as in the past, but there will be no concurrent podium sessions after 4:00.

As in the past two years, the **AAPA annual business meeting** will be held after the scientific sessions on Friday afternoon, beginning at 5:45. A highlight of this meeting is the presentation of the **Charles R. Darwin Lifetime Achievement Award and the Gabriel W. Lasker Service Award**. Please come to learn more about the AAPA and to celebrate the careers of this year's honorees. The **AAPA Annual Luncheon** is on Saturday and features Dr. Lee Berger, whose luncheon address is titled: **“Almost Human –*Homo naledi* and the implications of new hominin discoveries from southern Africa.”** See the Annual Meeting Registration web site for tickets and information.

This year's program includes 1096 scientific presentations over the three full days of the meeting. The 58 sessions include seven invited podium symposia, 16 invited poster symposia, 18 contributed podium sessions and 17 contributed poster sessions. Dedicated time for posters has resulted in shorter afternoon podium sessions, so we added a fifth podium session on Saturday afternoon only, with four concurrent podium sessions on other days.

Our extensive scientific program includes a truly international group of scholars. This year, we are joined by the *Paleoanthropology Society* (PS), the *Paleopathology Association* (PPA), the *Human Biology Association* (HBA) the *American Association of Anthropological Genetics* (AAAG) and the *Dental Anthropology Association* (DAA).

The 2016 Wiley podium symposium, titled **Hybridization in Human Evolution: What can other**

organisms tell us? and organized by Rebecca R. Ackermann and Benedikt Hallgrímsson, takes place on Thursday morning. The joint AAPA–HBA session, held on Friday morning, is an invited poster symposium titled: **Biocultural Perspectives on Family Health within and across Generations**, and is organized by Melanie A. Martin and Lisa McAllister. The joint AAPA-AAAG session, held on Thursday afternoon, is an invited podium symposium titled: **Ancient Alleles in Modern Populations: Ancient structure, introgression and variation- maintaining adaptive forces**, organized by Omer Gokcumen and Aaron Sams. This year we also have a joint poster session with the Dental Anthropology Association: **Old Questions, New Approaches and New Solutions: Celebrating the 30th Anniversary of the Dental Anthropology Association** on Thursday afternoon.

The **AAPA silent and live auctions** take place on Thursday evening. These auctions, started by Mark Teaford and continued by Susan Antón and Josh Snodgrass, have raised thousands of dollars that fund the Pollitzer Student Travel Awards. Please participate through donations (contact Josh Snodgrass) and bidding. Finally, our popular **Closing Reception and Student Awards Ceremony** will be held on Saturday evening.

AAPA President, Susan Antón, will host a **Panel Discussion** on Saturday afternoon titled "Working Together to Change the Future: A dialog on harassment in biological anthropology."

I am very grateful to all those who have helped to put the 2016 program together. First and foremost, webmaster Ed Hagen, designer and upgrader of our on-line system has worked to integrate the AAPA system with our new membership and registration system hosted by Burk and Associates. Except for a few initial little bumps, the new integration is working very well. I appreciate sage advice from officers and the other members of the Executive Committee. Thanks to all of the members of the Program Committee for their careful work and helpful comments while reviewing symposium proposals and abstracts. My program assistant, Kim Edwards, has been a tremendous help. Special thanks to Frank Williams and John Redmond and their local arrangements committee. Please express your appreciation when you see them in Atlanta.

Anne Katzenberg
AAPA Vice President and Program Chair

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KEY TO ACRONYMS:

AAAG	– American Association of Anthropological Genetics
AAPA	– American Association of Physical Anthropologists
ADA	– American Dermatoglyphics Association
AJHB	– <i>American Journal of Human Biology</i>
AJPA	– <i>American Journal of Physical Anthropology</i>
BANDIT	Biological Anthropology Developing Investigators Troop
COD	– AAPA’s Committee on Diversity
DAA	– Dental Anthropology Association
HB	– <i>Human Biology</i>
HBA	– Human Biology Association
JHE	– <i>Journal of Human Evolution</i>
PAWMN	AAPA Physical Anthropology Women’s Mentoring Network
PPA	– Paleopathology Association
PS	– Paleoanthropology Society

Standards (NGSS) term “cross-cutting concepts” because of our discipline’s basis in the sciences and humanities. Specifically, providing anthropology education at the primary school level exposes a more diverse demographic of students to concepts including evolution, race as a cultural construct, and the impact of culture on humans. In 2011, the University of Alabama Department of Anthropology began offering semester-long courses in four-field Anthropology. We are in our fifth year and have expanded, offering a similar course at a second elementary school and more specialized curriculum in Biological Anthropology at a local middle school. Our program has facilitated outreach and training to more than 200 elementary schoolers, 12 undergraduates, and 13 graduate students. Quality instruction is provided through the construction, by undergraduates, of student-centered activity-based lessons. Observational data on concept retention by students suggest that the synergistic engagement of faculty instructing graduate students who, in turn, educate undergraduates on how to teach primary schoolers is a successful model for integrative training. Our program has led to an increase in cooperative research among undergraduates and has provided a platform for graduate students to learn and practice effective communication and teaching skills. Students that experience the humanistic and scientific study of anthropology at an early age are uniquely positioned to be able to excel in both as they continue their education.

An Investigation of the Relationship Between Cranial Porosity and Cranial Modification Intensity in Late Intermediate Period (AD 1000-AD 1400) Andahuaylas, Peru

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Artificial cranial modification is an irreversible and highly visible form of body alteration that has been employed throughout prehistory and around the world to convey social information such as ethnic and/or kin group affiliation. Many studies have focused on methods of classification, typology, and social implications of artificial cranial modification however, few studies have investigated the extrinsic pathological consequences of the cranial vault in response to cranial reshaping practices. The aim of this study is to elucidate whether porotic cranial lesions are a consequence of the modification process or a product of health related stress by examining the absence, presence, and intensity of cranial porosity and cranial modification in Andahuaylas, Peru. This study investigates the relationship between porotic lesions found on the external table of the cranial vault and the intensity of cranial modification in 34 individuals affiliated with two

polities that coalesced during the Late Intermediate Period (AD 1000 – AD 1400) in Andahuaylas. Results indicate that as cranial modification intensity increased, the amount of cranial porosity increased within the Chanka group. However, in contrast, there was no significant association within the Quichua group. These findings suggest that the presence and amount of cranial porosity is not a consequence of cranial modification and therefore, there is no relationship between the two variables within the Andahuaylas region. This study further contributes to our current interpretations of porotic cranial lesions and their etiologies in the Andes.

Funding was provided by the National Science Foundation (DSK), Fulbright-Hays Doctoral Dissertation Fellowship (DSK), Vanderbilt University (DSK), and the University of California Santa Barbara (DSK).

The New World settlement as seen from different craniofacial morphospaces: An Evo-Devo approach

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The arrival and dispersal of human populations in the Americas remains a very controversial issue especially regarding the number of migration waves. Craniofacial variation between ancient and recent Amerindians has been attributed to the effects of multiple founder events or alternatively, as the result of a single population carrying high levels of internal heterogeneity and effects of local differentiation plus recurrent gene flow. Here we investigated craniofacial shape variation of a large sample (978 specimens) of past and modern groups from America and Australasia applying 3D geometric morphometrics methods and the Factor Model. This approach enables to separate shape features that covary because of common factors from those only explained by local factors. We analyzed separately the full skull shape as well as neurocranium and face modules in both integrated and modular shape spaces. All analyses underlined a high variability among ancient specimens and show that regional factors explain most of the variance observed. These results give more support to the hypothesis of a relatively fluid and continuous variation than the presence of two distinct biological populations.

Hierarchical variation of bone hardness in the colobine femoral midshaft

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Understanding spatial variation in bone material properties is integral to the development of biomechanical models of skeletal function. Numerous investigations suggest that bone may be modeled as either orthotropic or transversely isotropic. Regarding the latter, in transverse planes taken roughly orthogonal to the long axis of Haversian systems, the arrangement of osteons can be described as structurally analogous to cross-sections of a fiber-reinforced composite, with in-plane stiffness characterized as isotropic.

We used Knoop indentation to sample bone hardness (under an assumption that hardness is proportional to elastic modulus and yield strength) in the femoral midshaft of a specimen of *Colobus polykomos*. Under a 50g load with 10s dwell time, we examined three serial 1mm transverse sections, sampling hardness in four quadrants (anterolateral, anteromedial, posterolateral, posteromedial) with three replications each at four different orientations (0, 30, 60, and 90 degrees relative to an anteroposterior axis). The hardness data were analyzed via hierarchical ANOVA to assess the directional dependence and within- and between-section variation.

The angle of indentation represents a significant source of variation ($P < 0.01$), but variance is random among quadrants and sections. Hardness variation in midshaft is thus homogeneous on a local scale, with the caveat that there does appear to be directional dependence, with the bone being stiffest in the mediolateral direction. In this case, the femoral bone does not conform to an expectation of transverse isotropy. This conceivably mitigates locomotor stress if bounding – idiosyncratic to black and white colobus – involves bending about an anteroposterior axis.

Supported by NSF BCS -1440278 and -1440532.

Exploring stress thresholds through dental enamel defects and skeletal evidence for life history trade-offs in adults

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It is clear that patterns in developmental plasticity shape later life experiences and that the timing of non-specific stress in relation to growth and development is critical to these impacts. Dental enamel provides detailed information on the timing of non-specific stress experiences, which may be considered in relation to growth in other systems to elucidate the impact of one on the other. This research investigates these patterns through the consideration of accentuated striae of Retzius (AS) in relation to stature and long bone lengths in a medieval Danish sample.