Symposium: “Bioarchaeological Perspectives on Migration and Human Health in Ancient East Asia”
(Co-organizer and Co-chair, with Ekaterina A. Pechenkina)


Symposium Abstract:
In this symposium we will examine the role of population exchange and agricultural intensification within the Chinese sphere of interaction during the Neolithic and Early Metal periods. Biological evidence for migration across continental East Asia and to Japan will be addressed via the analysis of non-metric dental and cranial traits. Stable isotope signatures from human and animal bones will be deployed to track the adoption and intensification of agriculture in this area. Results of the analysis of bone pathology and oral health will be used to underscore human physiological and skeletal responses to the biomechanical stresses of farming, the inadequacies and benefits of diets heavily weighted toward millets and/or rice, and the roles of animal husbandry and population movement in the introduction and spread of specific pathogens.

Patterns of trauma in pastoralists of the Donghu culture in northern China.

J.T. Eng¹, H. Zhu², Q.C. Zhang²

During the Warring States Period (476-221 BC), while Chinese agrarian states vied for power around the fertile Central Plain, pastoral nomadic societies emerged northward in the Mongolian steppe. Southern (Inner) Mongolia marked the frontier with China, a transitional zone that could support either nomads or farmers. This area served as a gateway through which Chinese goods flowed, and thus was an area of intense competition and political strife. Chinese states attempted to control this contentious zone through the construction of defensive walls that eventually formed the Great Wall.

Ancient skeletal remains of the Donghu people of northern China were studied to obtain insights into the living conditions of those inhabiting this economically transitional, politically contested area. Archaeological evidence suggests that during this period, the people shifted from an agropastoral to a pastoral nomadic economy, concomitant with a decrease in population density and larger settlements. A collection of 129 individuals from the site of Linxi Jinggouxi in eastern Inner Mongolia was analyzed for evidence of trauma of the skull and appendicular skeleton. Observations were made of traumatic injuries in the form of cranial and postcranial fractures, and for evidence of projectile wounds. The results of this work suggest that cranial and postcranial fractures occur at high frequencies relative to other Chinese samples. These skeletal data
suggest that interpersonal violence was prevalent in northern China during this turbulent period.

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**Long Bone dimensions as an index of the socioeconomic change in ancient Asian populations.**

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During the Holocene, body sized decreased throughout the world with the economic shift from hunting and gathering to agriculture and the rise of densely aggregated urban populations. During the twentieth century, these declines have been reversed by secular trends toward body size increase in many areas. Although the decline in body size with the rise of agricultural societies has been well documented through studies of long bones from archaeological sites in the Western Hemisphere and Europe, less is known about the historical patterns of body size change in ancient African and Asian populations.

In this study we use new bioarchaeological data and published reports to reconstruct the regional patterns of change in body size that occurred with the rise of urban, agriculturally-based societies in Asia. Several broad patterns are apparent in these data. Femoral dimension indicate that in Asia a decline in body size occurred with agricultural intensification and urbanization that was comparable to that seen in Western Hemisphere and European societies. On the Asian mainland there are also clinal patterns with taller statures among the pastoralists of the Xinjiang region in northwestern China and shorter statures among the agriculturalists further south in China and Southeast Asia. In the Himalayan region stature varies inversely with altitude. Our research on Chinese collections reveals a complicated pattern of regional temporal-spatial variation that is likely to be explained by socioeconomic factors related to fluctuations in food production and status-related differences in resource access.