

*The Eighth Worldwide Conference  
of the Society for East Asian Archaeology*



SEAA 东亚考古学会  
SOCIETY FOR EAST ASIAN ARCHAEOLOGY



南京大学历史学院  
SCHOOL OF HISTORY, NANJING UNIVERSITY



浙江省文物考古研究所  
ZHEJIANG INSTITUTE OF CULTURAL RELICS AND ARCHAEOLOGY

# Conference Instructions

Dear Conference Participant,

Welcome to Nanjing University! We are delighted to have you in this conference. In order to ensure a successful and pleasant conference, **MAKE SURE** you read the following instructions carefully:

1. Please bear your conference badge throughout the conference, meals, and mid-conference tour (for identification).
2. Please keep your mobile phone powered off or in the silence mode during the conference activities.
3. **The schedule of this conference is very tight**; the session organizers are expected to take care of time so as not to affect the next one. It is up to them to decide whether to reserve time for discussion.
4. The conference will provide free instant coffee, tea, and biscuits. There are several coffee shops inside and outside the campus at your own expense; please check the Camp Map in this brochure for location.
5. If you wish to hang out during the conference, please contact our volunteers, who can help you with translation or direction. Please return to your hotel before 9:00P.M.; do not go out after 9:00P.M. Nanjing is a safe city, but it is always wise to take caution.
6. The **tap-water** in your hotel room is **not drinkable**; drink boiled water (a boiler is provided in your room) all the time.
7. If you need any assistance during the conference, please do not hesitate to contact Ms. Liting SU (Tel: 13270832688).

The Organizing Committee

10 May 2018



*The Eighth Worldwide Conference  
of the Society for East Asian Archaeology*

Nanjing, China  
June 2018

**Hosted by**

- Nanjing University
- The Society for East Asian Archaeology

**Executed by**

- School of History, Nanjing University
- Hubei Province Museum
- Zhejiang Province Institute of Cultural Relics and Archaeology

**Editors:**

- Scott DAVIS, Liangren ZHANG, Dongsheng Zhao.

**Graphic designers:**

- Tianxiang LAN, Yiyu WANG

# The Organizing Committee

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# Transportation Information

The Nanjing University Xianlin Campus is located in the eastern suburb of Nanjing City. It is well connected to the airport and train stations via metro, which is convenient and economical. You are advised to check Google or other maps to orient yourself before departure. While en route please consult the map we provide, you will get to the conference venue without much confusion.

Tips for taking metro: 1. Buy a token at the vending machine at the metro station. Select “南大仙林校区站” ( Metro Line 2 ) as your destination; pay the price and get the token. 2. Pass the security check. 3. Tap the token in the right area of the gates. 4. Keep the token with you. 5. Insert the token into the hole of the gates when you exit the destination.

1. If you arrive at the LUKOU airport:

Walk to the LUKOU Airport Metro Station, take Metro Line S1 to the Nanjing South Railway Station, transfer to Metro Line 3(LIN CHANG-bound) to DAXINGGONG Station, transfer to Metro Line 2 (JING TIAN LU-bound) to Nanjing University XIANLIN Campus. About 2 hours, 9RMB. Taxi; 1 hour, 220RMB.

2.If you arrive at the Nanjing South Railway Station:

Walk to the Nanjing South Railway Station Metro Station, take Metro Line 3 (LIN CHANG-bound) to the DAXINGGONG Station, transfer to Metro Line 2 (JING TIAN LU-bound) to Nanjing University XIANLIN Campus. About 1 hour 20 minutes, 6RMB; Taxi: 30 minutes, 80RMB.

3.If you arrive at the Nanjing Railway Station:

Walk to the Nanjing Railway Station Metro Station, take Metro Line 3 (MO ZHOU DONG LU-bound) to the DAXINGGONG Station, transfer to Metro Line 2(JING TIAN LU-bound) to Nanjing University XIANLIN Campus. About 1 hour 10 minutes, 5RMB. Taxi: 25 minutes, 60RMB.

When you arrive at Nanjing University XIANLIN Campus Metro Station, exit the gate, walk to the right towards an underground crossing; the gate of Nanjing University is right across the road (impassable). At the station, you will see students, whom you may ask for help, any time.

If you need help, feel free to call our staff member Ms. Liting Su (native English speaker):  
13270832688



# The Xianlin Campus of Nanjing University

The Xianlin Campus is a brand new campus of Nanjing University. Put into use in 2009, it



has an international convention center, convenience shops, a coffee shop, fast delivery service on campus, and restaurants off campus. Post office and Bank of China are within the distance of 5km. Good bookstores (no specialized bookstore for archaeology) are located in the downtown of Nanjing. If you need any help, please approach our volunteers.

# Welcoming Remarks

On behalf of the Society for East Asian Archaeology, I welcome you to Nanjing University on the occasion of the Society's Eighth Worldwide Conference. Established in 1996 and now counting some 500 international members, SEAA is the preeminent organization devoted to the promotion of the field of East Asian Archaeology and the facilitation of scholarly exchange among archaeologists of the region. Having held its 2008 conference in Beijing, the Society is delighted to once again meet in China, which a significant number of SEAA members identify as their country of residence. Above all, the Society wishes to thank Professor Zhang Liangren, the host of the conference, for his tireless efforts in organizing a conference, which brings together well over two hundred presenters and other participants from all over the world. Beyond reflecting the undeniable appeal of Nanjing as one of China's historically important cities, the conference's solid attendance numbers also signal continuing and increasing interest in the field of East Asian archaeology among scholars working outside the region. In this same spirit, the Society strives to fulfill its mission of encouraging young international scholars to join what is truly a dynamic and multi-disciplinary field of study. This conference not only serves a crucial role in supporting such efforts, it also stands as a clear testimony of what international collaboration grounded in a common vision can achieve. Once again, welcome to Nanjing and have a wonderful and productive conference!

Francis Allard

President

Society for East Asian Archaeology

# Welcoming Remarks

It gives us immense pleasure and excitement to welcome you from various corners of the world to our university and to this conference. As our traditional words have it, your presence is indeed illuminating our university, “peng bi sheng hui 蓬荜生辉”. This is particularly true since I have had the privilege of reading all the abstracts, and realize that all the participants are presenting the best things, the freshest discoveries, the most cutting-edge research results, and the extremely inspiring theories and methods thereof. We are grateful to all of you and value this opportunity of having you with us: we feel like having an archaeological festival.

The archaeological program of our university is relatively young and small even in China, not to speak of the rest of the world. Founded in 1972, our program’s faculty and students have been working mainly in southeast China. In the recent years, however, we have been attempting to join the world archaeological community. On the one hand, we are beginning to develop international projects in Russia and Iran, so as to make contributions to world archaeology, as many of you have done for long. On the other hand, we are intensifying our dialogue with the world archaeological community. That is why we value this conference: we take it as an opportunity to make friends with all of you and the whole world community.

We value this conference also because it is within our deep interest to promote East Asian archaeology in the world academic community. We are glad to see that East Asian archaeology is prospering in Europe and the US, and perhaps elsewhere too. East Asia is home to rich archaeological data that deliver to the world old and diverse civilizations, which would be a warm house for theoretical generalizations that are relevant to the other sciences and to the general audience. This potential has yet to be explored. We believe that the SEAA conference is a great venue for gathering people and inspiring each other, and in the long run we will make East Asian archaeology more meaningful to the world.

It is these thoughts that have inspired us to extend the scope of this conference. We have set up two editors’ roundtables so that invited editors of international and home journals could have dialogues with our participants. We also have set up a few public lectures so that some guests may speak to our university students. All these are open to you. We hope that you would find participating in this conference a rewarding and rich experience.

Enjoy the conference! Enjoy Nanjing University!

Liangren Zhang  
Chief Secretary for SEAA8



## SCHEDULE

### 7 June, Thursday

Registration (Nanjing University International Convention Center)

Lunch and dinner at the Faculty Cafeteria

### 8 June, Friday

	Plenary Session (8:30~12:30)			
8:30	Opening Remarks (8:30~9:30)			
9:30	Group photo (9:30~10:00)			
10:00	Keynote speeches (10:00~12:30)			
10:30	Jessica RAWSON: The Powers of Artefacts: Anomalies, Assemblages and Collections of Jades and Bronzes in Early Chinese Tombs			
11:00	Kazuo MIYAMOTO: The Controversy on the Beginning of Yayoi culture			
11:30	Qin FANG: The Zeng State in light of Archaeological Discoveries			
12:00	Bin LIU: New Progress in the Study of the Liangzhu Walled City			
12:30	Lunch (12:30~14:00), Faculty Cafeteria			
	<b>Gongxingting</b> 躬行厅	<b>Yixingting</b> 以行厅	<b>Hengxueting</b> 恒学厅	<b>Lixueting</b> 励学厅
14:00	Session 1: Prehistoric Human- Environment Interaction on the Tibetan Plateau	Session 2: Expanding Northeast Asian Prehistory: Integrating Linguistics and Genetics with Archaeology	Session 3: The Settlement and Society in the Huai River Valley During the Shang Dynasty—Taking Taijiashi as an Example	Session 4: The Technology of Luxury: The Manufacture and Dissemination of Precious Metals and Stones Across Asia
15:40			Session 5: Archaeological Sites as a Reflection of the Culture of Ancient and Medieval Nomads of Asia: New Discoveries, Comparative Analysis and Complex Reconstructions	
16:00	Coffee Break and Poster Presentations			
16:30	Session 1 Continued	Session 2 Continued (16:30~17:50)	Session 5 Continued	Session 4 Continued
17:10	Session 6: Unpacking the Complexity of Cultural and Political Interaction from Han to Tang			
18:30	Welcome Reception (18:30~20:30), Conference Building			

## 9 June, Saturday

	<b>Gongxingting</b> 躬行厅	<b>Yixingting</b> 以行厅	<b>Hengxueting</b> 恒学厅	<b>Lixueting</b> 励学厅
8:00	Session 7: Meaning of Motifs and Themes in Chinese Tomb Art	Session 8: The Tao River Archaeological Project - Gansu, China	Session 9: Material Connections at the Extremities of the Silk Roads	Session 10: Archaeological Jades in East and Southeast Asia: Current Research and Future Direction
10:00	Coffee Break and Poster Presentations			
10:30	Session 11: Studies of Images During the Eastern Zhou and Han Period	Session 8 Continued	Session 9 Continued (10:30~11:50)	Session 10 Continued
11:10				Session 12: Geomancy, Topography, and Landscape: Alternative Perspectives on Tomb Burial Practice in the Tang-Song Transition
12:30	Lunch (12:30~14:00), Faculty Cafeteria			
13:00				SEAA Council Meeting
14:00	Mid-conference Excursion (14:00~18:00) Nanjing Museum, Six Dynasties Museum			
18:30	Dinner (18:30~19:30), Faculty Cafeteria			
19:00	International Journal Editors Roundtable [Robert WITCHER (Antiquity), Mark Pollard (Archaeometry), Luiseach Nic Eoin (Nature), 19:00~21:00), Hengxueting 恒学厅			

## 10 June, Sunday

	<b>Gongxingting</b> 躬行厅	<b>Yixingting</b> 以行厅	<b>Hengxueting</b> 恒学厅	<b>Lixueting</b> 励学厅
8:00	Session 13: Re-Evaluating Weapons (8:00~9:40)	Session 14: East-West Interaction Across the Mongolian Steppes in the Bronze and Early Iron Age	Session 15: New Approach to the Spread of Prehistoric Agriculture in North-East Asia	Session 16: Technical Transfer of Early Kilns in Peripheral Areas of East Asia
9:40	Session 17: New Directions in Shang Archaeology I: Production			
10:00	Coffee Break and Poster Presentations			
10:30	Session 17 Continued	Session 18: Techniques of Artistic Production	Session 15 Continued	Session 20: Ceramics Production and Circulation
11:10			Session 19: New Research on Technology and Cross-Cultural Exchange in Han China	
12:30	Lunch (12:30~14:00), Faculty Cafeteria			

	Gongxingting 躬行厅	Yixingting 以行厅	Hengxueting 恒学厅	Lixueting 励学厅
13:00				SEAA General Meeting (13:00~14:00)
14:00	Session 21: Historical Environments in the Xiongnu Center	Session 22: East Asian Archaeologies of Landscape: Recent Perspectives, Future Prospects	Session 23: Formation Process of Rice-Based Civilization in the Chinese Neolithic 1: From the Scope of Food Selection, Processing	Session 24: President's Session: SEAA Student Awards
16:00	Coffee Break and Poster Presentations			
16:30	Session 21 Continued	Session 22 Continued (16:30~17:30)	Session 23 Continued	Session 25: New Directions in Shang Archaeology II: Interaction and Society
17:10	Session 26: Archaeology and Science of Glass	Session 27: Ancient Architecture and Cultural Heritage (17:30~18:50)	Session 35: The French-DPRK Archaeological Mission at Kaesong. Urban Development of the City of Kaesong from the Koryŏ Period to the 20th Century (DPR Korea)	
18:30	Dinner (18: 30~19:30), Faculty Cafeteria			
19:30	Chinese Journal Editors Roundtable Hui YANG(Kaogu), Yifei HUANG (Kaoguxuebao), Xia WANG (Wenwu) 19:30~21:30, Hengxueting 恒学厅			

## 11 June, Monday

	Gongxingting 躬行厅	Yixingting 以行厅	Hengxueting 恒学厅	Lixueting 励学厅
8:00	Session 28: Frontiers of Early Chinese States	Session 29: New Results in Japanese and Korean Archaeology	Session 30: Formation Process of Rice-Based Civilization in the Chinese Neolithic 2: Food Exploitation Strategy, Domestication and Rice Paddy Field	Session 31: Isotope, DNA, Health, and Demography
10:00	Coffee break and poster presentations			
10:30	Session 28 Continued (10:30~11:10)	Session 29 Continued (10:30~11:10)	Session 30 Continued (10:30~10:50)	Session 31 Continued (10:30~11:50)
11:30	Lunch (11: 30~14: 00), Faculty Cafeteria			

	Gongxingting 躬行厅	Yixingting 以行厅	Hengxueting 恒学厅	Lixueting 励学厅
14:00	Session 32: Interaction between Southeast Asia and Southern China	Session 33: Ancient Metallurgy	Session 34: Formation Process of Rice- Based Civilization in the Chinese Neolithic 3: Urbanization and Movements of People and Material	Session 36: Philosophy, Religion and Mortuary Studies
15:20				
16:00	Coffee Break and Poster Presentations			
16:30	Session 32 Continued	Session 33 Continued (16:30~16:50)	Session 34 Continued (16:30~16:50)	Session 36 Continued (16:30~16:50)
18:10	Closing Remarks			
16:30	Dinner (18:30~19:30), Faculty Cafeteria			

12-15 June Post-conference Tours

## SESSIONS

Session 1: Prehistoric Human-Environment Interaction on the Tibetan Plateau			
Organizers: Fahu CHEN, Guanghui DONG, Jade D'ALPOIM GUEDES			
No.	Name	Institution	Presentation
1	Mark ALDENDERFER	School of Social Sciences, Humanities, and Arts, University of California, Merced	Modeling Forager Mobility on the Tibetan Plateau
2	Qingpeng KONG	Kunming Institute of Zoology, Chinese Academy of Sciences	Demic Diffusion of the Southward Spread of Millet Agriculture from Northern China: Evidence from Genetic and Archaeological Studies
	Yuchun LI	Kunming Institute of Zoology, Chinese Academy of Sciences	
3	Jade D'ALPOIM GUEDES	University of California, San Diego	Moving Agriculture onto the Roof of the World: What Computational Modeling Tells us About Forager/Farmer Interactions on the Tibetan Plateau
4	Hongliang LÜ	Sichuan University	8000 Years BP Foragers on High Tibetan Plateau: The Excavation of a Microblade Site in Northeast Tibetan Plateau
5	Dongju ZHANG	Lanzhou University	Prehistoric Human Adaptation to Tibetan Plateau Environment Indicated by Site 151 in the Qinghai Lake Basin
	Qianqian WANG	Research Institute of Archaeology and Relics of Qinghai Province	
	Fahu CHEN	Institute of Tibetan Plateau Research, Chinese Academy of Sciences	
6	Juzhi HOU	Institute of Tibetan Plateau Research, Chinese Academy of Sciences	Rise and Fall of the Tibetan Empire in the 7 <sup>th</sup> - 9 <sup>th</sup> Centuries in Response to Climate Change
	Fahu CHEN	Institute of Tibetan Plateau Research, Chinese Academy of Sciences	
7	Shaoqing WEN	Fudan University	The Archaic Introgression and Recent Admixture of Human Populations in the Qinghai-Tibet Plateau
	Guanghui DONG	Lanzhou University	
8	Xiaoyan YANG	Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences	Plant Resource Exploitation in Southwestern China in Bronze Age
	Naimeng ZHANG	Lanzhou University	
	Guanghui DONG	Lanzhou University	

**Session 2: Expanding Northeast Asian Prehistory: Integrating Linguistics and Genetics with Archaeology**  
**Organizers: Martine ROBBEETS, Tao LI, Sarah NELSON**

No.	Name	Institution	Presentation
1	Martine ROBBEETS	Max Planck Institute for the Science of Human History	Millet and Beans, Language and Genes. Agriculture-Driven Language Dispersal in Northeast Asian Prehistory
2	Tao LI	Max Planck Institute for the Science of Human History, Jena	Early Millets in the Russian Far East and Korean Peninsula and Their Relations to Northeast China
	Chao NING		
3	Chuan-chao WANG	Max Planck Institute for the Science of Human History	Ancient Genomic Evidence for the Deep Ancestry of Northeast Asia
	Chao NING		
4	Choongwon JEONG	Max Planck Institute for the Science of Human History, Jena	Genetic Footprint of the Introduction of Rice Farming into the Korean Peninsula and Japanese Archipelago
	Mark HUDSON		
	Martine ROBBEETS		
5	Christina WARINNER	Max Planck Institute for the Science of Human History	Population Migration and Dairy Pastoralism on the Bronze Age Mongolian Steppe
6	Alexander SAVELYEV		Proto-Turkic, Xiongnu and Beyond: Pastoralism Versus Agriculture
7	Nataliia NESHCHERET	Max Planck Institute for the Science of Human History	Verifying the Classification of the Trans-Eurasian Languages Using Bayesian Inference
8	Sarah NELSON	University of Denver	The Migration of Farmers from the Asian Continent to the Korean Peninsula: Geographic Conditions and New Settlements
9	Irina ZHUSHCHIKHOVSKAIA	Institute of History, Archaeology & Ethnography of People of Far East, Far Eastern Branch of Russian Academy of Sciences	A Non-Ordinary Goods Complex of the Paleo-metal Period in the Southern Russian Far East
10	Kazuo MIYAMOTO	Kyushu University, Japan	Discussion
	Robert SPENGLER	Max Planck Institute for the Science of Human History, Jena	

**Session 3: The Settlement and Society in the Huai River Valley During the Shang Dynasty - Taking Taijiasi as an Example**

**Organizer: Xiaolin HE**

No.	Name	Institution	Presentation
1	Xiaolin HE	Wuhan University	A Discussion of the Settlement Plan and its Meanings at the Site of Taijiasi
2	Zhenzhen ZHAO	Shandong University	Analysis of Carbonized Botanic Remains at Taijiasi
3	Jada Wing-tung KO	Harvard University	Evaluating the Social and Political Significance of Oracle Bone Divination Practice Through the Examination of Oracle Bones Life History at Taijiasi
4	Xuezhu LIAO	Jilin University	A Preliminary Study on the Human Bone and the Tooth Abrasion at Taijiasi
5	Siran LIU	University of Science & Technology Beijing	A Multi-Proxy Investigation on the Bronze Manufacturing Activities at the Site of Taijiasi

**Session 4: The Technology of Luxury: The Manufacture and Dissemination of Precious Metals and Stones Across Asia**

**Organizers: Sarah LAURSEN, Yan LIU**

No.	Name	Institution	Presentation
1	Francis ALLARD	Indiana University of Pennsylvania	The Spatial and Socio- Political Penetration and Impact of Exotic Artifacts in Lingnan During the Han Dynasty
2	Anna BENNETT	Conservation and Technical Services Ltd, Brussels	Luxury Portable Gold Objects in the 3 <sup>rd</sup> - 1 <sup>st</sup> Century BCE with Particular Reference to a Śuṅga Period Gold Earring Recently Found in Coastal Myanmar
3	Kyeongmi JOO	Chungnam National University	Royal Gold of Baekje
4	Sarah LAURSEN	History of Art & Architecture, Middlebury College	Roots and Branches: A Comparison of Murong and Jin Goldsmithing Techniques
5	Katheryn LINDUFF	University of Pittsburgh	Symmetrically Confronting Dragons in Gold, Bronze and Jade: The Search for Status in the Inner Asian Frontier
6	Yan LIU	Ashmolean Museum, University of Oxford	Han Empire and the Far West: Gold, Exotic Horses and Immortality
7	François LOUIS	Bard Graduate Center	Notes on the Hejiacun Treasure
8	Jessica RAWSON	University of Oxford	Discussant

**Session 5: Archaeological Sites as a Reflection of the Culture of Ancient and Medieval Nomads of Asia: New Discoveries, Comparative Analysis and Complex Reconstructions**  
**Organizers: Alexey TISHKIN, Nikolai SEREGIN**

No.	Name	Institution	Presentation
1	Keita MATSUMOTO	Kyushu University	The Emergence of “The Early Nomadic Culture” in the Eurasian Steppes
2	Yanlong GUO	Smith College	Exotic and Domestic: Bronze Mirrors in Xinjiang During the First Millennium BCE
3	Alexey TISHKIN	Altai State University	Lower Headdresses of the Altai Population of the Xiongnu Time and Their Decoration (Based on Excavations of the Yaloman II Site)
4	Nikolai SEREGIN	Altai State University	Social System of Central Asian Turks in the Era of the First Kaganate (Based on the Materials of Archaeological Complexes)
5	Artur KHARINSKIY	Irkutsk State Technical University	Burials of Baikal Region of the 13th - 14th Centuries: Common and Local Characteristics
6	Sergei BOCHAROV	A. Kh. Khalikov Institute of Archaeology Tatarstan Academy of Sciences / Kazan Federal University	Results and Prospects of Archaeological Research of the Bulgar Settlement (Tatarstan, Russia)
	Airat SITDIKOV	A. Kh. Khalikov Institute of Archaeology Tatarstan Academy of Sciences / Kazan Federal University	
7	Alexey TISHKIN	Altai State University	Findings of Birch-Bark Details from Women's Headdresses in the Mounds of the Mongolian Time of the Teleutskiy Vvoz-I Site in the South of Western Siberia: Opportunities for Reliable Reconstructions
	Sergey PILIPENKO	Novosibirsk State University of Economics and Management	

**Session 6: Unpacking the Complexity of Cultural and Political Interaction from Han to Tang**  
**Organizer: Moritz HUBER**

No.	Name	Institution	Presentation
1	Lauren MORRIS	Albert-Ludwigs-Universität Freiburg i. Brsg.	Reframing Diplomacy and Memory in the Kushan Empire: New Data on the Lacquerwares Excavated at Begram
2	Shing MÜLLER	Ludwig-Maximilians-Universität München	Precious Ear Cups of Silver for the Xianbei
3	Satomi HIYAMA	Japan Society for the Promotion of Sciences (JSPS) / Ryukoku University	Simple Stylistic Matter or Reflection of Cultural Identities? Study on the Rock Monasteries with “Indo-Iranian” Style Paintings in the Kucha Kingdom
4	Moritz HUBER	University of Munich	A Chinese Central Asian Girl Group



**Session 7: Meaning of Motifs and Themes in Chinese Tomb Art**  
**Organizer: Annette KIESER**

No.	Name	Institution	Presentation
1	Margareta PRÜCH	Institute of East Asian Art History, University of Heidelberg	A New Perspective on Han Lacquer Ornaments
2	Nataša VAMPELJ SUHADOLNIK	Department of Asian and African Studies, University of Ljubljana, Slovenia	Fuxi and Nüwa in the Murals of Han and Wei-Jin Tombs
3	Annette KIESER	Institute for East Asian Studies, University of Muenster	No Space for Filial Piety? The Waning of a Popular Motif During the Southern Dynasties
4	Shing MÜLLER	Ludwig-Maximilians-Universität München	Square Tents of the 5 <sup>th</sup> Century in Northern China
5	Chin-Yin TSENG	Dunhuang Academy	Military Retainers into Eternity: The Depiction of Military Troops in Pingcheng Tombs and the Private Household Institution of Buqu in Practice
6	Ina ASIM	Department of History, University of Oregon	The Tomb of Madame Mei Miaodeng (1430 - 1474)

**Session 8: The Tao River Archaeological Project - Gansu, China**  
**Organizers: Rowan Kimon FLAD**

No.	Name	Institution	Presentation
1	Rowan Kimon FLAD	Harvard University	The Tao River Archaeological Project: Technological Change Along the Proto-Silk Road
	Jing ZHOU	Gansu Provincial Institute of Archaeology	
	Hui WANG	Gansu Provincial Institute of Archaeology	
	Shuicheng LI	Peking University	
2	Ling-yu HUNG	Indiana University	Technology and Organization of Pottery Production: Ethnoarchaeology in the Tao River Region, NW China
3	Andrew WOMACK	McGill University	The China Ceramic Petrography Database: A New Platform for Ceramic Data Sharing
4	Anke HEIN	Oxford University	The Xindian Site, Xindian Culture, and Xindian Ceramics: New Insights from Gansu and Stockholm
5	Rongzhen GUO	Shandong University	The Archaeobotany of the Qijiaping Site
	Jade D' ALPOIM GUEDES	University of California, San Diego	
	Guiyun JIN	Shandong University	
6	Katherine BRUNSON	Brown University	Sheep and Goat Pastoralism in Northwest China

7	Chengrui ZHANG	Harvard University	A Song Dynasty Tile Kiln at Qijiaping: Gender and Pyrotechnology in Medieval China
8	Jada Wing-tung KO	Harvard University	Reporting the Qijiaping Excavation in the Form of Moving Image: A Self-Reflexive Study on the Politics of Memory in Archaeology
9	Elizabeth S. BERGER	Lieberthal-Rogel Center for Chinese Studies, University of Michigan	Climate Change and Adaptation in Bronze Age Gansu
	Hui WANG	Gansu Provincial Institute of Cultural Relics and Archaeology	
10	Jenna M. DITTMAR	McDonald Institute for Archaeological Research, University of Cambridge	The Construction of Social Identity and Power Dynamics Through Violence: Skeletal Evidence from Bronze Age China
	Hui-Yuan YEH	School of Humanities, Nanyang Technological University	
	Elizabeth S. BERGER	Lieberthal-Rogel Center for Chinese Studies, University of Michigan	
	Jennifer AUSTEN	Department of Archaeology, University of Reading	
	Xiaoya ZHAN	Anthropology Department, Rutgers University	
	Mauricio HERNANDEZ	Department of Radiological Sciences, Ronald Reagan UCLA Medical Center	
	Ruilin MAO	Gansu Provincial Institute for Cultural Relics and Archaeology	
	Hui WANG	Gansu Provincial Institute for Cultural Relics and Archaeology	
	Piers D. MITCHELL	Department of Archaeology, University of Cambridge	
11	Wen-yuan NIU	Tarim University	Application of Multi-Source Data Fusion in Archaeology and Cultural Studies Around the Tarim Basin
12	Tingting WANG	Department of Anthropology, School of Sociology and Anthropology, Sun Yat-sen University	Isotopic Method as a Prism Reflecting Past Stories: Iso-Biography of Iron Age Mummified Yingpan Man from the Lop Nor Region of Xinjiang, China
	Benjamin T. FULLER	Aarhus University	
	Dong WEI	Research Center for Chinese Frontier Archaeology, Jilin University	
	Hong' en JIANG	Department of Anthropology and Archaeology, University of Chinese Academy of Sciences	
	Wenying LI	Institute of Archaeology and Cultural Relics of Xinjiang Uyghur Autonomous Region	
	Yaowu HU	Department of Anthropology and Archaeology, University of Chinese Academy of Sciences	

**Session 9: Material Connections at the Extremities of the Silk Roads**

**Organizer: Simon KANER**

No.	Name	Institution	Presentation
1	Simon KANER	Sainsbury Institute for the Study of Japanese Arts and Cultures	Repurposing Exotics from the Silk Roads: Contexts and Networks
2	Neil PRICE	University of Uppsala	Vendel- and Viking-Age Scandinavia and the Silk Roads: Archaeological Implications
3	Charlotte HEDENSTIERNA-JONSON	University of Uppsala	Silk in Stone –Conceptions Beyond the Fabric in Viking Age Scandinavia
4	Susan WHITFIELD	Sainsbury Institute	Religion and the Changing Landscapes of the Silk Road
5	Ju-Hyung RHI	Seoul National University	The Migration of a Motif: The Lotus Seat with Nagas
6	Shinya SHODA	Nara National Research Institute for Cultural Properties / BioArCh, University of York	Hybridity of the Adoption of Buddhism in Ancient Japan
7	Robert SPENGLER	Max Planck Institute for the Science or Human History	Archaeobotany of the Silk Road
8	Masatoshi YAMAFUJI	Nara National Research Institute for Cultural Properties	A Chronological Consideration on the Rabat of Ak-Beshim/Suyab, a City on the Silk Road: A Preliminary Result of an Analysis on Pottery from the 2015 Seasons
	Masayoshi JOKURA	Waseda University	
	Kazuya YAMAUCHI	Teikyo University	
	Bakit AMANBAEVA	National Academy of Science, Kyrgyz Republic	
9	Jie YIN	Nanjing University	The Original Source of Monumental Pillars of Liang Dynasty
10	Liangren ZHANG	Nanjing University	Chinese Archaeological Field Projects Beyond the Border: A Review

**Session 10: Archaeological Jades in East and Southeast Asia: Current Research and Future Direction**

**Organizers: Iona R. BAUSCH, Gina BARNES**

No.	Name	Institution	Presentation
1	Gina L. BARNES	SOAS and Durham University	Plate Tectonic Settings of Chinese Jade & Jade Sourcing
2	Tatsuki TSUJIMORI	Center for Northeast Asian Studies, Tohoku University	Jadeitite ( ‘Jadeite Jade’ ) in Japan: An Overview
3	Yoshiyuki IIZUKA	Institute of Earth Sciences, Academia Sinica	Re-Discovery of Nephrite Jade Artifacts from the Japanese Archipelago: Petrological and Mineralogical Investigation of Jomon Stone Tools

4	Lauren GLOVER	University of Wisconsin-Madison	A Comparative Analysis of Comma Shaped Jade Beads of Korea and Japan 250 - 700 CE
5	Ilona R. BAUSCH	Dept. of Cultural Resource Studies, University of Tokyo	Temporal and Spatial Diversity in the Social Value of Jomon Jadeite Ornaments
6	Tsuimei HUANG	Department of Art History, Tainan N. University of the Arts	Cultural Biography of Jade Cong: From Neolithic to Zhou
7	Elizabeth CHILDS-JOHNSON	Independent Scholar	The Changing Social Value of Nephrite Jade During the Jade Age (ca. 3500 - 2000 BCE) in China, including Erlitou

**Session 11: Studies of Images During the Eastern Zhou and Han Period**  
**Organizer: Huichih CHUANG**

No.	Name	Institution	Presentation
1	Yin ZHANG	Shaanxi Normal University	The Origin of the Patterns of the Ibex and Sheep on Metalwares in the Northern China During the Eastern Zhou Dynasty
2	Fanwen ZHOU	Sun Yat-Sen University	Crested Rower Pictures from Bronze Artifacts in Southern China and Southeast Asia
3	Wenjie ZHANG	Xiamen University	The Wedding Painting on the Lacquer Wares from Baoshan Tomb No. 2
4	Huichih CHUANG	Tainan N. University of the Arts	A Study of 28 Constellations of the Han Dynasty
5	Pan PAN	Eastern Washington University	The Transitional Status of Evolution of the Four Gods — The Example of Decor of Danglu from the Marquis of Haihun' s Tomb
6	Hu ZHU	East China Normal University	A Research on the Pictorial Stone Carving Found in the Tomb of Cao Cao

**Session 12: Geomancy, Topography, and Landscape: Alternative Perspectives on Tomb Burial Practice in the Tang-Song Transition**  
**Organizer: Fan LIN**

No.	Name	Institution	Presentation
1	Yijun HUANG	Minzu University of China	Through the Lenses of Archaeological Discoveries and Geographical Sources: The Formation of Regional Culture in South China in the Tang and Song Periods
2	Lianyu JIN	Protection and Management Center of Nanjing City Wall	Overall Layout and Funeral Idea of Northern Song Lü Family Cemetery in Lantian County
3	Fan LIN	Leiden University	Geomantic Manuals, Topographic Maps, and Landscape Paintings: Imaging and Siting Tombs in the Tang and Song Period
4	Gege YU	The Institute of Chinese Agricultural Historic Heritage, South China Agricultural University	The Influence of Geomancy Principles on the Selection Methods of Tombs in the Song Dynasty

**Session 13: Re-Evaluating Weapons**

**Organizers: Qin CAO, Xiuzhen LI, Yanli GUO**

No.	Name	Institution	Presentation
1	Yanli GUO	Shaanxi Normal University	Ritual and Practice: A Comparison of Bronze Weaponry between the Central Kingdoms and the Surrounding Areas During the Shang and Zhou Dynasties
2	Qin CAO	National Museum of Scotland	Ceremonial or Lethal? Metalwork Wear Observations on Late Shang Weapons in the British Museum
3	Alice Yu CHENG	University of Oxford	Bronze Weapons of the Neglected Soldiers: A Study of the Bronze Dagger-Axes of the Lesser Elites in the Early Western Zhou Period (1045 - 978 B.C.)
4	Xiuzhen LI	Emperor Qin Shihuang's Mausoleum Site Museum	Ritual or Functional? Bronze Weapons of the Qin Terracotta Army
5	Carola FRANZEN	Ludwig-Maximilians-University Munich	Protection, Prestige and Identity — Body Armour in the Context of Burials and Other Sites from the Han to Tang Era in China

**Session 14: East-West Interaction Across the Mongolian Steppes in the Bronze and Early Iron Age**

**Organizers: Ursula BROSEDER, Joshua WRIGHT**

No.	Name	Institution	Presentation
1	Peter Weiming JIA	University of Sydney	Ethnographic Analysis of Steppe Pastoralism in Relation to the Study of Bronze and Early Iron Age Settlement
2	Alison BETTS	University of Sydney	Mechanisms of East-West Interaction
3	Qi MENG	University of Sydney	Mongolian Influence on the Eastern Tianshan Mountains and the Dzungaria Basin During the Bronze Age and Early Iron Age: New Discoveries in Xinjiang, China
4	Ursula BROSEDER	University of Bonn	Bioarchaeological Research on Societal Change in Central Mongolia and its Trans-regional Connections
5	Joshua WRIGHT	University of Aberdeen	Agency, Action and Architectonics: Similar Non-Mortuary Monumental Structures in Southern Mongolia
6	Gary Yiu-Kang HSU	Bergbau-Museum Bochum	The Dawn of Bronze Metallurgy in Ancient Mongolia: An Archaeometallurgical Study

**Session 15: New Approach to the Spread of Prehistoric Agriculture in North-East Asia**

**Organizers: Kazuo MIYAMOTO, Fengshi LUAN**

No.	Name	Institution	Presentation
1	Fen WANG	Shandong University	Research on Subsistence in the Jiaodong region: Case Studies from the Beiqian Site

2	Rongzhen GUO	Shandong University	The Study of Pre-Historical Rice Remains in the Haidai Region
3	Nobuhiko KAMIJO	Hirosaki University	The Process of Accepting Rice Cultivation in Shandong Peninsula as Seen from the Rice Grain Shapes
	Guiyun JIN	Shandong University	
4	Tetsuro UDATSU	Miyazaki University	Investigation by Phytolith Analysis of Ancient Paddy Fields around the Site of Yangjiajuan
5	Hiroki OBATA	Kumamoto University	Report on the Prehistoric Cultigens Based on the Plant Impressions in Potteries from Shandong and Liaodong Peninsulas, China
6	Kazunori MISAKA	Kyushu University	The Process of the Expansion of Agriculture in North-Eastern Asia by Analyses of Pottery-Making Techniques
7	Kazuo MIYAMOTO	The faculty of Humanities, Kyushu University	Rethinking the Dating of the Beginning of Yayoi Culture
8	Katsunori TANAKA	Hirokosaki University	DNA Analysis for the Rice Remain from Northern Kyushu Island, Japan

**Session 16: Technical Transfer of Early Kilns in Peripheral Areas of East Asia**  
**Organizers: Maria SHINOTO, Tomoko NAGATOMO**

No.	Name	Institution	Presentation
1	Maria SHINOTO	Heidelberg University	Agile Research Design in Interdisciplinary Research on Ancient Kiln Technology
2	Isao USUKI	Sapporo Gakuin University	Features of Kilns of Xiongnu and Khitan in Mongolia
	Katsuhiko KIYAMA	Tokai University	
3	Tomoko NAGATOMO	Ritsumeikan University	Two Kinds of Pit Kiln and Their Expansion: 3 <sup>rd</sup> Century BCE to 4 <sup>th</sup> Century CE in East Asia
	Daisuke NAKAMURA	Saitama University	
4	Takafumi YAMAMOTO	Nihon University	Diversity of Stoneware Production and Distribution during the Three Kingdoms Period on Korean Peninsula
5	Naoko NAKAMURA	Kagoshima University	Appearance and Development of Japan's Southernmost Sue Kilns in Kagoshima
6	Lingling DENG	Chinese University of Hong Kong	Prestige-Goods in Pottery Workshops — A Case Study on Pottery Ling from Taosi

**Session 17: New Directions in Shang Archaeology I: Production**  
**Organizer: Koji MIZOGUCHI**

No.	Name	Institution	Presentation
1	Yoshiyuki IIZUKA	Institute of Earth Sciences, Academia Sinica	Metallurgical Study of Anyang Bronze objects in the Academia Sinica Collection
	Junko UCHIDA	Institute of History and Philology, Academia Sinica	

2	Mai SUZUKI	The Research Institute for Oriental Culture, Gakushuin University	Study on the Production System of Bronze Vessels in the Late Shang Period: Through the Classification of Bronzes from the Tomb of Fu Hao
3	Meng GUO	Northwest University	White Metal Imitates Bronze: A Study of Tin-Coated Pottery in YinXu
4	Junko UCHIDA	Institute of History and Philology, Academia Sinica	Large-Sized Shang Bronze Ritual Vessels in the Nezu Collection
5	Yi-Ling LIN	Washington University in St. Louis	The Environmental Effect of Bronze Production During the Shang Dynasty at Anyang, Henan Province, China
6	Ruiliang LIU	University of Oxford	The Mass Production of Bronzes at the Casting Metropolis of Anyang: Standardization and Changes
	Mark POLLARD	University of Oxford	
	Jessica RAWSON	University of Oxford	
7	Katrinka REINHART	Stanford University	Multivariate Analysis of Ceramic Data from Yanshi Shangcheng: Inquiry into Social Differentiation and Ceramic Manufacture at an Early Bronze Age Settlement of Northern China

#### Session 18: Techniques of Artistic Production

Organizer: Minku KIM

No.	Name	Institution	Presentation
1	Xiaoxuan LI	School of Arts, Southeast University	Pictorial Bronzes Commodified: The Line-Incised Decoration of Eastern Zhou and the Rise of Commercialism
2	Yang MO	Institute of Archaeology, Chinese Academy of Social Sciences	Rethinking “Three Ritual Bronzes of Pingshan” in the Warring States Period Zhongshan State
3	Kin Sum LI	Department of History, Hong Kong Baptist University	A Method of Mass Producing Bronze Mirrors in Ancient China
4	Minku KIM	Department of Fine Arts, The Chinese University of Hong Kong	The Date of Kongwangshan Reconsidered
5	Wei YU	School of Arts, Southeast University	Visualizing Śarīra: The Tang Stone Buddhist Reliquary from Lantian and Its Reliefs
6	Jun'ichiro TSUJITA	Faculty of Humanities, Kyushu University	The Production of the Chinese Bronze Mirrors During the 5 <sup>th</sup> Century as Seen from the Mirrors Excavated from Sites in Japanese Archipelago

#### Session 19: New Research on Technology and Cross-Cultural Exchange in Han China

Organizer: Allison MILLER

No.	Name	Institution	Presentation
1	Zhefeng YANG	Peking University	The Development of Han Dynasty Ceramics: New Discoveries

2	Wenjing YU	Peking University	An Analysis of Painted Pottery in the Xi' an Region
3	Allison MILLER	Southwestern University	Purple Pigments and Dyes in Han China
4	Pin-Chu SHIH	Peking University	New Research on the Money Trees Excavated from Eastern Han Tombs in Southwest China

**Session 20: Ceramics Production and Circulation**  
**Organizer: Michele Huberte Serafine DEMANDT**

No.	Name	Institution	Presentation
1	Michele Huberte Serafine DEMANDT	Jinan University, Guangzhou	Mechanisms of Bronze Age Ceramic Innovation in the Lingnan Region
2	Yu DING	Beijing Normal University	Longquan Celadon Found on the Eastern African Coast
3	Zequn LI	School of History, Nanjing University	The Provenance of Eastern Zhou Proto-Porcelain Wares from the Circum-Tai Region
	Liangren ZHANG	School of History, Nanjing University	
4	Meng LYU	The Graduate School of Human and Socio-Environmental Studies, Kanazawa University	A Study on the Same-Mold Tile-Ends of the Northern Qi Dynasty: Focusing on the Tile-Ends from the Hetaoyuan No.1 Architecture
5	Xiying XIE	Zhejiang Provincial Institute of Cultural Relics and Archaeology	A Study on the Region and Stage of Porcelain Industry of the Tang Dynasty in Zhejiang Province
6	Lingyi ZENG	Yale University	Ceramic Consumption and Exchange in the Mongol Empire

**Session 21: Historical Environments in the Xiongnu Center**  
**Organizers: Isao USUKI, Daisuke NAKAMURA**

No.	Name	Institution	Presentation
1	Isao USUKI	Sapporo Gakuin University	Importance of the Khustyn Bulag Site in the Study of Xiongnu History
	Teruo YANAGIMOTO	International cultural property center	
	Amartuvshin CHUNAG	Institute of Archaeology, Mongolian Academy of Sciences	
2	Tetsuo SHOJI	Nara University	Archives of Khustyn Bulag Sites
3	Masatoshi SAGAWA	Tohoku Gakuin University	Kilns, Roof Tiles, and Bricks of the Kustyn Bulag Site of the Xiongnu Period
	Hiromi UCHIDA	Kokugakuin University	
4	Katsuhiko KIYAMA	Tokai University	Features of Xiongnu Pottery and Roof Tile in Mongolia
	Masatoshi SAGAWA	Tohoku Gakuin University	
5	Lochin ISHITSEREN	Institute of Archaeology, Mongolian Academy of Sciences	Iron Production in the Xiongnu Period
	Tomotaka SASADA	Ehime University	



6	Daisuke NAKAMURA	Saitama University	Burials in Khustyn Bulag from the Bronze Age to the Xiongnu Period
	Seiji KURIBAYASHI	Tokushima Prefecture Research Institute for Buried Cultural Properties	
	Gelegdorj EREGZEN	Institute of Archaeology, Mongolian Academy of Sciences	
7	Tomomi TAMAURA	Nara National Research Institute for Cultural Properties	Archaeometrical Approach to Glass Beads Trade in the Xiongnu Period
	Daisuke NAKAMURA	Saitama University	
	Gelegdorj EREGZEN	Institute of Archaeology, Mongolian Academy of Sciences	
8	Erdene MYAGMAR	Department of Anthropology and Archaeology, National University of Mongolia	A Case of Pregnant Woman Burial of the Xiongnu Period in Mongolia

**Session 22: East Asian Archaeologies of Landscape: Recent Perspectives, Future Prospects**  
**Organizer: Mick ATHA**

No.	Name	Institution	Presentation
1	Mick ATHA	The Chinese University of Hong Kong	Reconstructing Past Social Landscapes from Development-Funded Archaeological Data: A Case Study from Hong Kong
2	Ursula BROSEDER	University of Bonn	Monuments and Memory — A Ritual Landscape in Central Mongolia
3	Francesca MONTEITH	Peking University	Presence and Absence: The Use of Space in Religious Rock Carvings in Southern Sichuan
4	Susanne REICHERT	University of Bonn	Power — Landscapes — Empires: a Microregional Comparison of the Khanui and Orkhon Valleys in the Mongol Period
5	Michael STOROZUM	Nanyang Technological University	Geoarchaeological Evidence for Human-Environment Interactions in the Yellow River Valley in Northern Henan
6	Fabian Humberto TORO	Sichuan University	Archaeological Rice Paddies as Domesticated Landscapes
7	Yue FU	Central China Normal University	Discussion on the Management of the Western Zhou Dynasty to the Middle Reaches of the Yangtze River
	Xujing GAO	Hubei Provincial Institute of Cultural Relics and Archaeology	
8	Dongdong LI	School of Ethnology and Sociology, Minzu University of China	Population Distribution and Settlement Patterns in the Xiaocheng-Taojiahu Region of Jiangnan Plain, China
9	Andrew HARRIS	University of Toronto	A New Form of Cosmic Renewal at Angkor Thom: Understanding the Evolution of the Khmer Cambodian Ritual Landscape c.14 <sup>th</sup> - 16 <sup>th</sup> Centuries through the Construction and Placement of Theravada “Buddhist Terraces”

**Session 23: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 1: From the Scope of Food Selection, Processing**

**Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Shinji KUBOTA**

No.	Name	Institution	Presentation
1	Ayako SHIBUTANI	National Museum of Japanese History	Plant Food in the Neolithic Lower Yangtze Area, China, from Starch Granules of Human Dental Calculus
	Bin LIU	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Jie CHEN	The Shanghai Museum	
	Jian SONG	The Shanghai Museum	
	Kenji OKAZAKI	Tottori University	
	Yu ITAHASHI	The University Museum, The University of Tokyo	
Shin'ichi NAKAMURA	Kanazawa University		
2	Yumiko MURAKAMI	Kyoto University	Composition of Wooden Tools and Subsistence Strategies at the Tianluoshan Site, Zhejiang, China
	Guoping SUN	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Yonglei WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	
3	Nobuhiko KAMIJO	Hirosaki University	Subsistence Strategies at the Tianluoshan Site, Zhejiang, China, Reconstructed by Starch Residue Analyses
4	Shinya SHODA	Nara National Research Institute for Cultural Properties / BioArCh, University of York	Chinese Early Neolithic Pottery Used for Processing Starchy Plants
	Alexandre LUCQUIN	BioArCh, University of York	
	Chi Ian SOU	BioArCh, University of York	
	Yastami NISHIDA	Niigata Prefectural Museum of History	
	Guoping SUN	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Hiroshi KITANO	Tohoku University of Art and Design	
	Joon-ho SON	Korea University	
	Shin'ichi NAKAMURA	Kanazawa University	
Oliver E. CRAIG	BioArCh, University of York		

5	Motoki HARADA	Aichi Prefectural Board of Education Office Cultural Properties Preservation Section	Harvesting Tools in the Late Neolithic Lower Yangtze Area
	Keisuke MAKIBAYASHI	Ehime University	
6	Shinji KUBOTA	Kanazawa University	Rice Cooking Method in Hemudu Culture at the Tianluoshan Site, Zhejiang Province, China
	Masashi KOBAYASHI	Hokuriku Gakuin University	
	Yoshiki MIYATA	Kanazawa University, Japan	
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Yonglei WANG	Zhejiang Provincial Institute of Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	
7	Masashi KOBAYASHI	Hokuriku Gakuin University	A Cross-Cultural Comparison of Rice Cooking Methods of Early Rice Farmers of the Hemudu Culture in the Lower Yangtze River and the Yayoi Culture in Japan
	Shinji KUBOTA	Kanazawa University	
	Yoshiki MIYATA	Kanazawa University, Japan	
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Yonglei WANG	Zhejiang Provincial Institute of Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	
8	Rong FAN	Yale University	Subsistence Strategies and Coastal Adaptation Around 6000 BP in the Jiaodong Peninsula — Inferences from Human Skeletal Remains
	Yongsheng ZHAO	Shandong University	

**Session 24: President's Session: SEAA Student Awards**  
**Organizer: Francis ALLARD, Katheryn LINDUFF**

No.	Name	Institution	Presentation
1	Janice NGIAM	McGill University	The Xiongnu as Barbarian: Construction Through Mistranslations and Ideological Baggage
2	Kristen PEARSON	University of Pennsylvania	Making on the Move: Textiles and Mobility in the Archaeological Record
3	Chae Lin JEON	Seoul National University	Bioarchaeological Analysis of Commingled Human Skeletal Remains from an Urn Coffin in South Korea (Three Kingdoms Period)
4	Christopher KIM	Columbia University	Early Qin Centers: GIS-Based Forays into State Structure Analysis

**Session 25: New Directions in Shang Archaeology II: Interaction and Society**

**Organizer: Junko UCHIDA, Kuei-chen LIN**

No.	Name	Institution	Presentation
1	Koji MIZOGUCHI	Kyushu University	Strategic Choice of Grave Pit Axis Direction in the Anyang Xibeigang Royal Tombs
	Junko UCHIDA	Institute of History and Philology, Academia Sinica	
2	Maria KHAYUTINA	University of Munich	The Shi Lineage of Western Shandong and its Interaction Spheres
3	Celine LAI	Chinese University of Hong Kong	Insights from the Shang-Period Remains in the Lower Huai River Valley
4	Jinok LEE	University of Texas at Austin	The Shang State Formation on the Periphery
5	Yanli GUO	Chinese Academy of Social Sciences	Studies on the Shang Dynasty Archaeology from Northern Shaanxi Plateau
6	Ning WANG	Jiangsu Normal University, China	Isotopic Results Reveal Possible Links Between Diet and Social Status in the Late Shang Dynasty (ca. 1250 – 1046 BC) Tombs at Xiaohucun, China

**Session 26: Archaeology and Science of Glass and Glaze—Some New Discoveries**

**Organizers: Julian HENDERSON, Rui WEN, Hongjiao MA**

No.	Name	Institution	Presentation
1	Julian HENDERSON	Chair of Archaeological Science, University of Nottingham UK and Nottingham University Ningbo	Chinese Glass Archaeometry: Where are we now?
2	Rui WEN	Northwest University	The Chemical Compositions and Manufacture Techniques for the Glass Beads Excavated from the Yanghai cemetery in the Turpan Basin, Xinjiang
3	Qinglin MA	Chinese Academy of cultural Heritage	Identification Characterization of Alteration Layer on a Black-Glazed Bowl of the Song Dynasty China
4	Xiaoqi WANG	Nanjing University	A Study on the Glass Beads Found at the Site of Yanliaofang, Nanjing
	Huan HU	School of Earth Sciences and Engineering, Nanjing University	
	Yun'ao HE	Department of Archaeology and Cultural Relics, School of History, Nanjing University	

**Session 27: Ancient Architecture and Cultural Heritage**

**Organizer: Clayton BROWN**

No.	Name	Institution	Presentation
1	Clayton BROWN	Utah State University	The China Monuments Society

2	Xiao MA	Nanjing University	An Interpretation of 8000BP Housing Forms: Reconstruction of Houses at the Shunshanji Site in Sihong City, China
	Xueying ZHOU	Nanjing University	
3	Yuan WANG	Nanjing University	Research on the Age, Nature and Designation of Some Architectural Units in Majiazhuang No.3 Building Complex of Yongcheng
4	Dongdong WANG	Chinese Academy of Cultural Heritage	The Livelihood of Local Residents near the Nara Palace: Site Conservation Issues and Solutions

**Session 28: Frontiers of Early Chinese States**  
**Organizers: Yan SUN, Chin-hau LEI**

No.	Name	Institution	Presentation
1	Tianjing DUAN	Jilin University	On the Cultural Relations in Northeastern China During the Erlitou Culture Period (1900 - 1500 BCE)
2	Osamu KIKAWADA	N. Taiwan University	An Investigation of the Shang and Zhou Bronzes from the Hoards in the Middle and Lower Reaches of the Xiang River in Hunan Province, China
	Ayami YOSHINO		
3	Ryosuke KAKUDO	Komazawa University	Changing Eastern Boundaries of the Western Zhou State: Insights Provided by Inscribed Bronze Sources
4	Chin-hau LEI	The Education University of Hong Kong	Territoriality and State Power: The “Southern Land” and the Trifurcation of the Early Western Zhou State
5	Katheryn LINDUFF	University of Pittsburgh	The Inner Asian Frontier Reconsidered
	Yan SUN	Gettysburg College	
6	Rongyu SU	Chinese Academy of Science	Fork-Shaped Bronze from Shizhaishan, Jinning: The Entanglement of Bronzes Between Yunnan and Eurasia
7	Yanli GUO	Shaanxi Normal University	Similarities and Differences of Zoomorphic Designs on Bronzes Between the Steppe and the Central Plain in the Eastern Zhou Period
8	Liyan ZHANG	Northeast Normal University	Were Women from the Northern Zone Warlike? — The Social Role of Women in North China During the Eastern Zhou Period

**Session 29: New Results in Japanese and Korean Archaeology**  
**Organizer: Oki NAKAMURA**

No.	Name	Institution	Presentation
1	Hari BLACKMORE	University of Cambridge	Heterarchical Social Organization in Proto-Historic Central Korea (c. 100 BCE - 250 CE) - Textual and Archaeological Evidence from Mahan
2	Jack DAVEY	University of California, Berkeley	Mortuary Practices and Cultural Boundaries in Iron Age Korea
3	James LOFTUS	Kyushu University	Itazuke Style Globular Earthenware: A Micro-Regional Case Study of Yayoi Pottery Trends in Northern Kyushu, Japan

4	Helene PETITJEAN	Paris IV Sorbonne - CREOPS	The Appearance of Bronze Mirrors in Japan During the Middle Yayoi Period: The Case of the "Korean" Mirrors
5	Kenichi YANO	Ritsumeikan University	Robotic Archaeological Survey of Tsuzuraozaki Underwater Site in the Lake Biwa, Japan
	Mei KONDO	Ritsumeikan University	
	Sadao KAWAMURA	Ritsumeikan University	
	Nobutaka SHIMADA	Ritsumeikan University	
6	Britta STEIN	Martin-Luther-University Halle-Wittenberg	Kofun Period Horse Culture and the Illusion of a Warrior Elite
7	Oki NAKAMURA	Ritsumeikan University	Rituals, Burials and Population Dynamics of the Late and Final Jomon Period in Japan
8	Masahiro FUKUNAGA	Kyushu University	The Regional Diversity of Hunter-Gatherer Societies — From an Analysis of the Jomon Society of the Japanese Archipelago

**Session 30: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 2: Food Exploitation Strategy, Domestication and Rice Paddy Field**  
Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Ryuji ISHIKAWA

No.	Name	Institution	Presentation
1	Leo Aoi HOSOYA	Kanazawa University	Ethnoarchaeology of Plant Food Usage and Cultivation in the Lower Yangtze Region
	Ping YANG	Shiga Prefectural Museum of Biwa Lake	
2	Ryuji ISHIKAWA	Hirosaki University	Studies on the Domestication Process of Chinese Edible Plants, Water Chestnut ( <i>Trapa bispinosa</i> )
	Taro KATAOKA	Hirosaki University	
	Linghua TANG	Jiangsu Academy of Agricultural Science	
3	Hiroyuki TASAKI	Ehime University	Paddy Field Construction and Utilization of the Liangzhu Period Viewed from the Trial Excavation of the Xunshan Site
	Tetsuro UDATSU	Miyazaki University	
	Yunfei ZHENG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Pin DING	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Bin LIU	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
4	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Yu ITAHASHI	The University Museum, The University of Tokyo	
	Takashi GAKUHARI	Kanazawa University	
	Masashi MARUYAMA	Graduate School of Oceanography, Tokai University	
	Hiroki KUKUCHI	Chinese Academy of Social Sciences	

4	Junmei SAWADA	Niigata University of Health and Welfare	Dietary Shift of the Neolithic Rice Farmers at the Lower Yangtze River Region Elucidated by Amino Acid $\delta^{15}N$ Analysis
	Kenji OKAZAKI	Tottori University	
	Hirofumi TAKAMUKU	Doigahama Site Anthropological Museum	
	Leping JIANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Bin LIU	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	
	Minoru YONEDA	The University Museum, The University of Tokyo	
5	Kenji OKAZAKI	Tottori University	Difference in Oral Environments between the Neolithic Populations with Wet-Rice and Millet Domestications in East China
	Hirofumi TAKAMUKU	Doigahama Site Anthropological Museum	
	Jie CHEN	The Shanghai Museum	
	Guoyao RUI	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Fengshi LUAN	Shandong University	
	Dong WEI	Jilin University	
	Hong ZHU	Jilin University	
6	Songtao CHEN	Shandong University	Multidisciplinary Research on the Subsistence Strategy of Wutai Site, Shandong Province, China
	Guiyun JIN	Shandong University	
	Fuqiang WANG	Yantai Museum	
	Wenwan WU	Nanjing Museum	
	Zhenzhen ZHAO	Shandong University	
7	Shao LEI	Ningbo Municipal Institute of Cultural Relics and Archaeology	Excavation and Research at the Daxie Prehistoric Salt Production Site in Ningbo, Zhejiang

**Session 31: Isotope, DNA, Health, and Demography**  
**Organizer: Yaowu HU**

No.	Name	Institution	Presentation
1	Yaowu HU	Department of Archaeology and Anthropology, University of Chinese Academy of Sciences	Beyond the Diets: Hair Isotopic Fluctuations Reflect the Physiological Stresses of Modern and Ancient Humans in China

2	Christopher KIM	Columbia University	Salt Production and the Political-Economic Landscape of Northern Shandong, ca. 1250 – 500 BCE
3	Cheng Yi LEE	Institute of History and Philology, Academia Sinica	Isotopic Perspectives of Dietary Patterns in Taiwan After the Introduction of Crops
4	Dongya YANG	Department of Archaeology, Simon Fraser University	Ancient DNA Analysis of Archaeological Fish Remains
5	Xiaoran ZHANG	Zhengzhou University	Tooth Abrasion and Health Status of Yangshao Culture Residents at the Wanggou Site, Zhengzhou
	Yawei ZHOU	Zhengzhou University	
	Yiming WANG	Zhengzhou University	
	Miao MENG	Zhengzhou University	
6	Jun LI	School of Sociology and Anthropology, Sun Yat-Sen University	Detection of Archaeological Demographic Transition in China
7	Hiroataka TOMITA	Kyushu University	Differences in Health Status between Urban and Rural Settlements in Western Japan in the Edo Period
8	Masatomo MATSUURA	Kyushu University, Graduate School of Integrated Sciences for Global Society	Cranial Morphological Characteristics in the Kofun Period in Middle Kyushu
9	Corey NOXON	Ritsumeikan University	Jōmon Paleodemography: Insights into the Roles of Sedentism and Agriculture in the Neolithic Demographic Transition
10	Dian CHEN	University of Chinese Academy of Sciences	A Preliminary Study on Submicro-structural Image of Nephrite from Anyang Yin Ruins Based on Multi-spectral Imaging Technology and Gray-Level Co-occurrence Matrix
	Wugan LUO		
	Yuling HE	Institute of Archaeology, Chinese Academy of Social Sciences	
	Zhanwei YUE		
	Jigen TANG	University of British Columbia	
	Zhichun JING		
Changsui WANG	University of Chinese Academy of Sciences		

**Session 32: Interaction between Southeast Asia and Southern China**  
**Organizer: Xiaofen HUANG**

No.	Name	Institution	Presentation
1	Rita DAL MARTELLO	UCL Institute of Archaeology	Recent Developments on the Spread of Agriculture to Southwest China: A Comparative Analysis of Archaeobotanical Remains, Ecology and Climate
2	Shanshan WEI	Shaanxi Normal University, Anthropology Museum of Guangxi	A Study of Prehistoric Cultures in the Zuojiang Huashan Rock Art Region of Guangxi, China
	Qingping YANG	Guangxi Institute of Cultural Relic Protection and Archaeology	



3	Junna ZHANG	Beijing Union University	Ancient Landform and Paleoenvironment of the Luojiaba Site, a Representative Site of the Mysterious Ba Culture Between 5300 - 4500 cal yr BP in Northeastern Sichuan Province, China
4	Xingxiang ZHANG	University of Science and Technology of China	Investigating Human Migration and Horse Trade in Yelang through Strontium Isotope Analysis of Skeletons from Sites in the Zhougshui River Valley, South-West China (1300 BC – AD 25)
5	Luhong ZHENG	Sichuan Provincial Cultural Relics and Archaeology Research Institute	The “Ba” Acculturated to “Han” : An Ethnic Archaeological Analysis Basing on the Archaeological Site of Chengba in Qu County in Sichuan Province
	Hui DU	Southwest Minzu University of China	
6	Xiaofen HUANG	University of East Asia in Japan	The Exploration and Research of Ancient Cities in the Red River Delta — By Examining the Excavation Results of the Luy Lau City in Vietnam
7	Yudian ZHOU	School of History, Wuhan University	Excavation at the Hoabinhian site of Laang Spean Cave in Cambodia and its Significance in Southeast Asia and South China Prehistory
	Heng SOPHADY	Deputy Director General for Cultural Heritage, Ministry of Culture and Fine Arts	
	Hubert FORESTIER	Département de Préhistoire, Muséum National d'Histoire Naturelle	
8	Yinghua LI	School of History, Wuhan University	A New Variability of Cobble-Tool Industry Associated with a Bone Tool Technology from the Luobi Cave, South China (ca. 11 - 10 ka): A Comparative Perspective from Southeast Asia
	Side HAO	The Provincial Museum of Hainan Island	
	Wanbo HUANG	Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences	
	Hubert FORESTIER	Muséum National d' Histoire Naturelle Institut de Paléontologie Humaine	
	Yudian ZHOU	School of History, Wuhan University	
	Huan LI	School of History, Wuhan University	
9	TzeHuey CHIOU-PENG	University of Illinois Urbana-Champaign	Digging into the Roots of the Dian Culture: A Preliminary Study of Materials from Prehistoric Settlements Near Lake Dian in Yunnan, China
10	Mariko YAMAGATA	Okayama University of Science	Ancient Eaves Tiles with Human Face Decoration: A Comparative Study Between Vietnam and Nanjing

11	Sharon Wai-yee WONG	Department of Anthropology, The Chinese University of Hong Kong	A Preliminary Comparison of Glazed Stoneware Jars Produced in South China and Central Vietnam during the 13th to 17th Centuries
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**Session 33: Ancient Metallurgy**  
**Organizer: Wengcheong LAM**

No.	Name	Institution	Presentation
1	Wengcheong LAM	The Chinese University of Hong Kong	Rethinking the Meaning of Bronze Technology in Eastern Lingnan During the First Millennium BCE
2	Yang LI	School of History, Wuhan University	Thin-Walled Bronzes and Technological Variations during the Bronze-Iron Transition of Ancient China
	Yanxi WANG	Field Museum	
	Xudong JIANG	Conservation Center, Hubei Museum	
3	Benjamin SABATINI	University of Science and Technology of China	The Modeling and Hacking of Lead Isotopes for Material Flow Analyses
4	Qingzhu WANG	Yale University	Identifying Local Bronze Production Without Direct Evidence: Cases from Zhengzhou and Panlongcheng
5	Yoshinori TAJIRI	Kyushu University	A Study on the Diffusion of Bronze Casting Technique in the Japanese Archipelago. Positioning of New Materials Excavated from the Japanese Archipelago in East Asia
6	Wen Yin CHENG	University of Toronto	Shang Bronze Casting: The Making of the Bronze Moulds Through Petrography
	Shen CHEN	-	
7	Yu LIU	Institute of Archaeology, Chinese Academy of Social Sciences	Pursuing the mineral sources of Yinxu bronze objects (BC13th-BC11th): study on the lead ingots from Anyang, China
	Jigen TANG	South University of Sciences and Technology of China	
	Jianyu LIU	The Palace Museum	
	Zhichun JING	The university of British Columbia	

**Session 34: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 3: Urbanization and Movements of People and Material**  
**Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Minoru YONEDA**

No.	Name	Institution	Presentation
1	Kazuyo NISHIHARA	Kyoto University	Shifts in the Style of 'Butterfly-Shaped Ornaments' of the Tianluoshan Site and Their Social Background
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Yonglei WANG	Zhejiang Provincial Institute of Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	

2	Hiroki KIKUCHI	Chinese Academy of Social Sciences	Transition in the Exploitation of Animals and Urbanization: From Tianluoshan to Liangzhu
	Masashi MARUYAMA	Graduate School of Oceanography, Tokai University	
3	Masaaki KANEHARA	Nara University of Education	Urbanization from the Perspective of Environmental Shifts and Plant Exploitation
4	Yoshiki MIYATA	Kanazawa University	Paleo-diets Reconstructed from Food Residue in Pottery in the Lower Yangtze Valley Using Lipid Analysis, Compounds-Specific and Bulk Stable Isotope Composition
	Shinji KUBOTA	Kanazawa University	
	Masashi KOBAYASHI	Hokuriku Gakuin University	
	Yastami NISHIDA	Niigata Prefectural Museum of History	
	Akiko HORIUCHI	The University Museum, The University of Tokyo	
	Nobuo MIYAUCHI	The University Museum, The University of Tokyo	
	Kunio YOSHIDA	The University Museum, The University of Tokyo	
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Yonglei WANG	Zhejiang Provincial Institute of Relics and Archaeology	
	Shin'ichi NAKAMURA	Kanazawa University	
5	Xiaoli QIN	Kanazawa University	Inter-Regional Relationships in Late Liangzhu Culture from the Scope of Prestige Goods Circulation
	Shin'ichi NAKAMURA	Kanazawa University	
	Bin LIU	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Ye ZHAO	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Minghui CHEN	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Yoshimitsu KAWAMURA	Ishikawa Archaeology Association	
6	Minoru YONEDA	The University Museum, The University of Tokyo	
	Takashi GAKUHARI	Kanazawa University	

6	Yu ITAHASHI	The University Museum, The University of Tokyo	Oxygen Isotope Analysis of Human and Animal Remains from Neolithic Sites of the Lower Yantze Valley in Light of Human and Object Provenance
	Guoping SUN	Zhejiang Provincial Institute of Relics and Archaeology	
	Bin LIU	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	
7	Ningyuan WANG	Zhejiang Provincial Institute of Cultural Relics and Archaeology	Liangzhu Walled City and the Water System: Its Discovery and Research

**Session 35: The French-DPRK Archaeological Mission at Kaesong, Urban Development of the City of Kaesong from the Koryo Period to the 20th Century**  
Organizer: Élisabeth CHABANOL

No.	Name	Institution	Presentation
1	Élisabeth CHABANOL	Ecole Française d'Extrême-Orient (French School of Asian Studies)	The Archaeological Mission at Kaesong: Presentation of the Project and its Evolution
2	Jun Gyong CHOE	National Authority for the Protection of Cultural Heritage, DPRK	The Historical Sources on the Kaesong Fortress
3	Christophe POTTIER	Ecole Française d'Extrême-Orient (French School of Asian Studies)	Inventory of the City Walls of Kaesong: Methodology and Results
4	Chol Jun RI	National Authority for the Protection of Cultural Heritage, DPRK	Archaeological Excavation of the South Great Gate and its Findings

**Session 36: Philosophy, Religion and Mortuary Studies**  
Organizer: Keith N. KNAPP

No.	Name	Institution	Presentation
1	Keith N. KNAPP	The Citadel	The Meaning(s) of Animals on Hunping: The Religious Imagination of the Second to Fourth Century Jiangnan
2	Eileen Hau-ling LAM	The Education University of Hong Kong	A Study of Lacquered Head Covers in Han Burials
3	Mitchell MA	University of Toronto Mississauga	Confucianism and Chinese Archaeology

4	Hui PENG	Changzhou Museum	From Prehistoric Mounds Terrace to Mound Tombs in the Chinese Jiangnan Area
5	Bo LIU	John Carroll University	The Images of Women in Paintings of Northern Song Tombs
6	Lan DING	South-Central University for Nationalities	The Decorative Pattern of Chu Tomb-Protecting Beasts and Their Use in Guiding the Soul to Heaven
7	Yasutaka FUJII	Nagoya City Museum	The Way of Demons' Eastward Movement

Poster			
No.	Name	Institution	Poster
1	Jennifer AUSTEN	University of Reading	Evidence of Respiratory Infection from Rib Osteomyelitis in Late Bronze Age China
	Jenna M. DITTMAR	McDonald Institute of Archaeological Research, University of Cambridge	
	Ruilin MAO	Gansu Provincial Institute for Cultural Relics and Archaeology	
	Hui WANG		
	Hui-Yuan YEH	School of Humanities, Nanyang Technological University	
2	Tomomi NAKAGAWA	Okayama University	Examination of Human Skeletal Remains with Traumas in Yayoi Period Focusing on the Kuma-Nishioda Site
3	Akiko NAKAMURA	Nara National Research Institute for Cultural Properties	Tracing the Construction Process of the Shangjing Palace Site, Bohai Kingdom
4	Hisashi NAKAO	Department of Anthropology and Philosophy, Nanzan University	Prehistoric Violence in Japan
	Tomomi NAKAGAWA	Okayama University	
	Kohei TAMURA	Tohoku University	
	Yuji YAMAGUCHI	Okayama University	
	Naoko MATSUMOTO		
	Takehiko MATSUGI	Japan National Museum of History	
5	Takafumi NIWA	Nara National Research Institute for Cultural Properties	Experimental Archaeological Research on "Lost Lead Casting"
	Haruhisa MIFUNE	University of Toyama	
	Takekazu NAGAE		
6	Wei SHENG	Hunan Provincial Institute of Archaeology	A Preliminary Study of the Banzhu Culture - A Society in a Mountainous Area in South China from 1200BC to 900BC
7	Chunxue WANG	Research Center for Chinese Frontier Archaeology, Jilin University	New Evidence of Human Activities During the Transition Period from the Upper Paleolithic to the Early Neolithic in the Lop Nor Area, Xinjiang, China
	Dong WEI		
	Huiqiu SHAO		
8	Fan YANG	School of History and Culture of Shandong University	The Analysis of Plant Remains of Jinzhai Site in Anhui Province
	Guiyun JIN		
9	Bing YI	Department of Archaeology and Anthropology, University of Chinese Academy of Sciences	Isotopic Investigation of Breastfeeding/ Weaning Practices in Modern and Archaeological Populations in China
10	Hailin YI	Shandong University	Zooarchaeological Research at the Site of Shalongka in Qinghai Province
11	Bettina ZORN	Weltmuseum Wien	The Approval of Digital Media Applied to the Sample of Rubbings from the WU Liang Shrine Presented at the New Gallery "Perception on China" at Weltmuseum Wien, AUSTRIA

# ABSTRACTS

## Session 1: Prehistoric Human-Environment Interaction on the Tibetan Plateau Organizers: Fahu CHEN, Guanghui DONG, Jade D'ALPOIM GUEDES

### 1. Mark ALDENDERFER

**Institution:** School of Social Sciences, Humanities, and Arts, University of California, Merced

**Title of Presentation:** Modeling Forager Mobility on the Tibetan Plateau

**Abstract:** Explaining how and when people moved onto the Tibetan plateau and then moved across and beyond it is a foundational research question. A review of the archaeological literature on early Tibet, however, reveals that the challenges posed by important ecological and geographical features, such as numerous interior high mountain passes, wide rivers, cold seasonal and diurnal temperature variation, and terrain unsuited to certain subsistence packages in high and narrow valleys, are rarely considered in models of human mobility. In this paper, I explore how models of forager mobility in high mountain environments can be used to create more realistic explanations of the initial occupation and subsequent movement of people on the plateau.

### 2. Qingpeng KONG, Yuchun LI

**Institution:** Kunming Institute of Zoology, Chinese Academy of Sciences

**Title of Presentation:** Demic Diffusion of the Southward Spread of Millet Agriculture from Northern China: Evidence from Genetic and Archaeological Studies

**Abstract:** As one of the most important centers for the origin of agriculture, the expansion model (demic vs. cultural diffusion) of agricultures in East Asia remains uninvestigated. This study tries to explore the spread model of millet agriculture from northern China into the Mainland Southeast Asia (MSEA). Based on a large-scale dataset of mitochondrial DNA, we have identified three Neolithic haplogroups which originated in northern China at ~12-9 kya and then dispersed southward into southwestern China and MSEA at ~3-6 kya, in line with the radiocarbon dates of millet remains in these areas. Further analysis reveals a rapid population expansion of these haplogroups at 5.68 kya, fitting well with rapid development of millet agriculture as indicated by our stable isotope biochemistry ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) data. Our results therefore indicate that the southward spread of millet agriculture was probably mediated by humans, thus supporting a demic diffusion model of this kind of crop.

### 3. Jade D'ALPOIM GUEDES

**Institution:** University of California, San Diego

**Title of Presentation:** Moving Agriculture onto the Roof of the World: What Computational Modeling Tells us about Forager/Farmer Interactions on the Tibetan Plateau

**Abstract:** Research on agriculture's spread in East Asia has followed an underlying assumption: that farming produced equally reliable returns across the vast expanse of territories into which it spread and always placed farmers at a demographic advantage. Significant ecological barriers to growing crops on the Tibetan Plateau meant that the opposite was true. Using ecological niche modeling to illuminate how foragers and farmers interacted in

environments marginal to crop cultivation, this paper demonstrates that the higher elevation reaches of the “third pole” constituted a barrier for expanding millet farmers. In these areas foragers maintained a competitive advantage. Following the end of the climatic optimum, decreasing temperatures effectively ended millet farmers’ expansion. It was only following the introduction of a suite of new crops and animals that the Tibetan economy as we know it today was able to flourish, but also that pastoralists and farmers finally began to truly encroach on forager territory.

#### 4. Hongliang LÜ

**Institution:** Sichuan University

**Title of Presentation:** 8000 Years BP Foragers on High Tibetan Plateau: The Excavation of a Microblade Site in Northeast Tibetan Plateau

**Abstract:** In recent years, research on the time and path of human colonization of the Tibetan Plateau has increased. Yet the timing of the earliest occupation of the high-elevation section of the plateau above 4000 masl is still debated. The previous studies and models are based on very limited field data, which are mostly obtained from surface survey and profile sampling; there are still many gaps in our understanding of the route and age of the Qinghai-Tibetan Plateau occupation. In 2013-2014, archaeologists from Sichuan University, the Qinghai Provincial Institute of Cultural Relics and Archaeology and the Chengdu Institute of Archaeology conducted archaeological investigations along the upper Tongtian River valley. A total of 14 sites were recovered, with evidence of microblade production in the region, indicating that the visit and stay of hunters in the region in the early and middle Holocene were more frequent than previously thought. Here we report these findings and discuss the lithic technology used in this harsh environment.

#### 5. Dongju ZHANG, Qianqian WANG, Fahu CHEN

**Institution:** Lanzhou University; Research Institute of Archaeology and Relics of Qinghai Province; Institute of Tibetan Plateau Research, Chinese Academy of Sciences

**Title of Presentation:** Prehistoric Human Adaptation to Tibetan Plateau Environment Indicated by Site 151 in the Qinghai Lake Basin

**Abstract:** Current study indicates that the Northeastern Tibetan Plateau (NETP) is one of the first widely occupied places by prehistoric people on the Tibetan Plateau, and essential for understanding human history on the plateau and human adaptation to high elevation environment. Hence, site 151, a paleo- to Epi-Paleolithic site in the Qinghai Lake basin on NETP, was chosen to excavate. Thousands of pieces of animal bones, hundreds of pieces of stone artifacts and several possible hearths were unearthed and obtained during two excavation seasons. A careful re-dating of the site shows that it was first occupied around 15 ka BP, then reoccupied from 9000-6000BP more intensely. Preliminary study of the site suggests that the first appearance of humans in the Qinghai Lake basin is closely related to the amelioration of the Last Deglaciation and the prevalence of microlithic technology in North China, which may enlighten the study of early human migration onto the whole plateau; however, the latter, more intense human occupation in site 151 is not only closely related to the warm and stable early-mid Holocene climate but also provoked by early millet agriculture in the neighboring, low-elevation Loess plateau.



## 6. Juzhi HOU, Fahu CHEN

**Institution:** Institute of Tibetan Plateau Research, Chinese Academy of Sciences

**Title of Presentation:** Rise and Fall of the Tibetan Empire in the 7th - 9th Centuries in Response to Climate Change

**Abstract:** The Tibetan Empire was the only unified and powerful empire that ruled an area considerably larger than the Tibetan Plateau from the 7th to 9th centuries AD. The sudden rise and fall of the Tibetan Empire remains an enigma for historians. Here we present precisely dated multiple proxy records at a varved lake sediment core in the center of the Tibetan Empire. The records show that a warm and humid period coincided with the existence of the empire. The ameliorated climate likely increased livestock and food production for the empire, which made it possible for the rise of a small tribe in Yarlung River which grew to a mighty empire that could expand, and fight with the Tang dynasty to the east and the Arabians to the west. The deteriorated climate at the middle of the 9th century may have contributed to the collapse of the mighty empire.

## 7. Shaoqing WEN, Guanghui DONG

**Institution:** Fudan University; Lanzhou University

**Title of Presentation:** The Archaic Introgression and Recent Admixture of Human Populations in the Qinghai-Tibet Plateau

**Abstract:** Our knowledge of the origin and population history of Tibetan highlanders is changing. According to recent studies, Tibet was a human melting pot, rather than an isolated island in their mountain fastness. However, due to lack of evidence from ancient DNA, some key questions remain unsolved. For example, how and when did these archaic sequences introgress into the Tibetan gene pool? In this study, we plan to carry out further studies on human samples with available skeletons, to explore the impact of genetic admixture on Tibetan genomic diversity. Combined with the whole-genome data of representative ancient and modern human samples in and around the Tibet Plateau, we attempt to systematically unveil the recent admixture and archaic introgression of human populations in this Plateau.

## 8. Xiaoyan YAN, Naimeng ZHANG, Guanghui DONG

**Institution:** Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Lanzhou University; Lanzhou University

**Title of Presentation:** Plant Resource Exploitation in Southwestern China in Bronze Age

**Abstract:** The extracted microfossils from the dental calculus of ancient teeth are a new form of archaeological evidence that can provide direct information on the plant diet of a population. Here, we present the results of analyses of starch grains and phytoliths trapped in the dental calculus of humans who occupied the Bronze Age site of Shilinggang (~2500 calyr BP) in Yunnan Province, southwestern China. The results demonstrate that the inhabitants consumed a wide range of plants, including rice, millet, and palms, together with other food plants which have not previously been detected in Yunnan. The discovery of various underground storage organs (USOs; tubers, roots, bulbs, and rhizomes) and acorns complements the application of conventional macrofossil and isotope studies to understand the diet of the Bronze Age human population of Yunnan. The wide variety of plant foods consumed suggests that the inhabitants adopted a broad-spectrum strategy of gathering food and cultivating crops in northwest Yunnan Province in the late Bronze Age at a time when agricultural societies were developed in the central plains of China.

**Session 2: Expanding Northeast Asian Prehistory: Integrating Linguistics and Genetics with Archaeology**  
**Organizers: Martine ROBBEETS, Tao LI, Sarah NELSON**

### 1. Martine ROBBEETS

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Millet and Beans, Language and Genes. Agriculture-Driven Language Dispersal in Northeast Asian Prehistory

**Abstract:** The Farming Language Dispersal Hypothesis makes the radical and controversial claim that many of the world's major language families owe their present-day distribution to the adoption of agriculture by their early speakers. Especially for regions such as Northern Asia, where farming is only marginally viable, this claim has been seriously called into question. This paper investigates to what extent agriculture impacted the dispersal of the Trans-Eurasian language family, i.e. the genealogical grouping consisting of the Turkic, Mongolic, Tungusic, Koreanic and Japonic languages. Integrating archaeology, genetics, and linguistics in a single approach, it serves as an introduction to our panel, summarizing previous research on the topic, specifying our approach and setting the scope of the papers to be presented. The paper sets up the hypothesis that proto-Trans-Eurasian was an ancestral language spoken by people gradually adopting farming and that its dispersal was indeed driven by agriculture.

### 2. Tao LI, Chao NING

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Early Millets in the Russian Far East and Korean Peninsula and Their Relations to Northeast China

**Abstract:** Millet cultivation took place early in Northeast China (ca. 7650 cal BP at the Xinglonggou site). By contrast, millet agriculture did not appear until ca. 5500 BP on the Korean Peninsula and ca. 5000 BP in the southern Russian Far East. The occurrence of a lag in millet cultivation between Northeast China and its surrounding regions suggests possible routes for the dispersal of millet. Radiocarbon dates alone, however, do not tell much about inter- and cross-regional interactions, and therefore add no details to the understanding of why millet agriculture spread out and, if it occurred, through which possible means and ways. This paper puts emphasis on a cultural reconstruction based on archaeological remains reported for NE China, the Russian Far East, and the Korean Peninsula. It is intended to demonstrate interactions and relations among these regions through a comparative perspective.

### 3. Chuan-chao WANG, Chao NING

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Ancient Genomic Evidence for the Deep Ancestry of Northeast Asia

**Abstract:** We generated genome-wide data from 27 ancient human samples from the Amur River Basin in the Russian Far East and the Houtaomuga cemetery in northeast China dating to around 9,000 BCE to 1,000 CE. The Mesolithic Houtaomuga and Neolithic Boisman culture provides an unmixed surrogate for an ancient Northeast Asian lineage as does the sample from the Iron Age Yankovsky culture and some present-day Tungusic-speaking

populations, and the paternal Y chromosome of Boisman samples belongs to C2b-F1396, which is the predominant lineage in present-day Mongolic, Tungusic, and some Turkic speaking populations, documenting a continuous presence of this type of ancestry in Northeast Asia stretching back at least 11,000 years. Some present-day Tungusic-speaking populations in China are genetically similar to Han Chinese with a proportionate ancestry relationship ranging from 13% to 50%, which occurred at least by the Early Medieval period and argues the Han expansion left a significant genetic signature in Northeast Asia.

#### 4. Choongwon JEONG, Mark HUDSON, Martine ROBBEETS

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Genetic Footprint of the Introduction of Rice Farming into the Korean Peninsula and Japanese Archipelago

**Abstract:** The appearance of the Yayoi culture in 2,300 yBP or earlier, likely from the Korean peninsula, coincides with the introduction of paddy field rice farming and metallurgy to the Japanese archipelago. A replacement of the preceding Jomon people by Yayoi provides a clear case of farming-associated demic diffusion, contributing to about 80% of the ancestry in contemporary Japanese. However, the genetic origins of Jomon and Yayoi people have not been thoroughly studied using genome-scale data.

For the genomic analysis, we collected prehistoric human remains from Korea and Japan. We are currently processing Neolithic samples from the southern shore of Korea and from Miyakojima in southern Japan, predating the Yayoi culture. By generating genome-wide data, we expect to understand the nature of prehistoric Korean and Japanese gene pools. This will provide a baseline to detect temporal changes and the spatial substructure in their gene pools.

#### 5. Christina WARINNER

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Population Migration and Dairy Pastoralism on the Bronze Age Mongolian Steppe

**Abstract:** The steppe belt that extends across Eurasia was the primary corridor of Late Neolithic and Bronze Age migrations that reshaped the genetics of Europe and Asia and dispersed the Indo-European language family. Beginning in the Late Neolithic, a new and highly mobile pastoralist society formed on the Western Steppe. These steppe herders expanded both westwards, contributing to the Corded Ware culture of Eastern and Central Europe, and eastwards, contributing to the mobile pastoralist Afanasevo, Sintashta, and Andronovo cultures. The eastern extent of this Western steppe herder expansion is not well defined. Here we investigate genome-wide ancestry data obtained from 20 Late Bronze Age khirigsuur burials from Khovsgol, Mongolia and further investigate evidence for dairy pastoralism by LC-MS/MS analysis of dental calculus. Overall, we observe limited Western Steppe gene flow into Late Bronze Age Mongolia, but a robust adoption of Western domesticates and ruminant dairying.

#### 6. Alexander SAVELYEV

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Proto-Turkic, Xiongnu and Beyond: Pastoralism Versus Agriculture

**Abstract:** Traditional subsistence patterns of the Turkic peoples are usually described as based on pastoralism, with agriculture playing only a minor role. In this talk, I will provide a historical linguistic discussion of pastoralism and

agriculture-related activities that can be assigned to the Proto-Turkic speakers. A rich pastoralist vocabulary and a smaller number of agricultural terms can be reconstructed to proto-Turkic. Cultural reconstruction supports the identification of proto-Turkic with the Xiongnu, as the proportion of pastoralist and agricultural terms in proto-Turkic is consistent with what we know about the importance of these two subsistence modes in the Xiongnu archaeological record. Further etymological study reveals that the majority of the Turkic pastoralist lexicon has a secondary nature. At the same time, agricultural terms in proto-Turkic seem to be archaic, as most of them are unborrowed and underived and a few of them have reliable Altaic connections.

## 7. Nataliia NESHCHERET

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Verifying the Classification of the Trans-Eurasian Languages Using Bayesian Inference

**Abstract:** The question about the genealogical connections between Trans-Eurasian languages, which include Turkic, Mongolic, Tungusic, Japonic and Koreanic language families, has a long history of debate and several classifications of the macro-family have been proposed by historical comparative linguists. As part of the Eurasia3angle project, I perform an independent check of the internal structure of the Trans-Eurasian language family and address the issue from the point of view of language structure. I assume the relatedness of the languages in question and use stable phonological and morphosyntactic features for building the phylogeny of the macro-family. The tree with the highest likelihood is chosen by applying the Bayesian method. The preliminary results support the earliest split of Japonic-Koreanic languages vs. Turkic-Mongolic-Tungusic languages and the Turkic-Mongolic vs. Tungusic groupings, whereby neighbouring languages appear as outgroups. The study represents the first attempt to infer a language tree based on structural features by means of Bayesian inference.

## 8. Sarah NELSON

**Institution:** University of Denver

**Title of Presentation:** The Migration of Farmers from the Asian Continent to the Korean Peninsula: Geographic Conditions and New Settlements

**Abstract:** The earliest sites in the Korean peninsula that either have produced evidence of domesticated crops or by inference must have cultivated crops, have many similarities and some differences with sites in the Chinese Dongbei. This paper postulates that the early peninsular farmers would have made choices based on geographic conditions for their new settlements. A closer look at those similarities and differences suggests reasons for variations in subsistence, dwellings, and even pottery shapes. For example, the sandy soil along flooding rivers required pointed storage vessels rather than flat bases, a colder climate would have necessitated houses dug deeper into the ground, and the possible existence of wild soybeans could have added a new cultigen to the farming repertoire. Nevertheless, these migrants would have brought with them many still unknown cultural traits, as well as their seeds, their language, and their children.

## 9. Irina ZHUSHCHIKHOVSKAIA

**Institution:** Institute of History, Archaeology & Ethnography of People of Far East, Far Eastern Branch of Russian Academy of Sciences

**Title of Presentation:** A Non-Ordinary Goods Complex of the Paleo-metal Period in the Southern Russian Far East

**Abstract:** Sites of Yankovskaya archaeological culture of the southern Russian Far East, 10th–9th c. to 3rd–2nd c. BC, attributed to the Paleometal period, contain an artifacts complex of greenstone ornaments, red ceramic wares, and ground-stone daggers not connected directly with utilitarian functions. Archaeological contexts reflect in some cases non-ordinary situations for their usage. These are earliest evidence of a non-ordinary goods complex in the southern Russian Far East.

A goods complex of numerous series of greenstone ornaments, red-polished pottery, and ground-stone daggers definitely indicating social prestige or power is recognized for the Middle (850–500 BC) and Late (500–200 BC) Mumun period of the Korean Peninsula. The economic and social level of the Mumun community was substantially more developed in comparison with the synchronic Yankovskaya culture.

The Yankovskaya culture’s non-ordinary goods complex may be interpreted as the cultural transfer of physical images of socially important items in societies with different levels of complexity.

### Session 3: The Settlement and Society in the Huai River Valley During the Shang Dynasty—Taking Taijiasi as an Example Organizer: Xiaolin HE

#### 1. Xiaolin HE

**Institution:** Wuhan University

**Title of Presentation:** A Discussion of the Settlement Plan and its Meanings at the Site of Taijiasi

**Abstract:** The site of Taijiasi is very different from other mound-like sites in the Huai River valley. It is comprised of at least five independent mounds. The most important mound, the one encircled by a square moat, contains a huge palatial structure and a bronze-casting workshop; both structures reflect a relatively high status of the site during the Shang and Zhou periods. Even though trash pits are distributed across the sites, the biggest palatial structure stands on the northern part of the mound while other functional buildings stand in the eastern and western portion of the site, leaving a plaza in the central portion. The organization of the structures within the site might have followed a systematic plan that relates to the function and activities of Taijiasi.

#### 2. Zhenzhen ZHAO

**Institution:** Shandong University

**Title of Presentation:** Analysis of Carbonized Botanic Remains at Taijiasi

**Abstract:** A certain number of crop grains and some weeds and fruit remains, which date to the Shang period, were found at the site of Taijiasi by systemic flotation. The archaeobotanical data shows the most important crops were rice and foxtail millet and the mixed farming of rice and millet agriculture was the main mode of the settlement’s farming. Ancient people living in Taijiasi site exploited plant resources by practicing agriculture and gathering wild plants. Gramineae which is mainly composed of Panicoideae A. Br. could be either a food source or weed. Evidence is growing step by step for the study of the development and spread of the mixed rice and millet agriculture.

#### 3. Jada Wing-tung KO

**Institution:** Harvard University

**Title of Presentation:** Evaluating the Social and Political Significance of Oracle Bone Divination Practice Through the Examination of Oracle Bones Life History at Taijiasi

**Abstract:** A large amount of uninscribed oracle bones dating to the Middle Shang Period was unearthed from the site of Taijiasi. Prior to the large-scale systematic manipulation of oracle bone divination practice as a medium for power legitimation during the Late Shang Period at Anyang, the social and political roles of this practice are still subject to discussion. In this paper, I take the oracle bones from Taijiasi as an example, and contextualize their life history with the nature of the site; I compare them with oracle bones from the same period in other regions in an attempt to examine the social and political significance of this divination practice in the pre-Anyang period. The procurement of different species as divination tools, the pretreatment and cracking of the bones, and the final discard of the bones – each stage reflects and constitutes the local collective memory of attributing values and meanings to oracle bone divination practice at Taijiasi.

#### 4. Xuezhu LIAO

**Institution:** Jilin University

**Title of Presentation:** A Preliminary Study on the Human Bone and the Tooth Abrasion at Taijiasi

**Abstract:** At the site of Taijiasi, a small number of human bones and many human teeth were unearthed in graves and pits. For human bones, gender and age identification is conducted to obtain some information about the population of the site and to explore the differences between the people of the graves and the pits. For the teeth, morphological description, grade or scale comparisons of non-metrics, accurate measurements of irregular areas, and geometric morphometrics of randomly-varied shapes were used to study the metric and non-metric traits of human teeth. A preliminary discussion is conducted on the relationship between tooth abrasion and the subsistence structure reflected in the remains of the site.

#### 5. Siran LIU

**Institution:** University of Science & Technology Beijing

**Title of Presentation:** A Multi-Proxy Investigation on the Bronze Manufacturing Activities at the Site of Taijiasi

**Abstract:** Bronze processing remains in addition to a potential workshop identified at the site of Taijiasi provide a rare opportunity to investigate the Shang bronze manufacturing industry outside its capital sites in Zhengzhou and Anyang. Bronze melting slag, crucible/furnace fragments, and moulds were recovered from several ash pits and a moat. Geochemical analysis using in situ pXRF during the excavation, along with lab-based analyses reveal that the small building F16 in the northeast part of this site was likely a bronze processing workshop with a lime paved floor. Micro-analysis of the sediment samples from F16 disclosed evidence not only for bronze melting slag but also raw copper refining slag. The general small size (<1mm) and angular shape of the refining slag suggests slag-crushing was practiced at the site for the retrieval of trapped copper particles. This study demonstrates the strength of such multi-proxy methods for inspecting a bronze processing workshop.

### Session 4: The Technology of Luxury: The Manufacture and Dissemination of Precious Metals and Stones Across Asia

**Organizers:** Sarah LAURSEN, Yan LIU

#### 1. Francis ALLARD

**Institution:** Indiana University of Pennsylvania

**Title of Presentation:** The Spatial and Socio-Political Penetration and Impact of Exotic Artifacts in Lingnan During the Han Dynasty

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**Abstract:** Excavations of Han dynasty burials in Southeast China's Lingnan region have recovered large numbers of artifacts made of metal or semi-precious stones. Significantly, Southeast Asia and India were the probable sources of many of these exotic artifacts, or at least their constituent materials. This talk reviews the types and sources of objects of likely non-local origin recovered from Han period funerary contexts in Lingnan. It also makes the point that, regardless of their appeal as technically demanding and visually striking objects, it is important to carefully assess the nature of their impact on local society. In fact, this talk argues that these exotic goods had only limited socio-political and spatial penetration in Lingnan during the Han dynasty, a finding which alerts us to the need to look beyond rarity and appearance when trying to understand how long-distance contacts guided culture change in the recipient society.

## 2. Anna BENNETT

**Institution:** Conservation and Technical Services Ltd, Brussels

**Title of Presentation:** Luxury Portable Gold Objects in the 3rd - 1st Century BCE with Particular Reference to a Śūnga Period Gold Earring Recently Found in Coastal Myanmar

**Abstract:** A single exceptional Shunga earring was recently recovered along the west coast of the peninsula in lower Myanmar. The only other known examples are a pair of almost identical earrings bought by the Metropolitan Museum of Art from the London Art Market in the 1970s and described as a Pair of Royal Earrings reportedly found in Java. Notwithstanding the uncertain find location of the Metropolitan Museum of Art pair, these magnificent items of jewellery illustrate the far-reaching trade links that existed between South and Southeast Asia more than two thousand years ago. This recent find is highly significant for many reasons. It not only provides evidence that elaborate gold jewellery formed an important part of cultural life used as a mark of individual status and rank within the community but also because of the light it sheds on the superb quality of early goldsmithing techniques in this region.

## 3. Kyeongmi JOO

**Institution:** Chungnam National University

**Title of Presentation:** Royal Gold of Baekje

**Abstract:** New evidence that has come to light since the major archaeological surveys of the Baekje territory in the late twentieth century has led to the reconsideration of the sparse written materials documenting Baekje culture and history. In this paper, I will examine royal gold artifacts and their technical features, with a focus on the three famous archaeological sites of Baekje: the tomb of King Muryoung in Gongju, the ruins of the wooden pagoda in the Wangheungsa Temple site in Buyeo, and the relic chamber of the stone pagoda in the Mireuksa Temple site in Iksan. According to excavated inscriptions, all of these sites were constructed through the support of Baekje royal families during the sixth and seventh centuries. The recent discovery of luxury items like gold jewelry and other precious materials, such as hundreds of natural pearls, sheds new light on long-forgotten goldsmithing technologies and the sophisticated tastes of Baekje aristocrats.

## 4. Sarah LAURSEN

**Institution:** History of Art & Architecture, Middlebury College

**Title of Presentation:** Roots and Branches: A Comparison of Murong and Jin Goldsmithing Techniques

**Abstract:** The Murong branch of the Xianbei established a series of states in northeast China during the fourth and

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fifth centuries CE. Ornaments with suspended sheet gold leaves uncovered in several Murong tombs illuminate connections to earlier cultures across the northern steppe and may have served as the inspiration for similar leaves in tombs throughout Jin territory. At the same time, the concentration of gold ornaments along the Daling River Valley in Liaoning province and the use in the north of less sophisticated goldsmithing techniques than are found in the south—e.g. dapping to simulate granulation and riveting in place of fusing—speak to a less developed industry and smaller distribution network among the Murong. This paper will compare gold ornaments from Murong and Jin tombs in order to highlight the artistic exchange between these two cultures and challenge the Chinese histories' portrayal of the Murong as imitators rather than innovators.

## 5. Katheryn LINDUFF

**Institution:** University of Pittsburgh

**Title of Presentation:** Symmetrically Confronting Dragons in Gold, Bronze and Jade: The Search for Status in the Inner Asian Frontier

**Abstract:** Peoples of the beifang were described by Chinese historians of the second century BCE with a heritage distinct from peoples in the Dynastic heartland. Signs of this separation are found in portable artifacts, including belt plaques on which I will focus here, that were produced in gold, silver and bronze and found in burials across the frontier. These were neither fully Chinese nor steppic in type or aesthetic, but rather were inspired by both models. Recent archaeological exploration shows that they were created for the local inhabitants in both Chinese and Steppe foundries. Study of the metallographic and special casting technology used to produce them not only offers a way to discern the process of interregional exchange but also their significance for gaining and maintaining status. At the frontiers of the Chinese and Xiongnu Empires, they had become practicable signs of inter and intra community differentiation and connection.

## 6. Yan LIU

**Institution:** Ashmolean Museum, University of Oxford

**Title of Presentation:** Han Empire and the Far West: Gold, Exotic Horses and Immortality

**Abstract:** With an increasing demand for precious gold, exotic techniques and materials were used to create elite objects fashioned in styles that reflected contacts with foreign lands during the Han period. This paper discusses a group of gold artefacts recently excavated from the royal tombs of Western Han period in central China, with a focus on the manufacturing techniques of horse hoof-shaped gold and other artefacts. Previous studies suggest that these objects were either emblems of immortality, or clan symbols of the Xiongnu people. This paper looks at the meaningful use of non-local technologies relating to goldsmith practice, and argues that the quest for exotica—along with the desire for heavenly horses and immortality—was the driving force that led to an unprecedented extent of imperial expansion in Central Asia, and the establishment of a vast trading network during the 1st century BC.

## 7. François LOUIS

**Institution:** Bard Graduate Center

**Title of Presentation:** Notes on the Hejiacun Treasure

**Abstract:** With over 1000 items made of gold, silver, and rare stone, the Hejiacun hoard preserves the aristocratic treasures of the Xuanzong era. The vast majority of the more than 200 gold and silver vessels were made in Tang



China, during the first apogee of medieval Chinese silversmithing. Tang idiosyncrasy is evident both in their style and in technical details such as chased pictorial decoration with ring-punching. Less overt and rarely discussed, however, are techniques used to produce undecorated surfaces. This paper examines parallel and spiral line markings that suggest the use of specific methods for raising, planishing, and polishing. These techniques appear in the late seventh and eighth centuries but subsequently went out of style. I hope to clarify the origin of such techniques by asking to what extent they may have been inspired by either foreign traditions, or other local crafts, notably wheel-turned pottery and lathe-cut and polished stonework.

**Session 5 : Archaeological Sites as a Reflection of the Culture of Ancient and Medieval Nomads of Asia: New Discoveries, Comparative Analysis and Complex Reconstructions  
Organizers: Alexey TISHKIN, Nikolai SEREGIN**

### 1. Keita MATSUMOTO

**Institution:** Kyushu University

**Title of Presentation:** The Emergence of “the Early Nomadic Culture” in the Eurasian Steppes

**Abstract:** “Early Nomadic Culture” has been used as a concept which suggests the emergence of nomadism with horse riding and cultures associated with it. However, there are many discussions about the explanation or evaluation of the similarity within “the Early Nomadic Culture.” Moreover, in the eastern Eurasian steppe, where there are many important materials for the origin of this culture, the chronological border between this culture and the Karasuk period prior to “the Early Nomadic Culture” remains unclear. In this presentation the author will try to evaluate the similarity of bronze materials within “the Early Nomadic Culture,” comparing it with the one within the Karasuk period. As a result, we can find more local characteristics within “the Early Nomadic Culture” than in the Karasuk period.

### 2. Yanlong GUO

**Institution:** Smith College

**Title of Presentation:** Exotic and Domestic: Bronze Mirrors in Xinjiang During the First Millennium BCE

**Abstract:** Decades of archaeological excavations have led to the discoveries of early mirrors from tombs that belonged to different ethnic groups in Xinjiang, a vast region connecting the eastern Eurasian steppes and China’s Central Plains. These burials, the majority dating to the first millennium BCE, yielded a variety of metal mirrors—the grip mirrors, the animal-style mirrors, the Chinese mirrors—which were either locally manufactured or exchanged through migration, trade, and colonization. In contrast to textiles and other metal objects, however, mirrors from the “barbarian” lands have so far received scant scholarly attention. This talk will present some previously little-known objects buried in archaeological reports published in Chinese, Japanese, Russian, and English. Through typological and geo-spatial analyses, it endeavors to map out the modes of distribution and circulation of various styles of these metal objects, investigating the occurrences of certain decorative patterns and their implication for aesthetic preferences.

### 3. Alexey TISHKIN

**Institution:** Altai State University

**Title of Presentation:** Lower Headdresses of the Altai Population of the Xiongnu Time and Their Decoration (Based on Excavations of the Yaloman II Site)

**Abstract:** Headdresses are important indicators of the culture of any nomadic people. Under favorable circumstances a series of such things have been found in the sites of the Pazyrykskaya culture of the Scythian-Saka time, and allow researchers to make the necessary reconstruction of the ethnographic plan and to consider their role both in the life of an individual and in societies of different levels. Findings of Xiongnu headdresses are not numerous. They differ significantly from Pazyryk products. During the excavation of the burial mounds at the Yaloman II site in Central Altai, the author of the report discovered a group of burials, which dates from the 2nd century BC to the first century of the new era and has its own specific features. One of the features is the presence of numerous badges-stripes on the lower headgear. Unfortunately, only one mound has preserved the fabric from such a thing. However, based on a detailed fixation, it is possible to reconstruct the headgear itself, as well as to restore various combinations of the arrangement of jewelry on it, mostly made of gold. The obtained results make it possible to reflect the role of this kind of clothing in the life support system of the population group living in Altai in the Xiongnu times, and to conduct a comparative analysis with materials of other nomadic cultures of Central Asia of the late antiquity.

#### 4. Nikolai SEREGIN

**Institution:** Altai State University

**Title of Presentation:** Social System of Central Asian Turks in the Era of the First Kaganate (Based on the Materials of Archaeological Complexes)

**Abstract:** The paper presents the analysis of the archaeological sites of the Central Asian Turks for the reconstruction of their social history in the era of the First Khaganate. The most informative are the funerary complexes. Most of the sites have been excavated in the periphery of the Kaganate – Altai, Tuva and the Minusinsk Basin. In addition, there is a group of sites in the western part of the empire – Kazakhstan, Uzbekistan and Kyrgyzstan. The funeral complexes of the First Kaganate era well illuminate the evolution of the Turkic society. One of the indicators is the distribution of graves of professional soldiers. Another is the formation of a local variant of the Turkic culture in the Minusinsk Basin. The Turkic imperial tradition is manifest in the materials of memorial complexes in Mongolia. A special aspect of nomad's social history is the influence from China according to materials of the “elite” burials of Turkic time in Mongolia.

#### 5. Artur KHARINSKIY

**Institution:** Irkutsk State Technical University

**Title of Presentation:** Burials of the Baikal Region of the 13th - 14th Centuries: Common and Local Characteristics

**Abstract:** This article summarizes the most recently available data on the main burials of the Baikal region of the 13th-14th centuries, which expose mortuary rituals characteristic of ethnic groups living there. The main attention is paid to the funeral rite of the ancient Mongols. Important elements of their burial ritual are: a) a vertical grave pit; b) stone burial mound; c) one skeleton in the grave; d) extended burial on the back (a recumbent skeleton). Additional elements of the mortuary rituals are: a) a wooden chamber; b) northern or northeastern orientation of the dead; c) the presence of sheep bones in the grave (tibia, scapula and lumbar vertebrae). The author compares the funeral rite of the Mongols and other peoples of the Baikal region.

#### 6. Sergei BOCHAROV, Airat SITDIKOV

**Institution:** A. Kh. Khalikov Institute of Archaeology Tatarstan Academy of Sciences / Kazan (Volga Region) Federal University

**Title of Presentation:** Results and Prospects of Archaeological Research of the Bulgar Settlement (Tatarstan, Russia)

**Abstract:** The presentation illustrates the results of the archaeological study of the city of Bolgar during the five field seasons of 2012-2016. The first mention of the town of Bolgar appears at the beginning of the 10th century, as political and administrative center of Volga Bulgaria State. The town, situated on a large international trade route, was a significant regional center of the Volga Region in pre-Mongolian times. In 1242 Bolgar on the Volga was included in the new Mongolian state. This center produced the earliest coins of Ulus Juchi, bearing the name of the Muslim caliph an-Nasir lid-Din. Under the Batu Khan, Mengu-Timur, Berke Khan and, especially under the Uzbek Khan, the Bolgar continued to be one of the important economic, commercial, and cultural centers of the Golden Horde State. During this period monumental structures, now known as the Cathedral Mosque, the Eastern and Northern Mausoleums, the Khan Tomb, the Small Minaret, the Black Chamber, the White Chamber, the Khan's Bath and many other objects were constructed. Based on the archaeological research of the medieval city of Bolgar, it is possible to trace numerous links between the urban and nomadic components of the Golden Horde State.

## 7. Alexey TISHKIN, Sergey PILIPENKO

**Institution:** Altai State University; Novosibirsk State University of Economics and Management

**Title of Presentation:** Findings of Birch-Bark Details from Women's Headdresses in the Mounds of the Mongolian Time at the Teleutskiy Vvoz-I Site in the South of Western Siberia: Opportunities for Reliable Reconstructions

**Abstract:** Information on the headdresses of Mongolian married women of the period of the developed Middle Age is found in written and pictorial sources. However, they inform us only of the appearance of this part of the costume. Archaeological materials from excavation can contribute to a detailed study of the structure of such headdresses that were widely used in the Mongolian Time (the 13th – 14th centuries). In addition, the available finds make it possible to introduce the technology of manufacturing the internal framework of different types of products, designated in the scientific literature as bokkah or bogtag (boktag, bokto). Until recently, the complex of the fixed parts and their safety had not allowed reliable reconstruction of one of the selected types of bogtag. However, the excavation carried out at the Teleutskiy Vvoz-I site allows us to begin such activities. The mounds had heavily destroyed by robbers. Some mounds revealed chaotically scattered artifacts made from birch bark of different sizes and configurations. The identification of the artifacts and the restoration of one of the sets of finds provide an opportunity to uncover the process of manufacturing the bokka framework, analogies of which are known from other archaeological sites in other regions of Eurasia.

## Session 6: Unpacking the Complexity of Cultural and Political Interaction from Han to Tang

**Organizer: Moritz HUBER**

### 1. Lauren MORRIS

**Institution:** Albert-Ludwigs-Universität Freiburg i. Brsg.

**Title of Presentation:** Reframing Diplomacy and Memory in the Kushan Empire: New Data on the Lacquerwares Excavated at Begram (Afghanistan)

**Abstract:** The Begram hoard, containing some 400 objects, is a significant find made by the DAFA in the 1930s in two concealed rooms at a site 60 km north of Kabul. Most objects were made in the Mediterranean, India, or China, and commonly dated to the 1st – early 2nd centuries AD, they have been linked to trade activities under the Kushan

Empire. However, the trade explanation has never been accepted in scholarship for the (at least) ten lacquerware receptacles found there. The author's research on published data, coins, and unpublished excavation documents and photographs in the Musée Guimet archives suggests that this interpretation must be challenged for the other objects of the hoard. This paper presents unpublished photographs of the lacquerwares, which reopen questions of why and when they were brought to Central Asia, and the implications of their placement in the hoard when it was concealed after c. 260 AD.

## 2. Shing MÜLLER

**Institution:** Ludwig-Maximilians-Universität München

**Title of Presentation:** Precious Ear Cups of Silver for the Xianbei

**Abstract:** For nomads on the Eurasian steppes, such as the Xiongnu, lacquerware were one of the most desired Chinese products, among these the ear-cups (erbei). The Xianbei, successors of the Xiongnu on the southern Mongolian steppes since the 3rd century, inherited the legend for lacquerware of the Xiongnu; erbei were equally attested in their burials. Between the 4th and 5th century, a few skeuomorphs of ear-cups with silver, gold, and scallop shells appeared in Gansu, Ningxia and Shanxi. The unusual curvature of the cups, the application with strings of pearls, and half-palmette scrolls on the "ears" lend the vessels the appeal of Central Asian silverware and turn them into exotica. What was the need for such imitations and were the silver ear-cups regarded as Chinese erbei at all? This paper examines the merging of cultures using the example of silver ear-cups in early medieval northern China and looks for possible mechanisms behind this transformation.

## 3. Satomi HIYAMA, Giuseppe VIGNATO

**Institution:** Japan Society for the Promotion of Sciences (JSPS) / Ryukoku University

**Title of Presentation:** Simple Stylistic Matter or Reflection of Cultural Identities? Study on the Rock Monasteries with "Indo-Iranian" Style Paintings in the Kucha Kingdom

**Abstract:** The Kucha Kingdom was one of the most influential cultural centers among the Buddhist Kingdoms along the Silk Road. About one third of the caves in the Kucha area are decorated with murals in at least four different styles. Two among them — the so-called First and Second Indo-Iranian Styles — can be regarded as local artistic styles, which are dated to the 5th-7th century CE. The difference between these two local styles has been traditionally framed in chronological terms. However, the picture appears to be more complicated. Vignato (2006) distinguished the formation of cave groups decorated with each painting style, while Hiyama (2014) observed a difference in the repertoire of motifs depicted in each style. This paper presents a collaborative research, which analyses all of the caves painted in the First Indo-Iranian Style to tackle a larger question: What kinds of cultural identities are embodied by caves painted in particular styles?

## 4. Moritz HUBER

**Institution:** University of Munich

**Title of Presentation:** A Chinese Central Asian Girl Group

**Abstract:** In Panjikent, Sogdiana, an 8th century wall painting was excavated in Room 42 of sector VI. It depicts female musicians and dancers, whom researchers have identified as Chinese according to the hair dress and clothing. However, whilst the scene can indeed be qualified as typical for contemporary Tang China, the dress and instruments,

and probably even some of the music being performed, originally came to China from its western neighbors via the Silk Roads. This paper presents a case study of the complexity of human experience in the East and Central Asian Middle Age. Through a comparative analysis of the painting's details and context, it disentangles the paths that led to the rendering of a Chinese girl group, performing Chinese-Central-Asian music with an originally western instrument, in a residential house in Central Asia.

## Session 7: Meaning of Motifs and Themes in Chinese Tomb Art Organizer: Annette KIESER

### 1. Margareta PRÜCH

**Institution:** Institute of East Asian Art History, University of Heidelberg

**Title of Presentation:** A New Perspective on Han Lacquer Ornaments

**Abstract:** Lacquer wares found in tombs of the Western Han dynasty (206 BCE–9 CE) are elaborate in manufacturing, bright in color, as well as elegant in pattern and decoration.

The lacquer artisans used a modular design system with a repertoire adaptive to the varied space on the objects: round and oval shapes, circular and oval bands, rectangular spaces. Various cloud motifs with animals or mythical beasts, zigzags, spirals or lozenges in ornament bands, were placed in these spaces. New decorative methods were developed and the manifold design modules were used in many different zones of the objects.

The presentation will shed light on the positioning, interaction and meaning of ornaments and motifs on the lacquer wares from recent findings in Han tombs. It will also explain why certain motifs appear or disappear in the context of the possible use of stencils, sketchbooks, or manuals for ornaments in different lacquer workshops.

### 2. Nataša VAMPELJ SUHADOLNIK

**Institution:** Department of Asian and African Studies, University of Ljubljana, Slovenia

**Title of Presentation:** Fuxi and Nüwa in the murals of Han and Wei-Jin Tombs

**Abstract:** The present paper will examine how Fuxi and Nüwa are depicted in the pictorial space of the Han and Wei Jin tombs. In Han, they are painted on a round ceiling together with the sun and the moon. They are generally depicted with a human face and a dragon-snake body as an individual entity. In the Wei Jin tombs they disappear from the ceiling, but appear on the coffin covers, holding in their hands the carpenter's square and a pair of compasses.

By a thorough examination of the appearance of Fuxi and Nüwa in the Han and Wei Jin tombs we will try to examine the influence of the Han iconographic program of Fuxi and Nüwa upon the depiction of both deities in the Wei-Jin tombs, and interpret the local characteristics in artistic and cosmological expression present in these tombs.

### 3. Annette KIESER

**Institution:** Institute for East Asian Studies, University of Muenster

**Title of Presentation:** No Space for Filial Piety? The Waning of a Popular Motif During the Southern Dynasties

**Abstract:** Filial piety has long been a popular subject in funeral art. This is especially true for the Eastern Han dynasty, where tombs as well as aboveground shrines or pillars were decorated with relief carvings of this motif. Even after the fall of the Han Empire the motif of filial piety is still preserved, however, most prominently in the

funeral art of the non-Chinese Tuoba Wei in the north. Here, we find it on stone sarcophagi from the Northern Wei capital Luoyang. In the southern part of the empire, where the fleeing Chinese elites re-established their empire, scenes of filial piety seem to play a minor role.

The paper will give an overview on the distribution of the filial piety scenes during the Han and the following dynasties. It will discuss the intriguing question why the scenes seemingly lost popularity among the Chinese empires of the South.

#### 4. Shing MÜLLER

**Institution:** Ludwig-Maximilians-Universität München

**Title of Presentation:** Square Tents of the 5th Century in Northern China

**Abstract:** Images of square tents appeared suddenly in murals, in coffin paintings and as clay models among grave goods in 5th century tombs of the members of the Tuoba Xianbei in Datong. Scholars interpret these tents generally as dwellings of the Tuoba, since they, as given in written sources, led a nomadic life.

Although only a few paintings and clay models of such tents have been detected until now, a close examination reveals that the square tents were imbedded in a particular setting both in murals and in the assemblage of the clay figurines. This result rejects the hitherto interpretation as dwellings for daily life. Instead, one can question the meaning of the tent scenes, which leads to further issues such as the functions and actual users of such tents as well as the member(s)/group(s) of the Tuoba who adopted or invented these tents.

#### 5. Chin-Yin TSENG

**Institution:** Dunhuang Academy

**Title of Presentation:** Military Retainers into Eternity: The Depiction of Military Troops in Pingcheng Tombs and the Private Household Institution of Buqu in Practice

**Abstract:** In Northern Wei tombs of the Pingcheng period, we notice a recurrence of the depiction of military troops in both mural paintings and tomb figurines, not in combat but positioned in formation. Consisting of infantry soldiers alongside light and heavy cavalry accompanied by flag bearers, such a military set presents itself as a point of interest amidst the rest of the funerary setting. Did the tomb occupants command such an impressive troop in life? Or did the families commission this theme as part of the tomb repertoire in the hope of providing protection over the tomb occupants in the afterlife? Against textual history, the household institution of buqu military retainers that began as early as the New dynasty (9-23 CE) and lasted throughout the Northern dynasties, serving as private retainer corps of armed men to powerful families, appears to be reified in the above archaeological materials.

#### 6. Ina ASIM

**Institution:** Department of History, University of Oregon

**Title of Presentation:** The Tomb of Madame Mei Miaodeng (1430 - 1474)

**Abstract:** When the excavation report of a Ming dynasty tomb that had been discovered in Nanjing in 2008 was published in 2014 it caused some fanfare: The tomb contained several stunningly beautiful pieces of precious jewelry that became the eye-catching centerpieces on the local news. But there were more reasons the reports brought the tomb owner, Madame Mei, a second claim to fame. Her tomb inscription revealed that she was the scion of a prominent local family clan. Over the past decades the tombs of ten family members have been excavated in the vicinity of this latest site, for which a rescue excavation was conducted when it was discovered during construction work. The presentation will revisit the tomb and epitaph to contextualize the funerary gifts and the biography of this unusual woman, who spent the productive years of her life on the southwestern frontier of the Ming Empire.

## Session 8: The Tao River Archaeological Project - Gansu, China Organizer: Rowan Kimon FLAD

### 1. Rowan Kimon FLAD, Jing ZHOU, Hui WANG, Shuicheng LI

**Institution:** Harvard University; Gansu Provincial Institute of Archaeology; Gansu Provincial Institute of Archaeology; Peking University

**Title of Presentation:** The Tao River Archaeological Project: Technological Change Along the Proto-Silk Road

**Abstract:** Around 4000 years ago a series of changes in subsistence and craft technologies conspired to radically transform material culture and human lives along the “proto-Silk Road” in Northwest China. They are well manifest in the Tao River valley, which is a major tributary to the Yellow River and is located at the confluence of the historical networks of interaction and exchange. The river valley is rich in sites dating to the entire sequence of regional archaeological cultures that comprise the prehistoric chronology in the region: Yangshao culture (ca. 7000-5000 BP); Majiayao, Banshan and Machang “Painted-pottery” cultures (ca. 5200-4000 BP); Qijia culture; and the post-Qijia, Xindian (3600-2600 BP) and Siwa (ca. 3300-2500 BP) cultures. The Tao River Archaeological Project (TRAP) explores fundamental questions about the nature of technology and technological change and the relationships between technological and social change in this region.

### 2. Ling-yu HUNG

**Institution:** Indiana University

**Title of Presentation:** Technology and Organization of Pottery Production: Ethnoarchaeology in the Tao River Region, NW China

**Abstract:** Ongoing ethnoarchaeological study provides insight into the technological choices and social contexts surrounding the production of painted-pottery vessels in the Tao River region. In this region, tens of thousands of painted-pottery vessels are dated to the Neolithic and Bronze Ages. Many of the surviving examples are revered as exquisite artworks and icons of ancient Chinese culture, now housed in worldwide museum collections. Today, artisans use local clays to duplicate these ancient pots for modern tourist trade. Visits in the last 10 years of these modern artisans and their workshops revealed the complex processes, as well as the variety of technology and organization, involved in making painted pottery. Clays and potsherds collected from these workshops have been analyzed to compare their geochemical composition with archaeological samples. The results broaden our understanding of the archaeological specimens and help to frame new research questions.

### 3. Andrew WOMACK

**Institution:** McGill University

**Title of Presentation:** The China Ceramic Petrography Database: A New Platform for Ceramic Data Sharing

**Abstract:** While typological classification of ceramics has long been a mainstay of archaeological study in China, in recent years other forms of analysis have become increasingly common. Various types of chemical analysis, such as pXRF, LA-ICP-MS, and SEM, along with ceramic petrography, have increased our understanding of ceramic production and use. With the generation of large amounts of new data, however, has come the issue of how to productively publish and share it. This is particularly important for ceramic petrography, where comparison with

ceramic and geological samples from adjacent regions is critical for understanding production and exchange. In order to facilitate the open sharing of geological and ceramic petrographic data, the China Ceramic Petrography Database has been created using the OpenContext web platform and archiving service. This presentation will discuss how this platform can be used to access and contribute standardized sets of petrographic data from time periods and locations spanning China's prehistoric periods.

#### 4. Anke HEIN

**Institution:** Oxford University

**Title of Presentation:** The Xindian Site, Xindian Culture, and Xindian Ceramics: New Insights from Gansu and Stockholm

**Abstract:** In his 1925 publication on his research in Gansu, Johan Gunnar Andersson enthusiastically pronounced that Xindian was the best known "stage" in the prehistoric record of Gansu. Although by now over 200 sites in Gansu and Qinghai have been ascribed to the Xindian culture, it is far less well understood than Majiayao or Qijia, both of which were likewise first defined by Andersson in the 1920s. The main reason for what seems like a step backward is the nature of these "cultures" and the assignment of their names. To gain further insight into the relationship of site, culture, and ceramics in the case of Xindian, this paper revisits the material discovered by Andersson and held in the Museum of Far Eastern Antiquities in Stockholm, and compares it both with more recent finds from other sites assigned to the Xindian culture, and with material recovered during recent fieldwork at the sites of Xindian and Huizuiwa.

#### 5. Rongzhen GUO, Jade D'ALPOIM GUEDES, Guiyun JIN

**Institution:** University of California, San Diego; Shandong University

**Title of Presentation:** The Archaeobotany of the Qijiaping Site

**Abstract:** A total of 51 flotation samples were collected during the 2016-2017 excavation at the Qijiaping site, Guanghe County, including 25 of the Qijia culture and 26 of the Song dynasty. Archaeological work shows that agriculture was an important part of the subsistence of the settlement at Qijiaping in both periods. The absolute quantity and unearthed probability of the crops are higher than the remains of the weeds. The proportion of crops in the Song dynasty is higher than in the period of the Qijia culture, which may reflect the progress of field management technology and the development of agriculture to a certain extent. In the two periods, the crops of the settlement are foxtail millet, broomcorn millet, wheat, and barley. The former is mainly foxtail millet and wheat, and the latter is mainly wheat. This is roughly consistent with the historical records, which means that wheat displaced millet's position in agricultural production in northern China.

#### 6. Katherine BRUNSON

**Institution:** Brown University

**Title of Presentation:** Sheep and Goat Pastoralism in Northwest China

**Abstract:** During three seasons of fieldwork from 2016-2018, the Tao River Archaeology Project has uncovered a small, but exciting assemblage of faunal remains dating to the Qijia and Xindian periods. I present a zooarchaeological analysis of these bone materials and discuss the nature of pastoralism in the Bronze Age cultures of Northwest China. Preliminary results from ancient DNA studies of sheep and goat bones contribute to this research.



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## 7. Chengrui ZHANG

**Institution:** Harvard University

**Title of Presentation:** A Song Dynasty Tile Kiln at Qijiaping: Gender and Pyrotechnology in Medieval China

**Abstract:** During the 2016 and 2017 excavations at the site of Qijiaping in Guanghe County, Gansu Province, the Tao River Archaeological Project excavated a large intact kiln that turned out to be a Song dynasty roof tile kiln. The kiln is well preserved, and the first of its kind reported in an archaeological excavation in this region. Inside the flues of the kiln were many objects, deliberately disposed of, presumably at the moment when the kiln was put out of commission. Among these objects is a stone phallus, potentially reflecting a gendered process of manufacturing associated with this kiln or its decommissioning.

## 8. Jada Wing-tung KO

**Institution:** Harvard University

**Title of Presentation:** Reporting the Qijiaping Excavation in the Form of Moving Image: A Self-Reflexive Study on the Politics of Memory in Archaeology

**Abstract:** What is to be collected, recorded, and thus remembered in an archaeological excavation for both archaeologists and participants who do not have the scientific authority to create narratives about how the past could be remembered? To explore this question, I discuss the results of an ongoing film project that examines the history of archaeological field research at Qijiaping, Gansu Province. The film juxtaposes different layers of memories about the 1920s, 1970s and 2010s excavations through interviews with project participants, local villagers and looters, observations of current field experience, and textual and photographic records. I compare, contrast and complement what is being published about Qijiaping as an archaeological site with what is not. Looking beyond the raw data provided by an excavation report can provide a new unorthodox interpretation of the past, a meaningful definition for the “archaeological palimpsest,” and a platform for us to think about the kinds of memory politics we as archaeologists are engaged in.

## 9. Elizabeth S. BERGER, Hui WANG

**Institution:** Lieberthal-Rogel Center for Chinese Studies, University of Michigan; Gansu Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** Climate Change and Adaptation in Bronze Age Gansu

**Abstract:** During the Bronze Age, Northwest China experienced a cooling and drying climate, expanding grasslands, and gradual but dramatic changes in social organization and subsistence strategies, which included the incorporation of herd animal husbandry into economic activities. Human bioarchaeological data from Gansu were collected in order to characterize the nature of the human response to the climate change and assess its impact on human health. The bioarchaeological data suggest a reduction in frailty and childhood growth disruptions, along with slight changes in the food system, over the course of the Bronze Age in Gansu. These data, interpreted within the context of the archaeological record, suggest that the human social-ecological system was resilient and adapted to the climate change through the implementation of risk management strategies such as crop and spatial diversification, and that this successful adaptation is reflected in human population health.

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**10. Jenna M. DITTMAR, Hui-Yuan YEH, Elizabeth S. BERGER, Jennifer AUSTEN, Xiaoya ZHAN, Mauricio HERNANDEZ, Ruilin MAO, Hui WANG, Piers D. MITCHELL**

**Institution:** McDonald Institute for Archaeological Research, University of Cambridge; School of Humanities, Nanyang Technological University; Lieberthal-Rogel Center for Chinese Studies, University of Michigan; Department of Archaeology, University of Reading; Anthropology Department, Rutgers University; Department of Radiological Sciences, Ronald Reagan UCLA Medical Center; Gansu Provincial Institute for Cultural Relics and Archaeology; Gansu Provincial Institute for Cultural Relics and Archaeology; University of Cambridge

**Title of Presentation:** The Construction of Social Identity and Power Dynamics Through Violence: Skeletal Evidence from Bronze Age China

**Abstract:** This research explores the formation of social identity through violence in an early Bronze Age society by examining evidence of violent trauma on human skeletal remains. An osteological assessment was conducted on 341 individuals (n=213 adults, n=127 juveniles) from the Qijia Culture (2300-1500BCE) that were excavated from the Mogou site, Lintan County, Gansu. Evidence of violent trauma was found on 4.4% (n=15) of individuals. The injuries identified on the majority (n= 8) of individuals were likely wounds sustained during combat. However, two males had peri-mortem, sharp-force blade trauma consistent with sacrificial ritual. These victims were placed within the tomb shaft, likely to honor the deceased. By considering the context in which violence occurred, this research explores violence, not only as a product of structural conditions, but as a legitimate socially constructed cultural performance that is essential to the creation of identity and group organization.

**11. Wen-yuan NIU**

**Institution:** Tarim University

**Title of Presentation:** Application of Multi-Source Data Fusion in Archaeology and Cultural Studies Around the Tarim Basin

**Abstract:** Our research targets the archaeology and culture around the Tarim Basin, and is based on the Western Culture Digitalization Laboratory of Tarim University. We synthetically use the natural heritage, cultural heritage, historical documents, non-material cultural heritage and other information of the study area, to build the Multi-source Information Platform for Western Regions Archaeology and Cultural Studies, which contains five information databases. The five modalities of information base means the History and Cultural Resources Around Tarim Basin Information Database, the Non-material Cultural Heritage Around Tarim Basin Information Database, the Western Regions & Silk Route Literature Information Database, the Western Regions-Xinjiang Information Database, the China's Neighboring Country Information Database in Asia. The Multi-source Information Platform for Western Regions Archaeology and Cultural Studies uses the methods and concepts of multi-source data fusion to coordinate the five information modality database, and provides basic information for scholars conducting archaeological and cultural studies around the Tarim Basin.

**12. Tingting WANG, Benjamin T. FULLER, Dong WEI, Hongen JIANG, Wenying LI, Yaowu HU**

**Institution:** Department of Anthropology, School of Sociology and Anthropology, Sun Yat-sen University; Aarhus University; Research Center for Chinese Frontier Archaeology, Jilin University; Department of Anthropology and Archaeology, University of Chinese Academy of Sciences; Institute of Archaeology and Cultural Relics of Xinjiang

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Uyghur Autonomous Region; Department of Anthropology and Archaeology, University of Chinese Academy of Sciences

**Title of Presentation:** Isotopic Method as a Prism Reflecting Past Stories: Iso-Biography of Iron Age Mummified Yingpan Man from the Lop Nor Region of Xinjiang, China

**Abstract:** The discovery of the mummified remains of the Yingpan Man provides a unique opportunity for us to build a detailed biographical study about his life history, including his diet, movements and health status. Here, 1 bone collagen sample from his patella, 46-cm-long keratin samples from his hair as well as the bulk (n=1) and serial (n=32) dentine samples from his teeth were both selected and isotopically studied. Fourteen plant samples and two animals from Yingpan cemetery were also analyzed to build an environmental baseline for this study. Multiple isotopic analysis ( $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$  and  $\delta^{34}\text{S}$ ) of related bio-tissues as well as starch grain analysis of his teeth were both conducted to investigate dietary information captured through this multifaceted approach, which would have been invisible to collagen sample alone. According to the results, seasonal change of consumption of C3 and C4 plants were found to be evident from Yingpan Man's hair, and this gives us important clues about the season of his death. Additionally, elevation in  $\delta^{15}\text{N}$  values of Yingpan samples, extremely illuminating, presents new understandings concerning the living background, dietary emphasis and health conditions of the Yingpan Man. Particularly, the comparison of isotopic signal in his bone and teeth are informative of his geological origin and have great potential of reflecting his social identity at Yingpan.

## Session 9: Material Connections at the Extremities of the Silk Roads Organizer: Simon KANER

### 1. Simon KANER

**Institution:** Sainsbury Institute for the Study of Japanese Arts and Cultures

**Title of Presentation:** Repurposing Exotics from the Silk Roads: Contexts and Networks

**Abstract:** This paper introduces the session and the project as a whole. It will review the evidence for exotic materials at the eastern and western extremities of the Silk Roads during the first millennium AD and what is known of the contexts of discovery and the networks that brought them there. Examples include the bronze Buddha from the Viking settlement of Helgo in Sweden and Persian glass fragments from Okinoshima in Japan. We will consider to what extent the original use value of these objects informed later repurposing in their new contexts, in particular focusing on ritual and religious use.

### 2. Neil PRICE

**Institution:** University of Uppsala

**Title of Presentation:** Vendel- and Viking-Age Scandinavia and the Silk Roads: Archaeological Implications

**Abstract:** The Viking Age of Scandinavia (c. 750-1050 CE) has long been a byword for long-distance exploration, commerce, raiding and interaction, not least with western Eurasia. However, while contacts with the river routes to the Black Sea and the Caspian are well-known, it is only in recent years that the extent of contacts even further east to the Asian Steppe, India and even China have become apparent. Through finds from both burials and settlements, Scandinavia is now emerging as one of the western extremities of the Silk Roads, not only overland but also along the maritime routes through the Persian Gulf and what is now Indonesia. Crucially, these connections clearly began

in the centuries before the Viking Age, in what archaeologists term the Vendel Period (c. 550-750 CE). This paper presents an overview of the material and its implications, with a view to future work.

### 3. Charlotte HEDENSTIERNA-JONSON

**Institution:** University of Uppsala

**Title of Presentation:** Silk in Stone –Conceptions Beyond the Fabric in Viking Age Scandinavia

**Abstract:** In the 9th and 10th centuries, silk became a recurring feature in Scandinavian elite burials. The fragmented textiles had been produced in various regions, from Byzantium to Samanid Persia, but there are also examples of fragments from Chinese silk. Viking Age Scandinavia, situated on the very rim of the world, constituted one of the extremities of the Silk Roads. In the core regions of silk production, the fabrics were not only of economic importance, but also had strong social and political implications. Both within the Tang dynasty China and the Byzantine Empire, silk was closely connected to the emperor and his administration; a formalized expression of rank and power. This paper explores the idea that silk had an impact on Scandinavian Viking Age society, beyond the actual fabric. Did the introduction of particular motifs in Viking Age monumental art constitute an attempt to create the conception of silk in stone?

### 4. Susan WHITFIELD

**Institution:** Sainsbury Institute

**Title of Presentation:** Religion and the Changing Landscapes of the Silk Road

**Abstract:** This paper considers the effects of the introduction of Christianity and Buddhism to the material culture at the extremities of the Silk Road: the British Isles and the Japanese archipelago and Korean peninsula respectively.

### 5. Ju-Hyung RHI

**Institution:** Seoul National University

**Title of Presentation:** The Migration of a Motif: The Lotus Seat with Nagas

**Abstract:** In Indian Buddhist art, the Buddha is often seated on a fully-blossomed lotus whose stem is supported by two nagas. The motif seems to be first seen in Gandhara during the third and fourth centuries and was extremely popular in the western Deccan caves beginning in the late fifth century. Interestingly enough, we find the theme surviving in much later Buddhist paintings of Korea during the eighteenth to nineteenth centuries. This paper will explore the survival of this motif at the eastern end of the Silk Road and its circumstances.

### 6. Shinya SHODA

**Institution:** Nara National Research Institute for Cultural Properties / BioArCh, University of York

**Title of Presentation:** Hybridity of the Adoption of Buddhism in Ancient Japan

**Abstract:** It is well known that Buddhism was introduced to Japan in the 6th century AD, being led by a noble immigrant tribe from the Korean peninsula. The first Buddhist temple is named Asuka-dera temple in Asuka region, Nara, which was decorated with roof tiles with lotus motifs and devoted with metal and jade ornaments, similar in both respects to the ones in the Baekjae kingdom in the southwestern Korea, such as the findings from the Wangheung-sa temple in Buyeo built in the same period. However, simultaneously, the offered warriors and horse armours in the Asuka-dera temple strongly indicate the continuity of the precedent offering tradition at the burial mounds. This paper illustrates this complex hybridity of initial adoption of Buddhism in Japan, based on the recent accumulation of new excavated materials and achievements of new archaeological studies.

## 7. Robert SPENGLER

**Institution:** Max Planck Institute for the Science of Human History

**Title of Presentation:** Archaeobotany of the Silk Road

**Abstract:** The mountain foothills of Central Asia and western China are marked by an ecologically rich mosaic of environments, which have fostered an equally diverse array of human cultural traits. As far back as the third millennium B.C., people were transporting items, ideas, technology, and genes along this trans-Eurasian mountainous corridor, spanning from the Kopet Dag to the Tian Shan and reaching into China. The prehistoric cultural diffusion through these mountains played a significant role in shaping human developments across the Old World. By the late first millennium B.C., the historically documented exchange relied on established vectors of interaction, and fostered the spread of many of our most familiar fruits, nuts, grains, and legumes. Looking at new archaeobotanical data from several sites, I will talk about the spread of these crops, and trace the path that plants followed on their long journey across the Old World, ultimately reaching our dinner plates today.

## 8. Masatoshi YAMAFUJI, Masayoshi JOKURA, Kazuya YAMAUCHI, Bakit AMANBAEVA

**Institution:** Nara National Research Institute for Cultural Properties; Waseda University; Teikyo University; National Academy of Science, Kyrgyz Republic

**Title of Presentation:** A Chronological Consideration on the Rabat of Ak-Beshim/Suyab, a City on the Silk Road: A Preliminary Result of an Analysis on Pottery from the 2015 Season

**Abstract:** This paper aims at establishing an occupational sequence at the Rabat of Ak-Beshim/Suyab, Kyrgyz Republic, in view of a typo-technological analysis of pottery from an excavation in Autumn 2015. The excavation identified at least three cultural strata (II, III and IV), with not so many pottery sherds. While dozens of pottery samples came from Strata II and III, comparable with the Kala Khanid pottery from the Shakhristan dated around the tenth century, the probable lowest Stratum IV yielded several sherds including a 'Sogdian-style' carinated bowl and a sherd fired under reduced conditions unfamiliar with the indigenous tradition. The result indicates that a mixed culture temporarily occupied the site before the Kala Khanid tradition. Given several accumulations of Chinese roof tiles unearthed in Stratum IV, the material culture would be attributed to a military outpost of the Tang dynasty established around the late seventh century, as documented in historic sources.

## 9. Jie YIN

**Institution:** School of History, Nanjing University

**Title of Presentation:** The Original Source of Monumental Pillars of the Liang Dynasty

**Abstract:** The Hellenistic styles evident in the remaining Liang dynasty monumental pillars have constantly drawn scholars' attention. Most scholars before 1949 argued that these styles were inherited from sites beyond the Silk Road; the trend had been altered after the foundation of the state when most of scholars started to stick to the contention that these pillars were originally born in China without assimilating Western elements. My research traces back to the original source of these pillars by studying remaining Liang dynasty and Greco-Bactrian as well as Greco-Indian pillars, and comes to the conclusion that Liang dynasty pillars assimilated elements both from Han dynasty pillars in Nanyang, Yingchuan prefectures and Buddhist elements which spread into China during the Northern and Southern Dynasties; Han dynasty pillars, however, were in fact inspired directly via the Silk Road by monumental pillars around Hellenistic Fergana and Sogdiana. The tradition of erecting monumental pillars came to Mesopotamia and Central Asia through the military conquest of Alexander the Great, spread over Gandhara, Bactria and Northern India, and formed new hybrid styles. Finally, it reached the far away citadel of Jiankang via the Silk Road.

## 10. Liangren ZHANG

**Institution:** School of History, Nanjing University

**Title of Presentation:** Chinese Archaeological Field Projects Beyond the Border: A Review

**Abstract:** Chinese archaeologists have for decades confined their fieldwork within the border of China. Since 1998, upon the growth of the national wealth, they began to send expeditions to foreign countries such as Cambodia, Russia, Mongolia, Kenya, and Vietnam. The number of international expeditions has grown vigorously after Chinese government advocated the "Belt and Road" initiative in 2013. To date 21 expeditions have been operating in 12 countries, including Uzbekistan, Iran, Bengal, India, and Honduras. While the forceful development of international expeditions is welcome for a time when the Western expeditions are slackening, it is marred with the lack of research resources, trained personnel, and sustainable funding. The presentation provides a review of the history, prospect, and problems.

### Session 10: Archaeological Jades in East and Southeast Asia: Current Research and Future Direction

**Organizers:** Iona R. BAUSCH, Gina BARNES

#### 1. Gina L. BARNES

**Institution:** SOAS and Durham University

**Title of Presentation:** Plate Tectonic Settings of Chinese Jade & Jade Sourcing

**Abstract:** True jade sourced within China's current borders is all nephrite of two varieties, derived from dolomitic marble or from serpentinite. Several other kinds of 'false jades' are historically important (e.g. Dushan jade, a zoicized plagioclase; Lantian jade, a serpentinitized marble). This paper first examines the tectonic settings of the host rocks for both true and false jades and second, highlights distinct chemical signatures of some known sources.

#### 2. Tatsuki TSUJIMORI

**Institution:** Center for Northeast Asian Studies, Tohoku University

**Title of Presentation:** Jadeitite ('Jadeite Jade') in Japan: An Overview

**Abstract:** Jadeitite is a sacred stone in both ancient and modern Japanese cultures. Originally thought sourced from China, Japanese jadeite was identified in 1939, in Paleozoic and Mesozoic geotectonic units. All localities are situated in serpentinite mélangé with high-pressure metamorphic rocks and/or serpentinite lenses within a high-pressure metamorphosed complex. Jadeitite artifacts occur in numerous burials from middle Jōmon (~5000–3500 BCE) to the Kofun period (~250–400 E). All archaeological sites with jadeitite artifacts are younger than the K-Ah tephra (7.3 ka cal BP). However, archaeological chronology of jadeitite artifacts is based on 'seriation', a relative dating method using style and assemblage of artifacts from numerous sites in the same culture. Precise age determination of the archaeological sites has the potential to link interdisciplinary studies in the genetic origins of modern Japanese, large-scale interaction between immigrants and the indigenous population, and geosciences. To improve understanding, therefore, the chronology should be investigated further by radiocarbon dating.

#### 3. Yoshiyuki IIZUKA

**Institution:** Institute of Earth Sciences, Academia Sinica

**Title of Presentation:** Re-Discovery of Nephrite Jade Artifacts from the Japanese Archipelago: Petrological and Mineralogical Investigation of Jomon Stone Tools

**Abstract:** Non-invasive petrological and mineralogical investigations were carried out on stone axes and adzes from the Early to Middle Jomon periods in the Toyama area, central Japan. A scanning electron microscope with an energy dispersive X-ray spectrometer (SEM-EDS) was applied to tools from Early Jomon Babayama-G and Odake shell midden sites, and to Middle Jomon artifacts from Sakai-A and Kitadai sites. The results revealed three tool groups according to their mineralogy: 1) nephrite (tremolite-actinolite rocks), 2) hornblende, and 3) serpentinite. Nephrite and its related rocks are the most common rather than serpentinite, thought to be most abundant for stone tools in Japanese prehistory. Geological sourcing of nephrite was simultaneously applied to the surrounding area. Mineral chemical compositions of the stone tools are comparable with rocks from northern Nagano (Hakuba Happo-one) areas and western Niigata (Itoigawa), otherwise known as a jadeite deposit area, 30–100 km to the east of the studied sites.

#### 4. Lauren GLOVER

**Institution:** University of Wisconsin-Madison

**Title of Presentation:** A Comparative Analysis of Comma Shaped Jade Beads of Korea and Japan 250 - 700 CE

**Abstract:** Comma shaped beads called gokuk in Korea and magatama in Japan were made of jadeite or nephrite and are commonly found in elite burials in mounded tombs during the Three Kingdoms Period/Kofun Period. Analysis of 37 beads (36 jadeite, 1 nephrite) from Korea and Japan included quantitative and qualitative documentation of bead shape, size, manufacturing indicators and wear. Silicone impressions of the drill holes were studied using the Scanning Electron Microscope to differentiate manufacturing methods of drilling and use wear. All of the beads were perforated using metal drills and abrasives but the sizes and shapes of drills were not uniform. All beads show heavy wear in the drill hole indicating long periods of use prior to burial. The Korean gokuk include distinctive forms and a wider range of sizes and proportions as compared to the Japanese magatama. These variations could indicate production in multiple workshops in Korea and Japan.

#### 5. Ilona R. BAUSCH

**Institution:** Department of Cultural Resource Studies, University of Tokyo

**Title of Presentation:** Temporal and Spatial Diversity in the Social Value of Jomon Jadeite Ornaments

**Abstract:** From its discovery during the late Early Jomon (circa 6000 years ago), jadeite from the Itoigawa source was highly valued throughout Jomon period Japan, as can be seen from its wide distribution range. Based on find contexts and on the physical properties of jadeite, archaeologists interpret the materiality and social value of Jomon jadeite as conferring magical and/or social power; jadeite (or jade-like) pendants and beads as prestige objects worn by a 'leader' or 'shaman'. However, research has been biased towards a focus on cemeteries, although not all jades were deposited in a mortuary context. Moreover, regional and temporal differences in form, usage and social value are often overlooked as well. This paper aims to move away from a universal interpretation of the symbolic meaning and social value of Jomon jadeite ornaments, by taking into account the variability of uses and find contexts through space and time.

#### 6. Tsuimei HUANG

**Institution:** Department of Art History, Tainan N. University of the Arts

**Title of Presentation:** Cultural Biography of Jade Cong: From Neolithic to Zhou

**Abstract:** This paper investigates the cultural biography of excavated Chinese cong (rectangular jade tubes), aiming

to explore the social life of this object type, which existed from the late Neolithic through the Zhou periods (ca. 3000-220 BCE). The cong is documented as a ritual implement for worshipping the earth in Rites of Zhou, a literary work on subjects pertaining to administrative system and institutional organization theory of the Zhou court, as well as a compendium used after the Zhou era for reconstructing the function of cong. An examination of the production, physical modification and consumption in different cultural contexts reveals the trajectory of the life history of cong, which became invested with special ritual meanings across a considerable time span in ancient China. The study explores how the meaning of cong was altered and renegotiated over time, and reaches a conclusion not necessarily consistent with what is specified in Rites of Zhou.

## 7. Elizabeth CHILDS-JOHNSON

**Institution:** Independent Scholar

**Title of Presentation:** The Changing Social Value of Nephrite Jade During the Jade Age (ca. 3500 - 2000 BCE) in China, including Erlitou

**Abstract:** The social value of nephrite jade is explicit from three pace-setting, overlapping yet sequential Late Neolithic cultures, when jades formed 90% of elite burial goods: Hongshan, Liangzhu, and Longshan in addition to Erlitou. This period, ca. 3500-2000BCE, I term the Jade Age of early China. Coastal cultures (e.g. Hongshan in the north; Liangzhu in the south) contrast with other more inland cultures, due to advances in jade working and the concomitant rise of social power. Social changes are dramatic typologically and aesthetically. Hongshan elites favored using jade as adornment, as amuletic icons. The succeeding Liangzhu culture expanded this use and created completely new types, including weaponry (yue) and ritual tools (cong and bi). The Longshan peoples continued using jade for body ornaments and weapons, yet dispensed with cong and bi in favor of creating an entirely new category: insignia jades, adapted from tool types, including zhang, dao, and gui blades.

## Session 11: Studies of Images During the Eastern Zhou and Han Period Organizer: Huichih CHUANG

### 1. Yin ZHANG

**Institution:** Shaanxi Normal University

**Title of Presentation:** The Origin of the Patterns of the Ibex and Sheep on Metalwares in the Northern China During the Eastern Zhou Dynasty

**Abstract:** The patterns of the ibex and sheep are an important decorative theme on the metalwares in northern China during the Eastern Zhou dynasty. There are three types of patterns: round carvings, relief carvings and openwork carvings. The round and relief carvings in Northern China originate from nomadic cultures in south Siberia. Meanwhile, the openwork carvings originate from both the Saka culture in the Seven Rivers area and nomad cultures in the Northern Steppes of China. The distribution of different types of ibex and sheep patterns reflects the communication between the nomads in the South Siberia region, the Seven River area, and northern China.

### 2. Fanwen ZHOU

**Institution:** Sun Yat-Sen University

**Title of Presentation:** Crested Rower Pictures from Bronze Artifacts in Southern China and Southeast Asia

**Abstract:** Between the eighth and first centuries B.C.E., a kind of "crested rower" image -- i.e., feather-crested



figures who row boats -- appears on the bronze drums, buckets, and axes of Huanan, southeastern China, southwestern China, and southeast Asia. These images are similar in their composition and pictorial elements. The main theme is that of crested figures involved in a variety of activities (rowing, dancing, beheading, etc.) on yishou boats. Animals such as waterfowl, deer, and mink also appear frequently. The details of these images exhibit regional variations. Bronze drums, buckets, and axes were regarded as unique economic resources in southern China during the Eastern Zhou and Han periods. The former, in particular, served as both a status symbol and Kula, and was thus indicative of political status. Although crested rowers on bronze drums are not particularly common (0.2%), they provide a window onto a rare narrative scene, and are related to the so-called "race prayer" images of a later period. This theme subsequently spread to other kinds of bronze artifacts (buckets, axes), and can be seen on the royal tombs of the Southern Yue state and Luobowann Tomb 1. The original function of the images seems to have been lost, now taking on a new realistic significance.

### 3. Wenjie ZHANG

**Institution:** Xiamen University

**Title of Presentation:** The Wedding Painting on the Lacquer Wares from Baoshan Tomb No. 2

**Abstract:** Tomb no.2 of the state of Chu at Baoshan yielded a lacquer casket decorated with painting. The wall of its lid is decorated with a painting of human figures and chariots. Based on ritual texts, I study its costumes, chariots, horses, and etiquette. The painting displays 6 major wedding rituals, as recorded by the Yili: Shihunli, offering material evidence for studying costume tradition and wedding ceremony in the Zhou dynasty.

### 4. Huichih CHUANG

**Institution:** Tainan N. University of the Arts

**Title of Presentation:** A Study of 28 Constellations of the Han Dynasty

**Abstract:** Celestial images which are often constituted by the sun, moon, the four animals of the cardinal directions and 28 constellations, are very important themes in tombs of the Han period. But for various reasons, the images are not systematically organized. There are many different opinions about image interpretations, and many images cannot be collated with the literature. This study collects Han mural tombs with celestial images and organizes the related images on carved stones, references the images and literature, and tries to correct the names of some images. The present study hopes, by a process of organization, to convert unearthed images into an alternative form of literature, not only to provide criteria of identification for future studies, but also to allow us a glimpse of Han astronomical concepts.

### 5. Pan PAN

**Institution:** Eastern Washington University

**Title of Presentation:** The Transitional Status of Evolution of the Four Gods — The Example of Decor of Danglu from the Marquis of Haihun's Tomb

**Abstract:** Azure Dragon, White Tiger, Vermilion Bird, and Black Tortoise (Xuanwu) are usually known as the Four Gods. This appellation, along with its accurate definition and images, were established around the Wei-Jin Period. Before that time, they were more often called the Four Symbols or the Four Beasts, which had a close relationship with ancient Chinese astronomy. There is a similar mythical animal group which was named the Four Divinities—dragon, phoenix, Qilin [unicorn], and tortoise. Moreover, with booming development of the Theory of Five Elements

and Confucianist divination throughout the Han dynasty, tiger and Qilin [unicorn] were gradually mixed into the original groups to generate the Five Divinities and the Five Celestial Beasts. Although these mythical animal groups were derived from different belief systems, some overlapped roles and similar motifs still caused confusion in their concepts and image details. This presentation will reconsider and discriminate these different mythical animal groups, which are based on ancient documents and images. Some specific images, such as the Danglu decor of the Marquis of Haihun's Tomb, will be meticulously investigated. As a result, some explicit evidence of the transitional status of the Four Gods in the Han dynasty will be indicated.

## 6. Hu ZHU

**Institution:** East China Normal University

**Title of Presentation:** A Research on the Pictorial Stone Carving Found in the Tomb of Cao Cao

**Abstract:** Since the tomb of Cao Cao was found, the contents of the tomb's stone carvings have created great controversy. The archaeological report collects 41 incomplete pictorial stones excavated from the tomb and also includes several larger stones recovered from grave robbers by the police. However, there are big problems in identifying the contents and inscriptions on these pictorial stones. By comparing the pictorial stones excavated in the tomb and recovered by the police, together with their images and inscriptions, we find that the contents of the pictorial stones of Cao Cao Tomb No.2 can be divided into historical stories, magic mythical creatures, decorative patterns and so on. Based on these new findings, this article identifies two new stories: "Zhen Fu and Han Peng" as well as " Jin Midi shows respect to his mother's picture. The story "Luo Fu picks mulberry leaves " mentioned in the report is corrected as "Qiu Hu molests his wife," and also makes revisions to "Jiao Ren" "Bi Xie Chi" "Bai Hu Ren" and other mural inscriptions. The contents of the pictorial stones of Tomb No. 2 of Cao Cao are common themes in the late Eastern Han Dynasty, which are strongly influenced by the beliefs of Confucianism, Mohism and immortality. Since the pictorial stone and stone eaves tiles with cloud images as well as the doorposts, were all discovered simultaneously, through rejoining and studying, we believe that these pictorial stone carvings might belong to a house-shaped stone outer coffin with eaves tiles. Its shape and structure could be somewhat like the stone shrine in Xiaotang Hill.

**Session 12: Geomancy, Topography, and Landscape: Alternative Perspectives on Tomb Burial Practice in the Tang-Song Transition**  
**Organizer: Fan LIN**

## 1. Yijun HUANG

**Institution:** Minzu University of China

**Title of Presentation:** Through the Lenses of Archaeological Discoveries and Geographical Sources: The Formation of Regional Cultures in South China in the Tang and Song Periods

**Abstract:** Both archaeological evidence and texts on human geography (e.g. the treaties on geography in Sui History and Song History, "Zhoujun dian" [Treatise on Prefectures and Commanderies] in Tongdian [Comprehensive Statutes], and Taiping Huanyuji [Gazetteer of the World during the Taiping Era [976-83]] indicate regional differences of burial sites in south China during the Tang and Song periods. I argue that these two types of sources have led to similar results. However, it should be noted that most archaeological sites belong to Han Chinese owners but not "barbaric" ethnic groups. Both the archaeological and written records demonstrate that the South China formed diverse cultural regions in the Tang-Song transition.

## 2. Lianyu JIN

**Institution:** Protection and Management Center of Nanjing City Wall

**Title of Presentation:** Overall Layout and Funeral Idea of the Northern Song Lü Family Cemetery in Lantian County

**Abstract:** In this article, I examine the overall layout and burial order of the Northern Song Lü family cemetery in Lantian County, Shaanxi Province, and discover that the cemetery embodied ideas of neo-Confucianism. The tombs of the Lü family are divided into da zong (senior lineage) and pang zhi (junior lineages). Tombs of grandfather, father and senior son who belonged to the senior lineage were buried in a subunit in the zhaomu order; junior sons of the grandfather and their descendants were buried in other subunits separately, which likewise adopted the zhaomu order, as the junior lineages. In summary, the scheme of the Lü family graveyard showed the influence of neo-Confucianism on Lü Dalin, Lü Dajun, Lü Dazhong, and Lü Dafang, and reflected their ideology of differentiating the lineage into the trunk and branches.

## 3. Fan LIN

**Institution:** Leiden University

**Title of Presentation:** Geomantic Manuals, Topographic Maps, and Landscape Paintings: Imaging and Siting Tombs in the Tang and Song Periods

**Abstract:** In the Tang-Song transition, geomantic manuals, gazetteers maps, and landscape paintings became new media in representing local topography. Although each medium appropriated different visual strategy, techniques, and perspective, they all visualized the configuration of topographic elements in an idealistic manner. Comparing the above three media can provide us with a better understanding of the siting of the tombs and spatial arrangement of their inner space. This paper examines three related aspects: First, the ways in which geomantic principles were shared by landscape paintings and topographic maps; second, the function of landscape paintings depicted in tombs; animal symbolism and animated space in landscape paintings and geomantic diagrams. Sources covered in this paper include geomantic manuals (e.g. Dili Xinshu), painting treatise (e.g. Linquan Gaozhi), and landscape paintings (e.g. Dongmian Shanzhuangtu).

## 4. Gege YU

**Institution:** Institute of Chinese Agricultural Historic Heritage, South China Agricultural University

**Title of Presentation:** The Influence of Geomancy Principles on the Selection Methods of Tombs in the Song Dynasty

**Abstract:** In the Song dynasty, in addition to the popular “Wu-Xing”, “San-Yuan” theory and the Yin-Yang law in choosing curtilage, there also appeared the “Xing-Shi” theory and the “San-He” theory with the usage of compass, which indicates the diversity of the development of geomancy. The selection methods of tombs in the Song dynasty showed different forms under the guidance of technique. According to Feng Shui literature for the construction methods of the mansions and the archaeological discoveries of the Song tombs unearthed, the method of choosing tombs will be different in terms of the difference of the terrain and the applicable scope of the geomancy principle. It is obvious that tombs in northern China are mostly based on the “Wu-Xing” method, while southern tombs are mostly judged Auspicious according to the terrain. In addition, all regions in the South also adopted different ways of siting graves because of the differences in the geomancy principles.

## Session 13: Re-Evaluating Weapons Organizers: Qin CAO, Xiuzhen LI, Yanli GUO

### 1. Yanli GUO

**Institution:** Shaanxi Normal University

**Title of Presentation:** Ritual and Practice: A Comparison of Bronze Weaponry between the Central Kingdoms and the Surrounding Areas During the Shang and Zhou Dynasties

**Abstract:** Bronze weapons, in addition to their use in warfare, were employed in burial and sacrificial practices in the Shang and Zhou dynasties. In the core areas of the Shang and Zhou, abundant weapons were found in tombs rather than in sacrificial pits. On the other hand, weaponry in the surrounding regions was mostly used as sacrifice to mountains and rivers. This paper aims to address the differing ways of using weaponry between the Shang and Zhou core areas and their surrounding regions.

### 2. Qin CAO

**Institution:** National Museum of Scotland

**Title of Presentation:** Ceremonial or Lethal? Metalwork Wear Observations on Late Shang Weapons in the British Museum

**Abstract:** Large-scale bronze production is one of the most salient features of late Shang China (c.1200-1050 BC). Copper-alloy weapons were cast in extraordinary quantities and varieties as shown by the rich burial assemblages known from the period. However, little is known about their practical use, and scholars speculate whether the weapons were ritual implements or prestige items. The chapter discusses the first wear analysis ever undertaken on Shang Chinese weaponry. The analysis reveals that the weapons display a range of marks, which shed light on their manufacturing processes, use in combat, deposition, and post-recovery changes. It also challenges the traditional typological classification of bronze weapons in Chinese archaeology.

### 3. Alice Yu CHENG

**Institution:** University of Oxford

**Title of Presentation:** Bronze Weapons of the Neglected Soldiers: A Study of the Bronze Dagger-Axes of the Lesser Elites in the Early Western Zhou Period (1045 - 978 B.C.)

**Abstract:** Bronze dagger-axes, or ge, were found in hundreds of burials in two Western Zhou cemeteries at Beilü and Shaolingyuan in Shaanxi Province. The absence of bronze ritual vessels and other prestigious mortuary goods has led excavators to suggest that these tombs belong to a group of the lesser elite class, most likely soldiers. Similar tombs of the lesser elites have been uncovered in other Zhou regions. However, they are either ignored, or analyzed in the same way as tombs containing no weapons. As a result, an entire group of soldier burials and their bronze dagger-axes has been neglected. This paper aims to bring to light the presence of such a social group, as well as the role these soldiers played in the local and Zhou community. Moving beyond establishing a weapon typology, the paper also intends to gain a deeper understanding of the bronze dagger-axes as well as the Western Zhou military and political development.

### 4. Xiuzhen LI

**Institution:** Emperor Qin Shihuang's Mausoleum Site Museum

**Title of Presentation:** Ritual or Functional? Bronze Weapons of the Qin Terracotta Army

**Abstract:** Over 40,000 bronze weapons have been found in pits of the Terracotta Army that served to protect the Qin First Emperor (259-210 BC) in his afterlife. These were mostly functional weapons, including swords, lances, halberds, spears, crossbows, arrows, and some ceremonial ones, e.g. su. Were these weapons used in battles before being deposited inside the tomb complex to equip the terracotta warriors? Were they produced particularly for the First Emperor's afterlife? This paper aims to tackle these questions by investigating tool marks, worn traces, statistic and spatial patterns. Furthermore, it will explore and interpret how weaponry production was managed in order to equip the army for fighting, as well as providing equipment for the Terracotta Army in the early-centralized imperial China.

## 5. Carola FRANZEN

**Institution:** Ludwig-Maximilians-University Munich

**Title of Presentation:** Protection, Prestige and Identity — Body Armour in the Context of Burials and Other Sites from the Han to Tang Era in China

**Abstract:** Research of body armour in China has been based on archaeological finds as well as its depictions on murals or hundreds of figurines. So far, the main concern has been to establish a typology and reconstruct the full details of the body armour. Less attention has been paid to the context of the finds, which can provide valuable information about the significance of the body armour. Textual sources provide another perspective and indicate that in some cases, body armour had a value other than simply protecting the wearer. Through studying the context and the written sources, this paper will discuss perceptions of armour and how this changed between the Han and Tang era. Was it merely a means of protection or a symbol of prestige, power and identity?

## Session 14: East-West Interaction Across the Mongolian Steppes in the Bronze and Early Iron Age

Organizers: Ursula BROSEDER, Joshua WRIGHT

### 1. Peter Weiming JIA

**Institution:** University of Sydney

**Title of Presentation:** Ethnographic Analysis of Steppe Pastoralism in Relation to the Study of Bronze and Early Iron Age Settlement

**Abstract:** Ethnographic study of modern steppe pastoralists has played an important role in understanding how early herders survived in the steppe in late prehistory. Over thousands of years of practice, local people have developed special ways to manage their herding economies. In the seasonal transhumant pastoralism associated with this specific herding life style, settlement location and design can be complex. Some Bronze Age and Iron Age dwellings found in Xinjiang exhibit features of this modern seasonal herding lifestyle, suggesting the early development of transhumant pastoralism in this region.

### 2. Alison BETTS

**Institution:** University of Sydney

**Title of Presentation:** Mechanisms of East-West Interaction

**Abstract:** The nature of East-West interaction is manifest in a variety of different ways. Materials, technologies and cultural practices move separately along different trajectories. This paper will look at the gradual development and mechanisms of East-West interactions from the early Bronze Age to the Iron Age.

### 3. Qi MENG

**Institution:** University of Sydney

**Title of Presentation:** Mongolian Influence on the Eastern Tianshan Mountains and the Dzungaria Basin During the Bronze Age and Early Iron Age: New Discoveries in Xinjiang, China

**Abstract:** In the last decade, intensive excavations were conducted in the Chinese Altay and the Barkol Steppe on the northern slope of the eastern Tianshan Mountains. Discoveries of spectacular stone monuments and anthropomorphic deer stones in the Altay region reflect an adaptation of the Mongolian tradition, while the burials and metal artifacts found in the Barkol Steppe were argued to be the remains of the Huns. This new evidence further indicates that the late prehistory of the Dzungaria Basin and the eastern Tianshan Mountain region experienced significant influence from the Mongolian Plateau and southern Siberia.

### 4. Ursula BROSEDER

**Institution:** University of Bonn

**Title of Presentation:** Bioarchaeological Research on Societal Change in Central Mongolia and its Trans-regional Connections

**Abstract:** Over recent years regional diversity of monuments and ritual landscapes in the Bronze and Early Iron Age of Mongolia has become apparent. However, data from Central Mongolia is still scarce, which hinders our understanding of the inter-regional connectivity. Our bioarchaeological research in a ritual landscape of Central Mongolia reveals a new diversity of funerary monuments and allows for identifying major thresholds of societal change. A better understanding of Central Mongolia also changes our perception of interregional connections with neighboring regions.

### 5. Joshua WRIGHT

**Institution:** University of Aberdeen

**Title of Presentation:** Agency, Action and Architectonics: Similar Non-Mortuary Monumental Structures in Southern Mongolia

**Abstract:** Between the Altai in the west and the Gobi in the southeast of Mongolia there is a range of non-mortuary monuments of similar forms. How similar are these structures and what does their configuration tell us about ritual in the earliest Bronze Age of Mongolia? With little evidence to support sweeping population migration, what other explanations might there be for similar structural patterns?

### 6. Gary Yiu-Kang HSU

**Institution:** Bergbau-Museum Bochum

**Title of Presentation:** The Dawn of Bronze Metallurgy in Ancient Mongolia: An Archaeometallurgical Study

**Abstract:** This work is the first comprehensive investigation of copper alloys from the Bronze and Early Iron Age sites in Mongolia covering a wide range of sites related to the Khirigsuur complex, Chandmani, Pazyryk, and Slab-Grave communities. Two core questions are addressed: how and why does ancient metallurgy in Mongolia vary locally and how does long-distance contact affect the metal production in Mongolia? Using both compositional and lead isotopic approaches, it is possible to reveal the origins of raw material, manufacturing techniques, and connections between archaeological communities in Mongolia. The initial result has identified two contrasting alloy practices in Mongolia, namely copper with arsenic and antimony in the west, and tin bronze in the east. The other focus is to compare metallurgical data in Mongolia with those of neighboring regions.

**Session 15: New Approach to the Spread of Prehistoric Agriculture in North-East Asia**  
**Organizers: Kazuo MIYAMOTO, Fengshi LUAN****1. Fen WANG**

**Institution:** Shandong University

**Title of Presentation:** Research on Subsistence in the Jiaodong region: Case Studies from the Beiqian Site

**Abstract:** The Beiqian site is an important prehistoric midden site in the south of Jiaodong peninsula, and has been excavated on a large scale. The prehistoric remains are from the late Beixin culture to the early Dawenkou culture. After four seasons of excavation in 2007, 2009, 2011 and 2013, a number of pits, houses, burials, post holes, and other early Dawenkou culture features have been recovered. A large number of animal and plant remains and human bones were systematically collected during the excavations. This paper combines the analysis of plant and animal remains and the result of the isotope of human bones to investigate the subsistence strategy at the Beiqian site. An integral interpretation of the subsistence economy in the Jiaodong region was also made by comparing with other midden sites.

**2. Rongzhen GUO**

**Institution:** Shandong University

**Title of Presentation:** The Study of Pre-Historical Rice Remains in the Haidai Region

**Abstract:** The archaeological discoveries of pre-historical rice remains presents an increase in number and an expansion in distribution from the Houli Culture to the Longshan Culture. The number of rice remains decreased when it came to the Yueshi Culture. The Houli Culture was still at a lower stage of food production when rice played a minor role in people's livelihood. In the periods of the Beixin Culture and early and middle Dawenkou Culture, agriculture became the dominant subsistence strategy with rice farming being a solid mean of agricultural development. The Longshan Culture witnessed the intensive development of agriculture with rice farming reaching its peak in the Haidai area. When it came to the Yueshi Culture, however, rice farming declined while dry farming was further advanced.

**3. Nobuhiko KAMIJO, Guiyun JIN**

**Institution:** Hirosaki University; Shandong University

**Title of Presentation:** The Process of Accepting Rice Cultivation in Shandong Peninsula as Seen from the Rice Grain Shapes

**Abstract:** Because the development of rice-paddy cultivation that occurred in the lower reach of the Chang Jiang is relevant to the spread of rice in East Asia, Shandong peninsula is an important area. A rice farming culture developed during the late Neolithic era in this area, the ecological limit at which rice can be grown. We investigated a form of the rice seed of the two sites that varied in the environment of the Shandong peninsula, to elucidate the cultivation conditions of the rice. As a result, the group of the seed size of the Zhaojiazhuang and Dinggong sites of the Longshan culture was divided into three groups. The size variation among the remains was smaller in the Zhaojiazhuang site than in the Dinggong site, and a suitable cultivation condition in the warm dampness in southern Shandong and appropriate cultivation techniques were adopted.

#### 4. Tetsuro UDATSU

**Institution:** Miyazaki University

**Title of Presentation:** Investigation by Phytolith Analysis of Ancient Paddy Fields around the Site of Yangjiajuan

**Abstract:** In order to examine the existence of paddy fields in the Longshan period and their location in Shandong, the investigation of ancient structural remains of paddy fields was carried out around the site of Yangjiajuan in Qixia County, Shandong province, in 2015 and 2016. Based on the research findings from 2004 and 2005, we carried out the coring survey in about 50 points in the area of the north side of the ruins. As a result of phytolith analysis of the soil samples extracted by the coring survey, we clarified the soil layer and the range in which the rice phytolith remained there. By adding the information on the buried-microland forms estimated from the coring survey to the above result, we almost clarified the range of paddy fields located in the north side of the Yangjiajuan site.

#### 5. Hiroki OBATA

**Institution:** Kumamoto University

**Title of Presentation:** Report on the Prehistoric Cultigens Based on the Plant Impressions in Potteries from Shandong and Liaodong Peninsulas, China

**Abstract:** In China the origin and diffusion of rice or millet cultivation and their companion cultigens have been revealed clearly with abundant botanical remains that have been mainly recovered from soil of sites by the “flotation method”. However it is true that in the case of charred seeds from the soil, uncertainty remains about their correct ages. Recently in Japan and Korea the “impression method,” which is a method for examining the impressions of plant seeds or fruits in potsherds, has been employed, and new insights into Neolithic agriculture and earlier cultigens, which had not been known using the previous methods, have been obtained. We have employed this method on the potsherds from 4 sites on Shandong peninsula and 4 sites on Liaodong peninsula, belonging from the middle Neolithic to early Bronze Age, to consider the previous hypotheses on cultivation and utilization of plants in these regions. This paper shows the results.

#### 6. Kazunori MISAKA

**Institution:** Kyushu University

**Title of Presentation:** The Process of the Expansion of Agriculture in North-Eastern Asia by Analyses of Pottery-Making Techniques

**Abstract:** In recent years, in addition to the conventional morphological analyses of artifacts, the argument about the process of the expansion of agriculture in North-Eastern Asia has been pushed forward by natural science analyses of DNA and the impressions on potteries from cultivated plants, as well as estimates of cultivated lands by analyses of soil. In this presentation, in addition to the morphological analyses of potteries we will analyze pottery-making techniques. It is difficult to imitate the pottery-making techniques just by looking at finished products. Therefore, the technical similarities and differences become one kind of evidence to support the existence of emigration from other areas. We will examine migration and cultural change accompanying the spread of agriculture in North-Eastern China, Korean Peninsula, and Japanese archipelago by analyses of pottery-making techniques: methods of clay-stripe adhesion, surface treatment and firing.

#### 7. Kazuo MIYAMOTO

**Institution:** The faculty of Humanities, Kyushu University

**Title of Presentation:** Rethinking the Dating of the Beginning of Yayoi Culture

**Abstract:** The carbon dating of Yayoi pottery indicates that the beginning of Yayoi occurs back to the 10th century



BC. But it is probable that this carbon dating is much earlier than the original dating due to the old fuel wood. We tried to date the carbonized rice seeds in the lowest layer accompanied with initial Yayoi pottery at Ukikunden Site in the city of Karatsu, Saga prefecture, Japan. At the same time, we dated the carbon on the pottery that was found in the same layer with carbonized seeds. We compare two kinds of dating and determine the date of the beginning of Yayoi: that is the 9th to 8th century BC, which was related to the cooler climate condition.

## 8.Katsunori TANAKA

**Institution:** Hirokosaki University

**Title of Presentation:** DNA Analysis for the Rice Remain from Northern Kyushu Island, Japan

**Abstract:** To understand the development of rice transmission to Japan, PCR-based markers were applied for DNA analysis of rice remains from Northern Kyushu island, Japan. PCR amplicons were recovered from inter-genic regions in the chloroplast and nuclear genome and those sequences were the same as modern temperate japonica. It suggests that rice cultivation was introduced with cultivation technique and varieties, which was close to temperate japonica.

## Session 16: Technical Transfer of Early Kilns in Peripheral Areas of East Asia Organizers: Maria SHINOTO, Tomoko NAGATOMO

### 1.Maria SHINOTO

**Institution:** Heidelberg University

**Title of Presentation:** Agile Research Design in Interdisciplinary Research on Ancient Kiln Technology

**Abstract:** Kiln research is related to technological, social, and historical questions as well as the problems of excavation procedure. Almost all disciplines from natural sciences to social sciences and philosophy are involved, besides practitioners -- from craftsmen running their own traditional kiln to large mining companies. In the Nakadake project in South Japan, we try to integrate research of these originally separated specialists from the planning stage of the project until the final report in order to adapt the whole research design to new insights whenever necessary -- thus adjusting the initial plans to our findings during the course of the project. In this presentation I will introduce (1) examples of such integrated research, (2) tests of interaction platforms, and (3) present a comparison of traditionally separate research design and the concept of integration and agile research design that has been adopted from "agile software development" in the programming world.

### 2.Isao USUKI, Katsuhiko KIYAMA

**Institution:** Sapporo Gakuin University; Tokai University

**Title of Presentation:** Features of Kilns of Xiongnu and Khitan in Mongolia

**Abstract:** Few cases of crafts production have been studied in Nomadic cultures, in contrast to the accumulation of many studies for burials and large settlements as walled towns.

We excavated two pottery / roof tile kilns, which dated to the Xiongnu and Kiddan periods, in Mongolia. This presentation introduces these basic forms, features, and the reconstructed technical method. We examine the social position of craft production in the nomadic cultures. In addition, we discuss the origin and the introduction of craft technology in comparison with similar examples in the surrounding areas, especially the north part of China.

### 3. Tomoko NAGATOMO, Daisuke NAKAMURA

**Institution:** Ritsumeikan University; Saitama University

**Title of Presentation:** Two Kinds of Pit Kiln and Their Expansion: 3rd Century BCE to 4th Century CE in East Asia

**Abstract:** Long-pit kiln was a common style in Korean peninsula from the 3rd century CE onward. It is well known that Korean peninsula had a historically strong relationship with North China, and adopted many cultural elements such as agriculture, iron making, Buddhism, and Buddhist temple via North China. However, long-pit kiln was not common in North China; instead, horizontal draft kiln was widely used for pottery and brick making there. It is in South China that long-pit kiln was formed and developed. Therefore, it is highly possible that these in Korean peninsula were introduced from South China, especially the Jiangnan area. However, the initial long-pit kiln in Korean peninsula was not same as that in South China, and partly observed features of horizontal draft kiln. In this presentation, we will reveal the formation of Korean long-pit kiln through examining the expansion of two kinds of pit-kiln from China.

### 4. Takafumi YAMAMOTO

**Institution:** Nihon University

**Title of Presentation:** Diversity of Stoneware Production and Distribution during the Three Kingdoms Period on Korean Peninsula

**Abstract:** In this presentation, I will examine the differences of pottery production and distribution between Baekje and Silla with respect to shape, function, production quantity and kiln features. Baekje and Silla ceramics differed not only in shape, but also in production quantity and standardization. Baekje pottery shows large individual variation even in the same form. Kilns did not cluster in one place, and produced small quantities. Therefore it seems that production was not centralized and that pottery was not accumulated in urban areas. Silla's pottery production, on the other hand, shows uniformity, and kilns formed clusters near urban areas, producing large quantities. Silla seems to have had a system of centralized pottery production and distribution patterns from center to local areas. These differences may reflect differences in pottery manufacturing between both states.

### 5. Naoko NAKAMURA

**Institution:** Kagoshima University

**Title of Presentation:** Appearance and Development of Japan's Southernmost Sue Kilns in Kagoshima

**Abstract:** The Nakadake Sanroku Kiln Site Cluster is the southernmost production center for Sue ware in Japan. It dates to the 9th century and is thought to have been run under political administration. Earlier studies and a new, integrated research project have produced evidence that pottery produced in these kilns was distributed to the islands to the south of Kyūshū, which were not part of the ancient Japanese state. This talk shall introduce the recent research at the kiln site cluster and our findings about the production techniques and their transition as well as the relation to politics in the peripheries.

### 6. Lingling DENG

**Institution:** Chinese University of Hong Kong

**Title of Presentation:** Prestige-Goods in Pottery Workshops — A Case Study on Pottery Ling from Taosi

**Abstract:** According to the contextual and use-wear analysis of pottery ling from the site of Taosi, we have concluded that ling is a utilitarian object, which functioned as a percussion instrument, but cannot be taken for

granted as being musical instruments. A pottery ling has a clapper and was usually carried along with people while working. The archaeological context of ling indicates it was closely related to pottery workshops and owners of ling could be craftsmen in charge of pottery manufacture.

## Session 17: New Directions in Shang Archaeology I: Production Organizer: Koji MIZOGUCHI

### 1. Yoshiyuki IIZUKA, Junko UCHIDA

**Institution:** Institute of Earth Sciences, Academia Sinica; Institute of History and Philology, Academia Sinica

**Title of Presentation:** Metallurgical Study of Anyang Bronze objects in the Academia Sinica Collection

**Abstract:** To understand bronze casting technology in ancient China, a series of metallurgical studies has been carried out on bronze objects from the Yinxu (Anyang) collection in Academia Sinica. Oxygen was measured to evaluate the condition of its oxidation (or preservation) with Cu, Sn and Pb from the cross-sections of bronze fragments. Chemical compositions of well-preserved bronzes indicate that the bulk Sn/(Cu+Sn) ratios of the bronzes range from 10% to 20% by weight, and chemical compositions are rather different in usage. It is suggested that the chemical compositions (ratios of Cu: Sn) of the bronzes were already intentionally controlled for their usage in the Yinxu period. Based on the range of Cu: Sn ratios from the studied bronze objects, volumetric ratios might be more suitable to apply in “the Six formula”, instead of the weight-base interpretation.

### 2. Mai SUZUKI

**Institution:** The Research Institute for Oriental Culture, Gakushuin University

**Title of Presentation:** Study on the Production System of Bronze Vessels in the Late Shang Period: Through the Classification of Bronzes from the Tomb of Fu Hao

**Abstract:** Bronze vessels unearthed from the Tomb of Fu Hao at the site of Yinxu are comprised of some bronze groups cast with nine kinds of clan-sign inscriptions, which are supposed to have been owned by some persons or clan groups. It is assumed that there is temporal difference in the production of these bronzes through typological study on vessel shape and motives. The inscription “Fu Hao” has different shapes and arrays of characters depending on the production time. In this presentation, firstly, I classify these bronzes into some groups that were made at the same time in the above way. Secondly, I attempt to reconstruct the mold-making process of each kind of inscription through comparing the shape and array of characters and unevenness of lines of which the inscription consists. In conclusion, I attest that bronze groups cast with different clan-sign inscriptions have different situations of production: that is, there may have been some bronze workshops depending on each clan group in the late Shang period.

### 3. Meng GUO

**Institution:** Northwest University

**Title of Presentation:** White Metal Imitates Bronze: A Study of Tin-Coated Pottery in Yinxu

**Abstract:** Pottery wares imitating bronze vessels have been found in graves of Phase IV of Yinxu. The majority of these pots are covered with a thin, greyish white coat, which is different from the common slip. Selected ceramic samples with the coat have been investigated for its elemental composition and structure with portable X-ray

fluorescence (XRF), super deep scene microscope, X-ray diffraction (XRD), and scanning electron microscopy-energy dispersive spectrometer (SEM-EDS). The results reveal that the coat is metallic tin that has been extensively oxidized, and confirm that metallic tin was used at Yinxu. Tin was not only essential for the production of bronzes during the late Shang, but also used on pots. We believe that pottery wares imitating bronzes were covered with tin foil, which would give them the luster and quality of metallic vessels. This thin tin coat is indispensable to give clay vessels in burials the nature of bronze.

#### 4. Junko UCHIDA

**Institution:** Institute of History and Philology, Academia Sinica

**Title of Presentation:** Large-Sized Shang Bronze Ritual Vessels in the Nezu Collection

**Abstract:** Nezu museum in Tokyo houses a number of large-sized Shang bronze ritual vessels. Six of them are known or inferred to have been from the Xibeigang cemetery at Yinxu. Three He vessels are known to have been robbed from Tomb No. 1001. All remaining three vessels, one Zun, one Pou, and one Jia, have the inscription Ya-Yi and were probably from one of the royal tombs of the cemetery, but no information is available as to which tomb it was.

By comparing their size with the bronze vessels from the Tomb of Fu Hao, a wife of King Wuding, and with those from non-royal elite tombs excavated at Yinxu, the paper reveals that the Nezu museum vessels are larger than those from the Tomb of Fu Hao and even larger than those from non-royal elite tombs of Yinxu. It is important to note that the sizes of the vessels from the Tomb of Fu Hao are larger than those from the latter. This finding strongly suggests that the Nezu museum vessels were cast for one of the kings buried at the Xibeigang cemetery.

By examining the morphological characteristics, decoration patterns, and the casting technique, the paper determines the chronological position of these vessels and infers in which royal tomb they were originally deposited as grave goods.

#### 5. Yi-Ling LIN

**Institution:** Washington University in St. Louis

**Title of Presentation:** The Environmental Effect of Bronze Production During the Shang Dynasty at Anyang, Henan Province, China

**Abstract:** Metallurgy is one important indicator of human society. Scholars have noticed some environmental consequences of early metallurgical activities in various parts of China. At Yinxu, archaeologists have discovered a large number of bronze objects and several bronze workshops operating at Yinxu during the late Shang period, as well as a bronze workshop of the middle Shang at Huanbei. However, the environmental consequence of bronze production at Anyang during the Shang dynasty is still unclear. Unlike the elite, the non-elite did not use bronze objects regularly. Nevertheless, they could have been surrounded by an environment contaminated with hazardous elements related to bronze production. This project aims to understand how bronze production affected the environment during the Shang dynasty in Anyang, and whether this issue had affected the layout and organization of the Shang city. Trace metal analysis is applied to analyze soil samples collected from a wide variety of contexts from the Shang localities at Yinxu.

#### 6. Ruiliang LIU, Mark POLLARD, Jessica RAWSON

**Institution:** University of Oxford

**Title of Presentation:** The Mass Production of Bronzes at the Casting Megapolis of Anyang: Standardization and Changes

**Abstract:** So far, Anyang has produced the largest number of high quality ritual bronzes in the Chinese early Bronze Age (c. 1300-1046 BC). The site and its vessels offer excellent opportunities to study the most efficient metal bronze production system during that time. This paper explores the ways in which bronze objects at Anyang were produced and distributed. We show, in particular, changes of the raw metals (copper, tin and lead). By combing this big data with FLAME-designed characterization and visualization methods (the Oxford system), we argue that (1) the metal production at Anyang was strictly organized and this feature is revealed by combining alloys, trace elements and lead isotopes; (2) bronzes from top-elite burials show highly standardized alloying practice (primary alloying) and little evidence of mixing and recycling; (3) in Anyang III phase bronze production experienced a significant change in the metal supply system, including copper, tin and lead, which was arguably due to the dynamic interaction with the Yangtze River valley in the south.

## 7. Katrinka REINHART

**Institution:** Stanford University

**Title of Presentation:** Multivariate Analysis of Ceramic Data from Yanshi Shangcheng: Inquiry into Social Differentiation and Ceramic Manufacture at an Early Bronze Age Settlement of Northern China

**Abstract:** This talk investigates social differentiation and ceramic production at the early Bronze Age site of Yanshi Shangcheng (c.1600-1365 BCE). A combination of multivariate and univariate statistic analyses of ceramic data is used to test whether elite cooking pots were more distinctive, better quality, and more standardized than those of non-elite residents. Tests include a non-parametric permutation-based MANOVA, descriptive statistics, and a test of the homogeneity of multivariate dispersions. Results of these analyses are combined with contextual excavation information to explore the question of social difference at Yanshi Shangcheng.

## Session 18: Techniques of Artistic Production

**Organizer:** Minku KIM

### 1. Xiaoxuan LI

**Institution:** School of Arts, Southeast University

**Title of Presentation:** Pictorial Bronzes Commodified: The Line-Incised Decoration of Eastern Zhou and the Rise of Commercialism

**Abstract:** The thin-walled vessels ornamented with fine incisions were one significantly novel type of Eastern Zhou bronzes. Production of these bronzes required an array of new high-techs of the time. And their ornamentation too shows a new-fangled adoption of pictorialism and narratives.

The presentation reconsiders the rise of this new type of bronze vessels from a uniquely industrial and economic perspective. Informed by recent archaeological discoveries and textual studies regarding urban settlements and workshops, it argues that these new bronzes were ushered in by growing commercialization. Besides, it attempts to figure out how the particulars of the products respond to the requirement of the changing economic environment. Furthermore, it discusses the contemporary owners' attitude toward these vessels, and through this, we will achieve a better understanding of the complex matrix of relationship regarding the shifts of ideas, material culture, and industrial and economic conditions.

## 2. Yang MO

**Institution:** Institute of Archaeology, Chinese Academy of Social Sciences

**Title of Presentation:** Rethinking “Three Ritual Bronzes of Pingshan” in the Warring States Period Zhongshan State

**Abstract:** The so-called “Three Ritual Bronzes of Pingshan” (Pingshan sanqi), including the ding-tripod (Cuo Ding), the rectangular hu-pot (Cuo Fanghu), and the round hu-pot inscribed with the name of Zi Ci (Zi Ci Yuanhu), were the most important ritual vessels of the Zhongshan State during the Warring States period. Each of them bears a lengthy inscription that is rich in information and instrumental for us to better understand the history of Zhongshan and its relationship with other northern states. Based on these texts, followed by an analysis of their chirography, as well as on the observation of these bronze vessels, the presentation re-examines the historical development and cultural origins of Zhongshan, and repositions the historical import of these Three Ritual Bronzes.

## 3. Kin Sum LI

**Institution:** Department of History, Hong Kong Baptist University

**Title of Presentation:** A Method of Mass Producing Bronze Mirrors in Ancient China

**Abstract:** In approximately 300 BCE, a new method was developed in the design and manufacturing technologies of the bronze mirror industry in China that changed the ways in which producers cast mirrors. This presentation utilizes several examples to illustrate this method. It hypothesizes an invention termed the “component-model method” of mirror manufacturing. Multiple transfers were performed on models and molds applied at different stages of the production process. The method was devised to satisfy the burgeoning needs of a growing number of consumers and simultaneously catered to the requirement of the diverse decorative patterns on different mirrors. Its origin, which was associated with the production methods of the Houma Foundry in Shanxi, will also be explored in the presentation.

## 4. Minku KIM

**Institution:** Department of Fine Arts, The Chinese University of Hong Kong

**Title of Presentation:** The Date of Kongwangshan Reconsidered

**Abstract:** The date of crudely carved bas-reliefs on the cliff of Mount Kongwangshan in Lianyungang (Jiangsu Province) has been widely accepted to range from the late second to the early third century since the publication of preliminary survey in 1981. In effect, this group of stone carvings is known to be the earliest and largest corpus of allegedly Buddho-Daoist monuments in China. Such view has, however, been challenged by those who suggest an alternative dating by a few to several centuries later, but the much-awaited official report, which was finally published in 2010, only reasserted the controversial early dating.

The presentation reconsiders this problem of dating, based on both internal and external parameters, which include iconography, style, comparative chronology, and geo-political context. At last, we learn that the carvings of Kongwangshan could not have started any time much earlier than the sixth century.

## 5. Wei YU

**Institution:** School of Arts, Southeast University

**Title of Presentation:** Visualizing Śārīra: The Tang Stone Buddhist Reliquary from Lantian and Its Reliefs

**Abstract:** This presentation examines the low reliefs on the stone reliquary found in Lantian County (Shaanxi Province). The scenes on the reliquary generally follow the funeral of Śākyamuni Buddha, but some details indicate

that they specifically refer to the Buddhist encyclopedia *Jinglü yixiang* (“Peculiarities of the Sūtras and Vinayas”). Additionally, these four side panels reveal a new narrative and symbolism conceptualizing the “three-fold bodies” of the Buddha (namely, *dharmakāya*, *saṃbhogakāya*, and *nirmāṇakāya*).

Their iconography and depictions indicate an intriguing connection between Chinese and Indian parallels, especially those of Gandhāra. At the same time, the specific visual theme of *nirvāṇa* is open to multifaceted reinterpretations in various textual and ritual contexts. The analysis of Lantian Reliquary demonstrates the dynamic dimensions behind the diffusion of Buddhist images and rituals between Central Asia and Tang China. These dynamics of image, text, and practice had created innovative and complex representations of relic veneration across medieval Buddhist Asia.

## 6. Jun'ichiro TSUJITA

**Institution:** Faculty of Humanities, Kyushu University

**Title of Presentation:** The Production of the Chinese Bronze Mirrors during the 5th Century as Seen from the Mirrors Excavated from Sites in Japanese Archipelago

**Abstract:** In this presentation, the author examines the Chinese bronze mirrors excavated from 5th to 6th century sites in the Japanese archipelago. These mirrors are 'copied' mirrors based on mostly Eastern Han and Three Kingdoms to Western Jin period bronze mirrors. The author analyzes these mirrors from the viewpoint of technique and discusses the meaning of these mirrors in the East Asian historical context.

## Session 19: New Research on Technology and Cross-Cultural Exchange in Han China Organizer: Allison MILLER

### 1. Zhefeng YANG

**Institution:** Peking University

**Title of Presentation:** The Development of Han Dynasty Ceramics: New Discoveries

**Abstract:** The period of the Western and Eastern Han dynasties was an important time of transition in the development of ancient Chinese ceramics. In recent years, new discoveries have enabled us to attain a more sophisticated understanding of the types of ceramic products in the Han dynasty, their regional distribution, and the relationships between ceramic products of different regions. We have also begun to better understand the reasons underlying the emergence of mature porcelain. This presentation will examine these recent developments, highlighting issues in current research on Han ceramics and suggesting some new approaches.

### 2. Wenjing YU

**Institution:** Peking University

**Title of Presentation:** An Analysis of Painted Pottery in the Xi'an Region

**Abstract:** Research on painted pottery—pottery that is painted after it is fired—has remained an understudied topic in Han archaeology. Indeed, undertaking a comprehensive study of the types and development of painted ceramics in the Han is challenging due to the sheer number of painted ceramics that have been excavated from sites across China. I will focus on Western and Eastern Han painted pottery from the Xi'an region, analyzing more than 700 painted ceramics from 136 graves, which were unearthed from the 1980s to the present day. I will utilize this data to discuss the types, patterns, and development of painted ceramics over the course of the Han dynasty as well as the issue of cultural exchange.

### 3. Allison MILLER

**Institution:** Southwestern University

**Title of Presentation:** Purple Pigments and Dyes in Han China

**Abstract:** In the ancient near East and the Mediterranean, no color embodied kingship like purple. However, in China, purple is often thought to have been relatively unimportant because it was not one of the five colors and was famously reviled by Confucius. Relying on new evidence from archaeology, this presentation will propose that in the Han dynasty, purple had achieved the same status as it had in the near East and the Mediterranean, likely due to the expensive methods by which both purple pigments and dyes were manufactured. This presentation will examine some of these methods, presenting evidence that shellfish purple dye may have been utilized in Han China.

### 4. Pin-Chu SHIH

**Institution:** Peking University

**Title of Presentation:** New Research on the Money Trees Excavated from Eastern Han Tombs in Southwest China

**Abstract:** Bronze money trees were unique products manufactured for the graves of county magistrates, mid-level officials, and other elites of the Chengdu plain region in southwestern China during the Eastern Han dynasty. This presentation will analyze the style and form of these works and propose that their iconography reflects indirect contact with India. Indian influence is not limited to the money trees, but also can be observed in the cliff tombs in which they were buried, as well as the style of other funerary objects buried together with money trees in elite graves.

## Session 20: Ceramics Production and Circulation Organizer: Michele Huberte Serafine DEMANDT

### 1. Michele Huberte Serafine DEMANDT

**Institution:** Jinan University (Guangzhou)

**Title of Presentation:** Mechanisms of Bronze Age Ceramic Innovation in the Lingnan Region

**Abstract:** Ceramics have been found widely distributed over the river valleys of Lingnan and played a major role in daily life and funerary rituals. During the Middle Bronze Age two new ceramic technologies that originated from pottery traditions in neighboring regions entered Lingnan: the “dragon” kiln and proto-porcelain. Although these developments are indicative of cultural contact, potters in Lingnan also continued the production of local types of ceramics. This paper will explore the practice setting and socio-cultural space of ceramic production in Lingnan during the middle - late Bronze Age through the consideration of production organization. Furthermore it aims at uncovering the mechanisms through which ceramic innovations were spread and adopted. This kind of study cannot only generate new understandings about Lingnan Bronze Age communities and their socio-economics, but also enlighten us about the role, development, and distribution of early ceramics in the whole region of South China during this time.

### 2. Yu DING

**Institution:** Beijing Normal University

**Title of Presentation:** Longquan Celadon Found on the Eastern African Coast

**Abstract:** Longquan celadons account for the largest percentage among the Chinese ceramics found on the Eastern African Coast. In the presentation, I'd like to make an introduction to the Celadon found at several sites in East



Africa. Based on the data and information concerning the remains, I will discuss the methods of production, circulation and consumption of Longquan wares. The remains in East Africa suggest the international trade scale between China and Africa before Zheng He. The shards unearthed on the Eastern African Coast show the distribution regularities both in a single settlement and among settlements. Combined with the settlement analysis, the research indicates that Celadons are not only for daily use in East Africa, but also a part of the society and culture shaping the Swahili world.

### 3.Zequn LI, Liangren ZHANG

**Institution:** School of History, Nanjing University

**Title of Presentation:** The Provenance of Eastern Zhou Proto-Porcelain Wares from the Circum-Tai Region

**Abstract:** The region around Lake Tai, a large geographic unit covering a part of Shanghai City, Zhejiang, and Jiangsu Provinces, is both the production and consumption area of proto-porcelain wares in the Eastern Zhou period. Where were the proto-porcelain wares found in the numerous settlements and cemeteries produced? Where were the wares mass produced in the clusters of kilns in the Dongtiaoxi River valley consumed? To date these questions have not been well studied in the existing literature. This paper analyzes samples collected from settlements, tombs, and kilns in this region with the methods of typology and X-ray fluorescence spectrometry. Both morphological and compositional data indicate that all the samples shall be produced in the Longshan Group of kilns in Deqing County or in the Qingshan Group of kilns in Huzhou City. The products from the two groups of kilns were then transported along the Dongtiaoxi River to the northern and western shores of Lake Tai, and further into the valleys of the rivers around the lake.

### 4.Meng LYU

**Institution:** The Graduate School of Human and Socio-Environmental Studies, Kanazawa University

**Title of Presentation:** A Study on the Same-Mold Tile-Ends of the Northern Qi Dynasty: Focusing on the Tile-Ends from the Hetaoyuan No.1 Architecture

**Abstract:** The analysis of tile-ends made by the same molds is an important research method in the study of roof tiles. Mold flaws, which occur naturally in the production process, will leave traces on the surface of tile-ends, and tile-ends with similar traces are believed to be made from the same molds. This presentation will focus on the tile-ends of the Northern Qi Dynasty, especially the remains unearthed from the Hetaoyuan No.1 Architecture in Ye City. I will try to explain the production and utilization of tile-ends used for this building by analyzing their pattern designs, molds, and traces of mold flaws. This analysis can be a basic study to explore the roof tile handicraft production at the end of the Northern Dynasties, and even the urban construction in medieval China.

### 5.Xiying XIE

**Institution:** Zhejiang Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** A Study on the Region and Stage of the Porcelain Industry of the Tang Dynasty in Zhejiang Province

**Abstract:** The Tang dynasty was an important period for the development of the porcelain industry in Zhejiang province. The developmental pattern of the porcelain industry in this period is often summarized in the academic circle with "green in the South and white in the North ", among which Zhejiang is the important distribution area of "Southern green". As a resource-intensive industry, the production of ancient porcelain required certain raw

materials (porcelain clay, glaze, etc.), fuel, and water. A geographical area, which has the same resources, would produce a more homogeneous style of glaze artifacts. The neighboring regions, which share certain features in economy, culture, folk customs and daily living habits, and have the convenience of technical exchanges, will form a similar kiln industry. In another word, a regional kiln industry takes shape. As a large geographical unit, several kiln industries may have been formed in Zhejiang province in a historical period. This paper takes the Tang dynasty Zhejiang province as an example, studies regional porcelain industries, and on this basis, to explore the developmental stage of the kiln industry, technical development, exchange, in each region for horizontal comparison.

## 6. Lingyi ZENG

**Institution:** Yale University

**Title of Presentation:** Ceramic Consumption and Exchange in the Mongol Empire

**Abstract:** I am investigating imperial political and local economies with the case study of the consumption and exchange of two kinds of ceramics in the Mongol Empire (13th-14th centuries), egg-white and blue-and-white porcelains, exploring how economic strategies and consumption patterns changed over time. I consider desire for social status, ideology, and function as factors motivating people to acquire these two kinds of porcelains. I will test my hypothesis using a variety of approaches, combining fieldwork in the well-known porcelain production center of Jingdezhen, China, and compositional analysis of sherds collected from Inner Mongolia, Mongolia, and Iran. I investigate the consumption patterns and the cultural values of different groups of people, including the Mongols, the Han Chinese, and the Muslims within the Mongol Empire. I attempt to examine social, political, economic, and ideological factors that affected the use of porcelains throughout the vast empire.

## Session 21: Historical Environments in the Xiongnu Center Organizers: Isao USUKI, Daisuke NAKAMURA

### 1. Isao USUKI, Teruo YANAGIMOTO, Amartuvshin CHUNAG

**Institution:** Sapporo Gakuin University; International cultural property center; Institute of Archaeology, Mongolian Academy of Sciences

**Title of Presentation:** Importance of the Khustyn Bulag Site in the Study of Xiongnu History

**Abstract:** The site of Khustyn Bulag at Mungunmorit village of Tuv province is located in the upper reach of the Kherlen River, on a flat terrace of the northern bank of the Zuun Baidlag River. The Khustyn Bulag site consists of numerous features from the Neolithic to the early modern era. In particular, some interesting features that have been found there are of the Xiongnu period: a large-scale iron making furnace and ceramic workshops. Sedentary settlements seemed to have been set up at this site. Several walled cities of the Xiongnu period have been found around the Khustyn Bulag site, and the products of the workshops must have been supplied to the walled cities. It is inferred that the upper reach of the Kherlen River was one of the administration centers of the Xiongnu Empire. Researches on the Xiongnu site in the upper reach of the Kherlen River including the Khustyn Bulag site may clarify the actual administration of the Xiongnu Empire in greater detail.

### 2. Tetsuo SHOJI

**Institution:** Nara University

**Title of Presentation:** Archives of Khustyn Bulag Sites

**Abstract:** Many important sites have been discovered in Mongolia. However, not many of them have been restored

or protected yet. Therefore, in order to preserve the sites, there is an urgent need to digitize them because they are at risk of being lost. The purpose of this investigation is to digitize Khustyn Bulag sites, which date from the Bronze Age to the 18th century. In this study, topographical information around tombs of the Bronze period as well as roof-tile kiln sites and iron-smelting sites of the Xiongnu period were digitized to measure sequential images acquired from a drone. Additionally, the Khureet Dov fortress, a castle of the Xiongnu period, and the Zuun Khuree temple, built by Zanabazar in the 18th century, were digitized. Finally, a Turkish ritual site made of reused deer stone was digitized using a 3D scanning device based on the Time of Flight (TOF) technique.

### 3. Masatoshi SAGAWA, Hiromi UCHIDA

**Institution:** Tohoku Gakuin University; Kokugakuin University

**Title of Presentation:** Kilns, Roof Tiles, and Bricks of the Kustyn Bulag Site of the Xiongnu Period

**Abstract:** Though the Xiongnu were a nomadic people, some kings who stayed in eastern Mongolia built Chinese style cities with square walls, such as the Tereljyn durvuljin and Gua dov sites. They had buildings as palaces and gates, both of which were covered with roof tiles; platforms made of bricks were also found within palaces. At the site of Kustyn Burag, we have discovered Features No.2 and No.3, which are the only examples at present of a workshop and kiln where craft workers made and baked roof tiles and bricks in the Xiongnu period Mongolia. As a result of archaeological excavations and magnetic survey, we will introduce two aspects of these remains: the structure of workshop and kiln, and different types of roof tiles and bricks. In addition, we also intend to examine the comparative study with those of the Han dynasty.

### 4. Katsuhiko KIYAMA, Masatoshi SAGAWA

**Institution:** Tokai University; Tohoku Gakuin University

**Title of Presentation:** Features of Xiongnu Pottery and Roof Tile in Mongolia

**Abstract:** Few cases of craft production have been studied in the Xiongnu period in contrast to the accumulation of tombs. Roof tiles and pottery were the main products of the Xiongnu period but we do not have much details about production. The production technology of these crafts is considered to be introduced from the Han Empire, although a careful examination is yet wanted. This presentation introduces basic features and techniques of the collections mainly from the Khusting Bulag site and examines their origins and chronological position by comparing with those from China and Inner Mongolia that are considered to be the origin of Xiongnu pottery and roof tiles.

### 5. Lochin ISHITSEREN, Tomotaka SASADA

**Institution:** Institute of Archaeology, Mongolian Academy of Sciences; Ehime University

**Title of Presentation:** Iron Production in the Xiongnu Period

**Abstract:** Recent research has revealed that the Xiongnu had a different iron smelting technique from that of the Qin and Han Dynasties China. Therefore, we start to excavate the Khustyn Bulag site, which is located in Tuv Province in Mongolia, to clarify the details of the iron production of the Xiongnu. As a result, it is clear that the Xiongnu innovated their iron smelting technique in the 1st century CE. In addition, we confirm that they used tunnel-type smelting furnaces from the 2nd to 1st century BCE. This kind of furnace was common in the steppe area to the north and west of the Mongolian plateau. We present details of the furnaces at Khustyn Bulag and compare them with the other examples in the steppe area.

## 6. Daisuke NAKAMURA, Seiji KURIBAYASHI, Gelegdorj EREGZEN

**Institution:** Saitama University; Tokushima Prefecture Research Institute for Buried Cultural Properties; Institute of Archaeology, Mongolian Academy of Sciences

**Title of Presentation:** Burials at Khustyn Bulag from the Bronze Age to the Xiongnu Period

**Abstract:** The origin of the Xiongnu is one of the main issues in Mongolian and Steppe archaeology. Although some opinions have been proposed, none is indisputable. Precisely, the period preceding the Xiongnu, the early Iron Age, was uncertain in the whole Mongolian plateau. Slab burials continued to be built until the early Iron Age, but there are few good examples. Therefore, we intend to study slab burials in the central area of the Xiongnu Empire to examine the relationship between the pre-Xiongnu and the Xiongnu Period practices. Among them, the site of Khustyn Bulag is a good example because many burials from the Bronze Age to the Xiongnu period have been found there. In addition, we excavated a stirrup-shaped burial last year, which is connected with the Yinshan area in Inner Mongolia. It is an interesting example to consider the relationship with the region within the Great Wall. We will show the new data in this presentation.

## 7. Tomomi TAMAUURA, Daisuke NAKAMURA, Gelegdorj EREGZEN

**Institution:** Nara National Research Institute for Cultural Properties; Saitama University; Institute of Archaeology, Mongolian Academy of Sciences

**Title of Presentation:** Archaeometrical Approach to Glass Beads Trade in the Xiongnu Period

**Abstract:** A large number of glass beads have been found in East Asia dating from the 1st century BCE to the 1st century CE, except in the central area of the Han Empire. Also, on the Mongolian plateau, various kinds of glass beads have been discovered in Xiongnu burials. It is possible to reconstruct trade routes at that time by studying glass beads, as the production area can be identified for some glass beads. Therefore, we conducted non-destructive XRF analysis of glass beads from Xiongnu burials. Preceding studies have already revealed that most glass beads were potash glass in East and Southeast Asia in this period. However, our analysis shows that most glass beads from Xiongnu burials seem to be different from those in East and Southeast Asia. In this presentation, we intend to show the details of glass beads and to reconstruct the trade route in the Xiongnu Empire.

## 8. Erdene MYAGMAR

**Institution:** Department of Anthropology and Archaeology, National University of Mongolia

**Title of Presentation:** A Case of Pregnant Woman Burial of the Xiongnu Period in Mongolia

**Abstract:** Two of the major causes of female mortality in the past are believed to be pregnancy and childbirth. The mortality of pregnant women is considered to be an adequate criterion for assessing social and health conditions of the society. In this paper, we discuss a case of burial of a pregnant woman of the Xiongnu period in central Mongolia. Although the burial was badly destroyed in antiquity and many skeletal elements of both mother and foetus were missing, several bones of the skull and upper limb of the foetus were discovered in situ between the pelvic bones of the mother during the excavation, indicating the foetus was still present in the mother's uterus. Examining skeletal materials of the female and foetus, we present different diagnoses to explore the position and gestational age of the foetus, as well as the obstetric and general health of the mother.

## Session 22: East Asian Archaeologies of Landscape: Recent Perspectives, Future Prospects

Organizer: Mick ATHA

### 1. Mick ATHA

**Institution:** The Chinese University of Hong Kong

**Title of Presentation:** Reconstructing Past Social Landscapes from Development-Funded Archaeological Data: A Case Study from Hong Kong

**Abstract:** In Hong Kong, the vast majority of archaeological work occurs in development-funded, commercial contexts, from which only unpublished ‘grey literature’ reports result. In addition, the archaeological community—whether government curators, commercial consultants, or university researchers—has until recently failed to grasp the immense research potential of landscape archaeology.

The site of Sha Po on Lamma Island in Hong Kong has an 80-year history of archaeological work by many different people who collectively excavated around 40 trenches—mostly as pre-development rescue excavations—scattered across the known deposit area. In spite of a succession of important discoveries made in many different periods, much remained unpublished and the site’s true significance therefore remained unknown.

This paper explores how by adopting a landscape approach to synthetic analysis and interpretation of the site, it was possible to reconstruct the social landscapes and lifeways of the Neolithic to earlier twentieth-century communities inhabiting and interacting with Sha Po’s coastal environment.

### 2. Ursula BROSEDER

**Institution:** University of Bonn

**Title of Presentation:** Monuments and Memory — A Ritual Landscape in Central Mongolia

**Abstract:** Across the open landscape in central Mongolia, monuments of various time periods are generally clustered in smaller, spread-out groups in river valleys. However, at a few places, hundreds of monuments are congregated into large and densely used ritual landscapes. Our in-depth study of one ritual landscape in the Upper Orkhon Valley identifies not only the creation, use and shaping of the mortuary arena, but also various ritual activities and features that have taken place over time, and indicates the continued meaning of this landscape from the Late Bronze Age through the Mongol period. This paper explores the entangled nature of landscape, monument building, performance, and memory from a diachronic perspective.

### 3. Francesca MONTEITH

**Institution:** Peking University

**Title of Presentation:** Presence and Absence: The Use of Space in Religious Rock Carvings in Southern Sichuan

**Abstract:** Saturated with cliffs, outcrops and boulders, Sichuan is home to over five thousand religious rock carvings. Based on a sample of over seventy sites located in the Leshan, Meishan, Pujiang and Zigong regions of Southern Sichuan, this paper uses GIS work to highlight the variation in site types within both the physical and human landscape. Having assessed the sites in terms of their connectivity, prominence within the landscape and complexity, the varied motivations for the construction of these sites has become apparent.

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#### 4. Susanne REICHERT

**Institution:** University of Bonn

**Title of Presentation:** Power — Landscapes — Empires: A Microregional Comparison of the Khanui and Orkhon Valleys in the Mongol Period

**Abstract:** With its sparse population and little forest coverage, Mongolia is ideally suited for a wide array of surveying methods and as a consequence for landscape archaeological approaches. This paper particularly looks into power and authority as expressed within the landscape. Two valleys in Mongolia will be compared. Both were partially covered by systematic pedestrian surveys carried out by a joint team of Bonn University and the Mongolian Academy of Sciences in 2017. The Khanui and Orkhon valleys with their large settlement sites dating to the Mongol period serve as perfect case studies. Why were these areas chosen for comparatively large fixed sites? How was the landscape used? In which ways can we detect strategies of power in the material record? How is power enacted in objects, sites and landscapes? The paper presents preliminary analyses of the surveys from 2017 to address these questions.

#### 5. Michael STOROZUM

**Institution:** Nanyang Technological University

**Title of Presentation:** Geoarchaeological Evidence for Human-Environment Interactions in the Yellow River Valley in Northern Henan

**Abstract:** In China, archaeological site distribution maps are frequently used to discuss ancient interaction networks, but these archaeological sites are embedded within a physical landscape that has significantly changed. I propose that a geoarchaeological approach, which integrates earth science methods and concepts into archaeology, can help archaeologists to connect environmental changes with patterns in site distribution and enrich our understanding of human-environmental interactions. In this paper, I discuss the results of a geoarchaeological survey in Northern Henan province, China, which reveals that the majority of the archaeological record in Northern Henan is far below the surface - approximately 5 to 8 meters, deep enough to skew survey data. Here, Yellow River flood deposits have preserved many archaeological and geological features, including roads, towns, fields, lakes, and soils. Our results indicate that the deep sedimentary record of Northern Henan province contains rich information on the intricate inter-relationship between humans and the environment.

#### 6. Fabian Humberto TORO

**Institution:** Sichuan University

**Title of Presentation:** Archaeological Rice Paddies as Domesticated Landscapes

**Abstract:** Food production is central to human civilization; thus agricultural landscapes are the stage where most day-to-day living is performed. Theoretical frameworks within the landscape theory are uniquely suited to elucidate these stories. Current archaeological research on rice agriculture has effectively employed archaeobotany, geomorphology, and soil micromorphology to address the identification and analysis of rice-related assemblages. Focusing on the specific physical landscape features of lowland rice paddies, my research identifies archaeological signatures of paddy construction and management. Grounded in ethnographic, archaeological, and agronomic literature, a landscape approach is outlined to analyze these structures. My argument is based on the analyses of observable, intentional modifications of the landscape, such as field layout, irrigation engineering and access roads or paths. Theoretical concepts such as the domestication of the landscape and landesque capital are a framework to elucidate socioeconomic structures such as community labor organization and management as well as land tenure. A

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landscape approach as applied to archaeological rice paddies can contribute an integrative framework that synthesizes landscape insights, scientific methodology, ethnographic and agronomic data for a better understanding of the archaeological signature of prehistoric rice farming.

## 7. Yue FU, Xujing GAO

**Institution:** Central China Normal University; Hubei Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** Discussion on the Management of the Western Zhou Dynasty of the Middle Reach of the Yangtze River

**Abstract:** This paper is an extended study on the basis of the study of the framework of archaeological culture in the middle reach of the Yangtze River during the Western Zhou dynasty. First of all, we classify the archaeological remains of seven different regions, and clear up the cultural appearance, cultural nature, age and sources of cultural factors, so as to construct a space-time framework for archaeological cultures. Then discuss the relationship between various archaeological remains, including the dynamic evolution process and interaction between the native archaeological cultures and the Zhou culture in every region. Finally, combining bronze inscriptions and historical documents of the conferred states, we try to analyze the dynamic process of management and rule patterns of the Western Zhou dynasty of the middle reach of the Yangtze River.

## 8. Dongdong LI

**Institution:** School of Ethnology and Sociology, Minzu University of China

**Title of Presentation:** Population Distribution and Settlement Patterns in the Xiaocheng-Taojiahu Region of the Jiangnan Plain, China

**Abstract:** The especially early emergence of Neolithic walled towns in the Jiangnan Plain is widely used as an indicator of social complexity. The trajectories of the development of social complexity of these earliest walled towns and the relationships that existed among them have not been systematically investigated from the perspective of demographic distribution. The full-coverage systematic regional survey covered two of the earliest walled towns in the Jiangnan plain: Taojiahu and Xiaocheng. The survey was designed to illuminate their social trajectories and by extension those of their counterparts elsewhere in the Jiangnan Plain and adjacent areas. The regional survey revealed spatial and temporal variations in the settlement patterns of an area of 58 km<sup>2</sup> from 3900 BCE to 600 CE. Population distribution patterns were documented for each period in this time span to investigate the dynamic forces behind social and settlement changes.

## 9. Andrew HARRIS

**Institution:** University of Toronto

**Title of Presentation:** A New Form of Cosmic Renewal at Angkor Thom: Understanding the Evolution of the Khmer Cambodian Ritual Landscape c.14<sup>th</sup> - 16<sup>th</sup> Centuries through the Construction and Placement of Theravada “Buddhist Terraces”

**Abstract:** The religious transition of the Khmer Empire (802-1431 CE) from Hindu/Mahayana Buddhism to Theravada Buddhism is poorly understood due to a similar transition between the construction of grandiose temples to smaller, historically undocumented ritual spaces. In spite of the speculation that construction in stone ceased following this conversion, data recently collected from the formerly Mahayana capital of Angkor Thom has revealed

a series of expansive Theravada building campaigns between the 14<sup>th</sup>-16<sup>th</sup> centuries. The transformation of the ritual landscape of Angkor Thom beyond the historical "bookend" of the Khmer civilization was primarily undertaken through the construction of "Buddhist Terraces", durable tiered monastic substructures of which over fifty have been identified within the ancient capital. The reuse of preexisting infrastructure and the structural variation of these monasteries, suggest an extremely nuanced and complex Theravada urban space, and prove incredibly valuable in understanding the transformation of ritual areas transcending delineated historical epochs.

**Session 23: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 1: From the Scope of Food Selection, Processing**  
**Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Shinji KUBOTA**

**1. Ayako SHIBUTANI, Bin LIU, Ningyuan WANG, Jie CHEN, Jian SONG, Kenji OKAZAKI, Yu ITAHASHI, Shin'ichi NAKAMURA**

**Institution:** National Museum of Japanese History; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; The Shanghai Museum; The Shanghai Museum; Tottori University; The University Museum, The University of Tokyo; Kanazawa University

**Title of Presentation:** Plant Food in the Neolithic Lower Yangtze Area, China, from Starch Granules of Human Dental Calculus

**Abstract:** Starch granules from human dental calculus have proved to be excellent tools for interpreting plant food consumption at surveyed sites. Specifically, any candidate plant species of starch granules or their quantity can indicate differences in individuals, sex, and resident groups. In our previous results of FY2015 (SEAA7), starch granules were extracted from dental calculus samples at the two Neolithic sites, Tianluoshan (5000-3500 BC) and Guangfulin (3000-2500 BC) in the Lower Yangtze River valley, China. These starch granules were circular, semi-circular, and hexagonal in shape, and some of their candidate plant species could be identified as Poaceae. Based on this experience, this paper presents the results of analysis of human dental calculus samples from other Neolithic sites, the Liangzhu Cluster, Guangfulin, and Majiabang.

**2. Yumiko MURAKAMI, Guoping SUN, Yonglei WANG, Shin'ichi NAKAMURA**

**Institution:** Kyoto University; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University

**Title of Presentation:** Composition of Wooden Tools and Subsistence Strategies at the Tianluoshan Site, Zhejiang, China

**Abstract:** From the Hemudu Culture layer (Layer 8-3) of the Tianluoshan site (5000-3500 BC), Zhejiang, China, a large amount of well-preserved organic remains has been found alongside pottery and lithic tools. Among them, more than 500 wooden artifacts are counted and as the result of the author's analyses of them since 2004, the manufacturing process and material selection patterns are being recognized. Except for ax hafts, *Morus* sp. is the most commonly used material. As wooden food production/processing tools, ploughs, digging sticks, pestles are recognized, but in general, their proportion among all wooden artifacts is rather small, despite that rice farming was already introduced. It may well have been because food production tools made of animal bone exist in large number; it could also reflect a broad spectrum subsistence strategy with no particular focus on rice cultivation.



### 3. Nobuhiko KAMIJO

**Institution:** Hirosaki University

**Title of Presentation:** Subsistence Strategies at the Tianluoshan Site, Zhejiang, China, Reconstructed by Starch Residue Analyses

**Abstract:** at the Tianluoshan site (5000-3500 BC), Zhejiang, China, identifiable starch residues of nuts and rice have been found in large number, and it is possible to reconstruct the transformation of subsistence strategy from gathering wild plants to crop cultivation. As the result of the author's starch residue analyses, at least 4 types of starch have been found from grinding stones, querns and wooden pestles. From querns various kinds of starch, from grinding stones *Quercus* sp. starch, and from wooden pestles rice-like starch were recognized. Furthermore, use-wear from likely nut shelling were found on grinding stones. Above all, it is suggested that nuts were processed with grinding stones and querns, and rice was processed with wooden pestles.

### 4. Shinya SHODA, Alexandre LUCQUIN, Chi Ian SOU, Yastami NISHIDA, Guoping SUN, Hiroshi KITANO, Joon-ho SON, Shin'ichi NAKAMURA, Oliver E. CRAIG

**Institution:** Nara National Research Institute for Cultural Properties / BioArCh, University of York; BioArCh, University of York; BioArCh, University of York; Niigata Prefectural Museum of History; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Tohoku University of Art and Design; Korea University; Kanazawa University; BioArCh, University of York

**Title of Presentation:** Chinese Early Neolithic Pottery Used for Processing Starchy Plants

**Abstract:** Although the importance of plant food in prehistoric diet has been often stressed, it is difficult to evaluate its actual proportion in their daily cuisine. Here, we present the first lipid residue study on the Chinese Neolithic pottery dated to 5.0k-4.7kBC, unearthed from the Tianluoshan site, Zhejiang pProvince. Through the analysis of biomarker identification and compound-specific stable carbon isotope analysis of lipids preserved in the Neolithic pottery compared with experimental study, it was revealed that the pottery from Tianluoshan was largely used for processing starchy food, which contrasts with the pattern in the contemporary northern Eurasian hunter gatherers' sites where clear evidence of intensive process of aquatic resources has been shown. This result indicates not only the significance of starchy plants in southern China in the Neolithic period but also the different traditions of pottery use in this area from those of northern Eurasia.

### 5. Motoki HARADA, Keisuke MAKIBAYASHI

**Institution:** Aichi Prefectural Board of Education Office Cultural Properties Preservation Section; Ehime University

**Title of Presentation:** Harvesting Tools in the Late Neolithic Lower Yangtze Area

**Abstract:** Use-wear analysis is very useful not only for knowing the working object, but also for reconstructing the operation methods. In this paper, we analyze stone tools of the Lower Yangtze area of the late Neolithic Age, focusing on the harvesting tools of rice farming in the Chinese mainland. Through use-wear analyses, we discovered a trace of herbaceous plants on the lithic tool called "weeding tool". Furthermore, experimental research showed that it is likely the tool used with the "pushing the blade forward" cutting method, which is commonly used in modern south China and Southeast Asia. The research results suggest the tool was a specialized harvesting tool, and an indicator of intensified rice farming. Further synthesizing information of other types of stone sickles and knives, we can reconstruct chronological shifts and regional characteristics of complex farming techniques of the region.

## 6. Shinji KUBOTA, Masashi KOBAYASHI, Yoshiki MIYATA, Guoping SUN, Yonglei WANG, Shin'ichi NAKAMURA

**Institution:** Kanazawa University; Hokuriku Gakuin University; Kanazawa University; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University

**Title of Presentation:** Rice Cooking Method of the Hemudu Culture at the Tianluoshan Site, Zhejiang Province, China

**Abstract:** The purpose of the study is to demonstrate functional differentiation of pot forms using vessel form analysis, use-wear analysis and a series of cooking experiments. As a result, at the Tianluoshan site (5000-3500 BC), four types of cooking pots are identified from the Hemudu Culture pottery assemblage, and they are assigned to soup-like side-dish cooking (wide-mouth type and double body type), rice cooking (round-body type), and rice-gruel cooking (out-flaring elongated neck type) by use-wear analyses, particularly on basal carbon deposits and side-heating traces. Lipid analysis and stable carbon isotope analysis suggests that a mixture of rice and terrestrial animals was cooked in the rice-gruel cooking pots. These rice gruel cooking pots increased in frequency from the lower Hemudu layers toward the upper layers, suggesting a change from broad-spectrum economy to rice-centered economy.

## 7. Masashi KOBAYASHI, Shinji KUBOTA, Yoshiki MIYATA, Guoping SUN, Yonglei WANG, Shin'ichi NAKAMURA

**Institution:** Hokuriku Gakuin University; Kanazawa University; Kanazawa University, Japan; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University

**Title of Presentation:** A Cross-Cultural Comparison of Rice Cooking Methods of Early Rice Farmers of the Hemudu Culture in the Lower Yangtze River and the Yayoi Culture in Japan

**Abstract:** Rice cooking methods of Japanese Yayoi (1000 BC- AD 3rd century) farmers are compared with those of the lower Hemudu culture at the Tianluoshan site (5000-3000 BC), Zhejiang Province, China, using use-wear and vessel-form analyses. A sharp difference was found in the significance of rice gruel between the two cultures. Specialized rice-gruel cooking pots exist in high proportion at Tianluoshan, having typical gruel-cooking type of carbon deposits and vessel forms suitable for long-time heating and preventing overflow. In contrast, Yayoi farmers used recycled necked jars to cook rice gruel, and their low frequencies in usage and contexts of use suggest non-daily cooking of rice gruel. The above difference suggests that in the early stage of Hemudu mixed eating of rice and other ingredients as gruel was common, namely rice was not distinguished food, while in Japanese Yayoi culture, rice was more distinguished and rarely cooked with other ingredients.

## 8. Rong FAN, Yongsheng ZHAO

**Institution:** Yale University; Shandong University

**Title of Presentation:** Subsistence Strategies and Coastal Adaptation Around 6000 BP in the Jiaodong Peninsula — Inferences from Human Skeletal Remains

**Abstract:** A high percentage of kneeling facets, a nonspecific indicator of habitual kneeling, has been observed on the Beiqian metatarsals. Kneeling positions can be stressful and harmful for muscles and ligaments for biomechanical and anatomical reasons. Giving the labor intensive process of grinding cereals on handheld grinding stones found at the site and the remains of marine food-resources, we propose that the kneeling facets along with other habitual

markers may have resulted from subsistence practices such as processing cereals or boating. Living in an affluent environment, the Beiqian people chose to optimize their subsistence outcomes by mixing wild and domesticated resources. This study sheds light on subsistence strategies in Northern China and, more broadly, the exploitation of marine resources in Neolithic coastal settlements.

## Session 24: President's Session: SEAA Student Awards Organizers: Francis ALLARD, Katheryn LINDUFF

### 1. Janice NGIAM

**Institution:** McGill University

**Title of Presentation:** The Xiongnu as Barbarian: Construction Through Mistranslations and Ideological Baggage

**Abstract:** What processes feed the construction of the Xiongnu as "barbarian"? This paper examines (i) mistranslations, (ii) theoretical frameworks and (iii) historical interpretations that cast the itinerancy of the Xiongnu as inherently inimical to complex political organization. First, it explores the appropriateness of "barbarian" as a translation for the Han definitions of Yi-Di. Next, it addresses the lack of theoretical pigeonholes into which the Xiongnu's "complexity" can fit, resulting in their sidelined role as dependent upon the Han. Finally, it suggests that historical texts are both situated in their time of writing, and contextualized in archaeological findings, to prevent a reproduction of their biases.

### 2. Kristen PEARSON

**Institution:** University of Pennsylvania

**Title of Presentation:** Making on the Move: Textiles and Mobility in the Archaeological Record

**Abstract:** This paper explores the potential for using archaeological textile assemblages to address the questions of mobility and mobile lifeways in ancient Inner Asia. By considering the textile chaîne opératoire through the lens of mobility and seasonality, features of textile production and use emerge that may be linked to mobile pastoralism. Reference is made to ethnographic studies of mobile textile production and to the Khitan period Uzuur Gyalan assemblage, which was excavated in 2016 in Khovd Aimag, Mongolia. Analysis of this assemblage was undertaken beginning in the summer of 2017 with the permission of the Cultural Heritage Center of Mongolia and the Mongolian National Museum.

### 3. Chae Lin JEON

**Institution:** Seoul National University

**Title of Presentation:** Bioarchaeological Analysis of Commingled Human Skeletal Remains from an Urn Coffin in South Korea (Three Kingdoms Period)

**Abstract:** The main purposes of this research are to identify how many human skeletal remains were buried in a recent urn coffin found in South Korea and to determine the bio-anthropological features of each individual. The result determined a minimum of 9 individuals, including 2 adult males, 3 adult females, one possible adult female and 3 non-adults. Age was highly random from infant (2-4 years) to old adult (over 50 years). Also, pathological evidence was examined in the cranial elements and limbs. This urn coffin is the only one in South Korea, but quite well preserved. Thus this case is of significant importance in recovering the health condition and lifestyle of the population at that time.

#### 4. Christopher KIM

**Institution:** Columbia University

**Title of Presentation:** Early Qin Centers: GIS-Based Forays into State Structure Analysis

**Abstract:** This paper presents several examples of basic GIS spatial analysis utilizing data gathered in a 2004 archaeological survey of the upper Xihan River valley in southeastern Gansu Province, China, to demonstrate that the combination of new archaeological evidence and GIS approaches can have useful applications for addressing questions of regional settlement patterns, past political landscapes, historical geography, and state structure. The case study examined is the early Qin state in the early first millennium BCE. This paper also reveals the value of and need for more regional surveys and settlement-oriented fieldwork in Chinese archaeology, particularly for the Bronze Age, which has traditionally been dominated by mortuary archaeology.

### Session 25: New Directions in Shang Archaeology II: Interaction and Society Organizers: Junko UCHIDA, Kuei-chen LIN

#### 1. Koji MIZOGUCHI, Junko UCHIDA

**Institution:** Kyushu University; Institute of History and Philology, Academia Sinica

**Title of Presentation:** Strategic Choice of Grave Pit Axis Direction in the Anyang Xibeigang Royal Tombs

**Abstract:** This paper argues that the grave pit axis directions of the Anyang Xibeigang royal tombs were strategically chosen to convey certain messages and meanings. Elsewhere the authors have investigated the principles behind the decision of the locations of the tombs of the Late Shang kings by reconstructing the formation process of the cemetery and revealed its strategic nature. In this paper we investigated the grave pit axis directions of the tombs and revealed the following: 1) the axis directions of the tombs of the East zone and that of the West zone of the cemetery differ significantly; 2) the former were basically along the North-South axis whereas the latter can be divided into two clusters; and 3) the grave pit axis directions of some of the West zone tombs are along the axis of Huanbei Shang city whereas those of the others are along the eastern avenue axis of the two excavated Late Shang period avenues at Anyang Yinxu. We have interpreted those intriguing phenomena as follows: A) the grave pit axis directions of West zone tombs were chosen to be in harmony with the system(s) with which the axis directions of Huanbei Shang city and Yinxu were decided; B) the grave pit axis directions of East zone tombs were chosen to be in harmony with the cardinal directions and with the meanings based upon their differentiation; and C) those who constructed Tomb 1400, which the current authors inferred elsewhere was the tomb of Wu-di, intended to signify the position of the deceased differently from that of those who were buried in the West zone. We conclude that various strategic decisions were taken by those who constructed those tombs and conducted the mortuary ceremonies, including that of the grave pit axis directions, intending to convey various socio-ideological/political messages.

#### 2. Maria KHAYUTINA

**Institution:** University of Munich

**Title of Presentation:** The Shi Lineage of Western Shandong and its Interaction Spheres

**Abstract:** Cultural relics of the early Shang have not been discovered in the Northern Shaanxi Plateau so far, but the cultural remains of middle Shang, the cultural attributes of which are unclear so far, were occasionally unearthed in Shenmu, Jiaxian and Qingjian counties. By the late Shang, with dramatic increase of cultural survival, these factors were classified into two major types, Lijiaya Culture and Xiasiwan tombs.

### 3.Celine LAI

**Institution:** The Chinese University of Hong Kong

**Title of Presentation:** Insights from the Shang-Period Remains in the Lower Huai River Valley

**Abstract:** Lijiaya Culture began to appear in Yinxu Phase I, and obtained a significant development along the west bank of the Yellow River from Yinxu Phase II and III. Meanwhile, it spread along the lower Wuding River, the Qingjian River to the west of the Yellow River and the lower Yanhe River valley; that is, Lijiaya Culture gradually took over the east of the Northern Shaanxi Plateau. In a period no later than Yinxu Phase IV, Lijiaya Culture reached its peak, and coexisted with the Xiasiwang tombs in the south and Gaohong site immediately to the east. The three cultures struggled for control of the area along the Yellow River, and the situation of tripartite confrontation was formed as a consequence.

### 4.Jinok LEE

**Institution:** University of Texas at Austin

**Title of Presentation:** The Shang State Formation on the Periphery

**Abstract:** Why was this pattern produced on the Northern Shaanxi plateau? The first reason was the development of the surrounding culture. The second was factors of geographical environment. The third was the influence of cultural traditions.

### 5.Yanli GUO

**Institution:** Chinese Academy of Social Sciences

**Title of Presentation:** Studies on the Shang Dynasty Archaeology from Northern Shaanxi Plateau

**Abstract:** As the intersection of the Eurasian steppes, the Ordos Plateau, the Central Plain Shang Culture, and the Xitu Group Culture, the Northern Shaanxi Plateau was influenced by these cultures, and its unique culture took shape gradually.

### 6.Ning WANG

**Institution:** Jiangsu Normal University, China

**Title of Presentation:** Isotopic Results Reveal Possible Links Between Diet and Social Status in the Late Shang Dynasty (ca. 1250 – 1046 BC) Tombs at Xiaohucun, China

**Abstract:** Here we present evidence of possible links between diet and social status using carbon and nitrogen stable isotope ratios at the site of Xiaohucun in Henan Province. This pilot study from a rescue excavation yielded humans (n=12) dated to the late Shang dynasty (ca. 1250-1046 BC). The population consumed a predominately C4 diet (millets) and no difference was observed among the  $\delta^{13}C$  results of individuals (n=7). However, individuals buried with bronze vessels ( $10.3 \pm 1.6\text{‰}$ ) were found to have significantly higher  $\delta^{15}N$  values ( $p=0.015$ ) than individuals buried without bronze vessels ( $8.0 \pm 0.9\text{‰}$ ); evidence that possible elite members consumed more animal protein (dog, pig, cow, sheep/goat). Isotopic results and status were studied by looking at the number of coffins and tomb size. And a strong linear correlation was observed for the  $\delta^{15}N$  values of the individuals buried in two coffins vs. tomb size. Thus, additional social stratification seems to have existed among the elites with individuals wealthy/powerful enough to build larger tombs possibly consuming diets with increased amounts of animal protein.

**Session 26: Archaeology and Science of Glass and Glaze — Some New Discoveries**  
**Organizers: Julian HENDERSON, Rui WEN, Hongjiao MA****1. Julian HENDERSON**

**Institution:** Chair of Archaeological Science, University of Nottingham UK and Nottingham University Ningbo

**Title of Presentation:** Chinese Glass Archaeometry: Where are we now?

**Abstract:** This presentation will provide a review of the archaeometric research carried out on glass found in China, from its earliest occurrence to the Song dynasty. It is set within a broad geographical context taking the terrestrial and maritime Silk Road contacts into account. We discuss examples of chemical and isotopic compositional contrasts in glasses from different periods found in different parts of China, including the glasses that were almost certainly made in China and those that were imported. A theme that runs through the paper is the problem of provenancing glass found in China, along with a lack of evidence for primary glass-making sites and minimal evidence for secondary glass production. We mention the glass artifacts that are typically Chinese and contrast these with imports. We discuss the potential that new scientific and archaeological approaches can make to the study of Chinese glass.

**2. Rui WEN**

**Institution:** Northwest University

**Title of Presentation:** The Chemical Compositions and Manufacture Techniques for the Glass Beads Excavated from the Yanghai cemetery in the Turpan Basin, Xinjiang

**Abstract:** The Yanghai cemetery is located in the Gobi desert southwest of Shanshan county, Turpan city. The cemetery is comprised of three independent burial areas on terraces slightly higher than the ground. The period of these tombs was from the 12th century B.C to the 2nd century A.D. More than 400 glass beads were excavated from the 18 tombs of the Yanghai cemetery. The micro-CT, LA-ICP-AES and optical microscope were used to detect the chemical compositions and manufacturing techniques of these beads. The results show that the compositions of the glass beads are various; they are mainly made of plant ash glass and potassium glass. The manufacturing techniques are likewise diverse. One group of these beads appears close to Kyzyl and Jiayi cemeteries, near Yanghai. They are highly plausibly local products. The other group displays characteristics similar to those from South Asia. Overall, the study indicates that the exchange of the glass beads along the Silk Road in the first millennium was even more flourishing than we thought before.

**3. Qinglin MA**

**Institution:** Chinese Academy of Cultural Heritage

**Title of Presentation:** Identification Characterization of Alteration Layer on a Black-Glazed Bowl of the Song Dynasty China

**Abstract:** Research has rarely been done on the corrosion of archaeological porcelain glaze in the past, although the corrosion behavior has continuously been damaging precious heritage items. A group of black-glazed porcelains of the Northern Song dynasty was found at a poor conservation site in Chongqing, and one of their fragments was investigated. The results show that the alteration crust mainly consists of silica-rich gel and a variety of heterogeneous phases, including the liquid phase separation structure and different crystals. The formation mechanism of alteration phases is discussed in order to provide a reference to the corrosion research of ceramic artifacts.

#### 4. Xiaoqi WANG, Huan HU, Yun'ao HE

**Institution:** School of History, Nanjing University; School of Earth Sciences and Engineering, Nanjing University; School of History, Nanjing University

**Title of Presentation:** A Study on the Glass Beads Found at the Site of Yanliaofang, Nanjing

**Abstract:** The site of Yanliaofang was a busy port beginning in the 3rd century A.D. and remained in use till at least the 10th century A. D. along the Qinhuai River, a tributary of the Yangtze River, in Nanjing city, China. Excavations conducted since 2009 have yielded many significant findings, including ceramics, porcelain, iron, bones, lacquer, wood, stone tools, as well as hundreds of glass beads. SEM and LA-ICP-MS analysis together with the typological observation indicate that they are different from Chinese typical glass beads. The possible origin is explored and the history of the Yanliaofang site is also interpreted through the evidence provided by these glass beads.

### Session 27: Ancient Architecture and Cultural Heritage Organizer: Clayton BROWN

#### 1. Clayton BROWN

**Institution:** Utah State University

**Title of Presentation:** The China Monuments Society

**Abstract:** In 1908 American journalist Frederick McCormick formed the China Monuments Society in Beijing to combat vandalism and the antiquities trade. The organization recruited foreign expatriates living throughout China, including ambassadors and diplomats, missionaries, and scholars, to forward information on ancient monuments in their respective regions. McCormick used this information to publish articles and books raising awareness of both China's cultural heritage and the threats to its existence. The work of the China Monuments Society became the foundation for the Asiatic Institute in New York City, with former US President William Howard Taft as president and McCormick as secretary. McCormick met with presidents Sun Yat-sen and Yuan Shikai and submitted petitions to the new Republic of China government to create legal protections and museums for artifacts, which prompted the Ministry of the Interior to take measures to protect Longmen and the American government remitted \$100,000 of Boxer Indemnity monies specifically for founding China's first national museum. The China Monuments Society also laid the groundwork for the American School of Archaeology in China, financed by McCormick's friend Charles Lang Freer and sponsored by the Smithsonian Institution and the Archaeological Institute of America.

#### 2. Xiao MA, Xueying ZHOU

**Institution:** Nanjing University

**Title of Presentation:** An Interpretation of 8000BP Housing Forms: Reconstruction of Houses at the Shunshanji Site in Sihong City, China

**Abstract:** In the lower reach of the Huai River, the site of Shunshanji, of the mid-Neolithic Age from 8500-8000BP, was the earliest large-scale settlement surrounded by a ditch. To date, excavations have recovered five round house foundations at the site of around 50,000 square meters. Based on evidence from its plan, environment, evolution of Chinese architecture, anthropological data, the timber frame of the houses were reconstructed with two types of roofs: pyramidal roof as well as gable and hip roof. The house reconstruction provides an important reference for recognizing the settlement environment and the building construction activities of the ancient people.

### 3. Yuan WANG

**Institution:** Nanjing University

**Title of Presentation:** Research on the Age, Nature and Designation of Some Architectural Units in Majiazhuang No.3 Building Complex of Yongcheng

**Abstract:** The Majiazhuang No.3 Building Complex was found in the 1980s, located about 500 metres west of the Majiazhuang No.1 building complex. Archaeologists have conducted a more detailed investigation with drilling work on the buildings complex between 1983 and 1984. Preliminary observations found the building complex layout for the surrounding walls, which can be divided into a pattern of five courtyards and five gates. The entire building covers an area of 21,849 square metres. It is the largest building ever found in the Yongcheng City. Shanxi Yongcheng Archaeological Team announced the drilling results at the Majiazhuang No.3 Building Complex in 1985. And initially the building complex was determined to be a palace. On the basis of this work, Mr. Han Wei examined the drilling map of the Majiazhuang No.3 Building Complex. Since 2012, with the comprehensive investigation and archaeological exploration of the Yongcheng site, archaeologists have conducted a new exploration and verification of the Majiazhuang No.3 Building Complex and the surrounding environment. Based on the latest data, there is a new understanding of the layout of the Yongcheng City. It is suggested that the construction period of the complex be late Spring and Autumn or Early Warring States. The abandonment time of the complex should be in the late Warring States or the Han dynasty. And the complex ruins really belong to a palace of administration or other "palace" category. Lastly, this paper analyzes some issues such as the naming of some buildings in the complex.

### 4. Dongdong WANG

**Institution:** Chinese Academy of Cultural Heritage

**Title of Presentation:** The Livelihood of Local Residents near the Nara Palace: Site Conservation Issues and Solutions

**Abstract:** The history of conservation at the site of the Nara Palace has passed through a number of complex stages over more than a century, including initial discovery, calls for protection, damage, initiation of a conservation movement, designation as a historic site, acquisition of land by the Japanese government, implementation of a plan for protection, and the construction of a national historical park. There have also been frequent conflicts with the livelihood of local residents during the conservation process, especially in the 1960s-70s.

The aim of this paper is to summarize and discuss a number of examples of these conflicts, including the prices for land acquisition, the scope of designations, and reconstructing residences, as well as other situations that have influenced the residents. The experiences discussed in this paper reveal a number of possible solutions to the issues faced by the residents that can be applied to further harmonious coexistence at the Nara Palace site.

**Session 28: Frontiers of Early Chinese States**  
**Organizers: Yan SUN, Chin-hau LEI**

### 1. Tianjing DUAN

**Institution:** Jilin University

**Title of Presentation:** On the Cultural Relations in Northeastern China During the Erlitou Culture Period (1900 - 1500 BCE)

**Abstract:** Seven archaeological cultures have been identified in Northeastern China during the Erlitou Culture



period: the Lower Xiajiadian, Gaotaishan, Miaohoushan, Xiaolaha, Xingcheng, Yueshi and the Shangmashi urn burials. The author argues that the relations among these cultures occurred at two levels. First, cultural exchanges took place between the Lower Xiajiadian Culture in the Liaoxi region and the Erlitou Culture in the Central Plain. Interestingly, the Erlitou cultural elements did not exist in other cultures in the northeast. Second, close cultural connections also existed among the rest of the cultures. Originated in Shandong peninsula, the Yueshi Culture set foot on the Liaodong peninsula and influenced the Gaotaishan Culture. Elements of Gaotaishan Culture were also prominent in the Miaohoushan and Xiaolaha Culture.

## 2. Osamu KIKAWADA, Ayami YOSHINO

**Institution:** N. Taiwan University

**Title of Presentation:** An Investigation of the Shang and Zhou Bronzes from the Hoards in the Middle and Lower Reaches of the Xiang River in Hunan Province, China

**Abstract:** A considerable amount of bronzes dated to the Shang and Western Zhou periods has been discovered in the Xiang River valley since the 20th century. Differing in their forms, decors and hoard traditions from those uncovered in the Central Plain, these bronzes exhibit phenomenal regional characteristics that have attracted scholarly attention both in China and overseas. Combining previous literatures with the data collected during our field trips, we will re-examine the locations and the geographical settings where these bronzes were excavated. It is hoped that our efforts may shed new light on the social contexts and the political, religious and cultural significance of these bronzes from the south.

## 3. Ryosuke KAKUDO

**Institution:** Komazawa University

**Title of Presentation:** Changing Eastern Boundaries of the Western Zhou State: Insights Provided by Inscribed Bronze Sources

**Abstract:** In spite of the recent advancement in Chinese archaeology, studies of the structure of the Western Zhou dynasty remain insufficient. Nevertheless, classical sources testify to the existence of a series of regional states with definite boundaries established by the Zhou court in the east, making it a perfect case for understanding the mechanisms of territorial control of the Western Zhou dynasty over its eastern frontier. By focusing on the bronzes inscribed with inscriptions of ancestral worship, this research will provide a comparative analysis of the regional states in Shandong Province and those in the core areas of the Western Zhou dynasty.

## 4. Chin-hau LEI

**Institution:** The Education University of Hong Kong

**Title of Presentation:** Territoriality and State Power: The “Southern Land” and the Trifurcation of the Early Western Zhou State

**Abstract:** This research intends to re-conceptualize the territoriality of the early Western Zhou state. Instead of viewing the Western Zhou as a bifurcated territory consisting of the Royal Domain and the eastern territories controlled by regional states superimposed by the Zhou court, this research presents the Western Zhou as a state applying varying degrees of control to the lands during its expansion history. By analyzing the origin and nature of the states in the “Southern Land,” this research argues for the conceptual separation of the region from the rest of the dynastic territories. It also redefines the “Southern Land” as a “jimi” territory over which the Zhou dynasty

maintained hegemonic control through indigenous governing structures. The territoriality of the early Western Zhou dynasty should thus be re-conceptualized as a trifurcated system with differing modes of control according to the geographical particularity of the conquered lands.

### 5. Katheryn LINDUFF, Yan SUN

**Institution:** University of Pittsburgh; Gettysburg College

**Title of Presentation:** The Inner Asian Frontier Reconsidered

**Abstract:** The Inner Asian Frontier (third through the first millennia BCE) has been dealt with as a monolithic entity, one where ‘steppe’ peoples were thought to have lived and where cultural traditions were not Chinese. In the past two decades these notions have been tested and challenged by systematic archaeological investigation. What has become apparent is a picture of many different entities, sometimes polities, lineages, territorial, geographic or economic groupings that as best as we can tell do not often conform to archaeological cultures defined as coherent communities by archaeologists based on the spread of ceramic types and styles. Through the study of archaeological and inscriptional data, we propose that the region is best studied as a multi-centered frontier where allegiances shift constantly and where self-identified units were generated, established and collapsed. The diversity and complexity of these centers will be defined as technoscapes, lineagescapes, regionscapes, and individualscapes.

### 6. Rongyu SU

**Institution:** Chinese Academy of Science

**Title of Presentation:** Fork-Shaped Bronze from Shizhaishan, Jinning: The Entanglement of Bronzes Between Yunnan and Eurasia

**Abstract:** Bronzes from ancient Yunnan are known for their unique designs, though their cultural and technical origin remains uncertain. This presentation will focus on a bronze fork-shaped ritual weapon excavated from Shizhaishan, Jinning. The most prominent feature of this bronze is that the fork is mortised into the socket, a rare example of such technique in Bronze Age China. Mortise technique was invented in Eurasia in the early Bronze Age and became a standard joining method for European swords in later times. The majority of ancient Chinese bronze weapons in the Central Plain from the earliest examples of the Erlitou Culture to those of the imperial era of the third century BCE were produced with piece-mold casting in one pour. This paper proposes that the Shizhaishan bronze fork was imported from Eurasia into Yunnan, and the route of transmission was the eastern Tibetan Plateau connected to “the Steppe Road”.

### 7. Yanli GUO

**Institution:** Shaanxi Normal University

**Title of Presentation:** Similarities and Differences of Zoomorphic Designs on Bronzes Between the Steppe and the Central Plain in the Eastern Zhou Period

**Abstract:** Zoomorphic design plays an important role in Bronze Age China. This paper intends to compare the zoomorphic designs on bronzes between the Central Plain and Northern Steppe exemplified by findings from Inner Mongolia during the Eastern Zhou time. There are distinctive differences in the zoomorphic design between the two regions due to the distinction between the nomadic and sedentary lifeways. Steppe zoomorphic design shows the primitive and wild forces of nature, which reflects the law of the jungle. On the contrary, examples from the Central Plain are more expressive of the inner character of animals and the vision of the coexistence of human and animal. These differences reflect aesthetic differences in art creation of ancient nomads and agriculturists.

## 8.Liyan ZHANG

**Institution:** Northeast Normal University

**Title of Presentation:** Were Women from the Northern Zone Warlike? — The Social Role of Women in North China During the Eastern Zhou Period

**Abstract:** There has been a long history of misunderstanding that women from the Northern Zone were warlike during the Eastern Zhou period. This statement is a generalization based on bronzes excavated from the region, including ornaments, weapons and tools. Close examination of the burial materials in the Northern Zone during the Eastern Zhou period (770-221 BCE) indicates that almost all weapons were found in tombs of men not women, suggesting communities in the Northern Zone shared the same custom as those of the Central Plain in spite of the differences in environment and mode of production. That is, men were in charge of the external affairs, and women the internal.

## Session 29: New Results in Japanese and Korean Archaeology

**Organizer:** Oki NAKAMURA

### 1.Hari BLACKMORE

**Institution:** University of Cambridge

**Title of Presentation:** Heterarchical Social Organization in Proto-Historic Central Korea (c. 100 BCE - 250 CE) - Textual and Archaeological Evidence from Mahan

**Abstract:** The 54 polities of Mahan named in ancient texts have almost exclusively been interpreted through social evolutionary models, being defined as chiefdom societies with distinct social ranks. However, evidence from the texts themselves does not strongly support this model. 'Testing' the details given in the texts regarding how Mahan polities were organized and how they interacted with each other and China against criteria commonly proposed to define chiefdom societies presents a large problem for the chiefdom model because none of the key criteria can be met. Heterarchy provides a strong alternative model for understanding Mahan society. A reading of the texts from a base that does not assume a social evolutionary sequence highlights flexibility in power relations and a general autonomy for both polities and the general population. Identifiable archaeological patterns at both the regional and site levels also support the strong presence of decentralized social structures during this period.

### 2.Jack DAVEY

**Institution:** University of California, Berkeley

**Title of Presentation:** Mortuary Practices and Cultural Boundaries in Iron Age Korea

**Abstract:** The question of whether distinct mortuary traditions observable in the material record reflect coherent cultures in the past remains a perennial debate in archaeology. This paper uses the example of the southern Korean Iron Age (ca. 300 BC to 300 AD) to demonstrate just how complex cultural and ethnic signaling through funerary practices can be. I argue that, based on tombs conventionally assigned to the Mahan, Chinha, and Pyŏnhan groups, we need to move away from the typical markers of archaeological cultures like tomb construction, grave good inventories, and cemetery arrangement. Instead, we should focus on the variable expression of specific practices that reoccur frequently in the mortuary record and look more critically at received notions of culture and historical polities in East Asia.

### 3. James LOFTUS

**Institution:** Kyushu University

**Title of Presentation:** Itazuke Style Globular Earthenware: A Micro-Regional Case Study of Yayoi Pottery Trends in Northern Kyushu, Japan

**Abstract:** This paper argues that micro-regional communities in the northern Kyushu region during the early Yayoi period partook in a variety of fine earthenware production due to varying participation in exchanges of discursive and practical stocks of knowledge; reflexively monitored and transformed into a variety of embodied skills. This research's scope covers the Yayoi people's ability to select, monitor, and reproduce certain attributes of the globular jar earthenware style, the prototypes of which originated from the Korean peninsula. This research seeks to apply social agency theory with an archaeological case study in order to concretely interpret patterns of cultural syncretism. Inter-site analysis shows patterns of interaction that allude to shared embodied skills to create similar stylistic interpretations. Intra-site analysis shows that within stylistic nodes there existed a large depth in which agents reached into past knowledge, rules, and societal properties to create varied stylistic interpretations embedded within a complex web of socio-cultural actions.

### 4. Helene PETITJEAN

**Institution:** Paris IV Sorbonne - CREOPS

**Title of Presentation:** The Appearance of Bronze Mirrors in Japan During the Middle Yayoi Period: The Case of the "Korean" Mirrors

**Abstract:** So far, the oldest bronze mirrors discovered in the Japanese archipelago are dated around the beginning of the Middle Yayoi period, and were imported from the Korean peninsula. Their limited number and easily recognizable style make them a perfect group to study to understand this phenomenon. Usually studied individually in the context of the site where they are found, they are examined by the author through a database management system in order to check the existence or absence of any kind of pattern. Combined with a recent unique clay mirror mold discovered in southern Japan in 2015, this study therefore could shed a new light on the understanding of how bronze mirrors and the needed techniques to manufacture them appeared and were traded, not only in Japan, but also in the surrounding countries they had interactions with.

### 5. Kenichi YANO, Mei KONDO, Sadao KAWAMURA, Nobutaka SHIMADA

**Institution:** Ritsumeikan University

**Title of Presentation:** Robotic Archaeological Survey of Tsuzuraozaki Underwater Site in the Lake Biwa, Japan

**Abstract:** The Tsuzuraozaki underwater site in Lake Biwa, Shiga prefecture, Japan, from which a lot of ancient pottery has been recovered by fishermen since 1920s, has not been surveyed efficiently because of its depth: its deepest point is over 70m. Since 2010, we have tried to take motion videos of vessels and pots at the bottom of the lake site with GPS information using an ROV developed for this survey by Sadao Kawamura, a robotics scientist. The pictures are processed and clarified by Nobutaka Shimada, an image processor. We give a tentative report of this project.

### 6. Britta STEIN

**Institution:** Martin-Luther-University Halle-Wittenberg

**Title of Presentation:** Kofun Period Horse Culture and the Illusion of a Warrior Elite

**Abstract:** In the middle Kofun period, the horse was introduced to the Japanese Islands and with it a number of

objects related to mounted combat. Yet, even though horse gear has been excavated frequently, skeletal remains of horses has remained to be rare finds for a long time. Only in recent years, the number of excavated horse remains and research activities with a focus on Kofun period horse culture has increased. This research has yet to be picked up by Western scholars. The large amount of armour, weapons, and horse gear deposited in tombs, suggests that mounted warriors played an important role in Kofun period society. A detailed analysis of armour, horse armour and skeletal remains with traces of injuries strongly contrasts with that image of a warrior elite. Focusing on the horse and prestige objects from Kofun period sites, this paper gives an overview over Kofun period horse culture. External influences, hybridization, and local innovations will be discussed.

## 7. Oki NAKAMURA

**Institution:** Ritsumeikan University

**Title of Presentation:** Rituals, Burials and Population Dynamics of the Late and Final Jomon Period in Japan

**Abstract:** In this presentation, I would like to discuss the regional variability in ritual activities and mortuary practices, as well as population dynamics among the Late and Final Jomon period in the northern Tohoku District. Interesting results have been obtained from quantitative analyses of stone circles and cemeteries. During the Late Jomon period, different patterns are observed of the spatial relationships between the local community activity zone and the stone circles. At the end of the Jomon period, it is important to distinguish among 12 small spatial units of cemeteries using GIS analysis. The frequency for which there are burial objects of jadeite beads and red pigments in the local units differs for each region. Population estimates using a new method will allow us to examine the relationship between population growth and the appearance of new monuments or the increasing of complexity in burial customs.

## 8. Masahiro FUKUNAGA

**Institution:** Kyushu University

**Title of Presentation:** The Regional Diversity of Hunter-Gatherer Societies — From an Analysis of the Jomon Society of the Japanese Archipelago

**Abstract:** This paper investigates the regional diversity of hunter-gatherer societies by studying the Jomon societies of the Japanese archipelago as a case.

The Jomon period has attracted significant attention and interests from the researchers of the hunter-gatherer communities across the world, because it has been recognized that the Jomon culture developed quantitatively and qualitatively abundant and sophisticated material culture and highly sedentary lifeways, albeit being a hunter-gatherer society. However, in the Jomon period, which lasted more than 10,000 years, it can be assumed that various social forms existed in different time-space settings.

The objective of this paper is to clarify the regional diversity of the Jomon societies and the causes and mechanisms behind it. The study focuses on differences in material culture between eastern and western Jomon societies, which are considered to be significant both quantitatively and qualitatively and correlated with various socio-environmental factors. This paper specifically focuses on differential modes of inter-communal interactions that can be reconstructed between eastern and western Japan.

**Session 30: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 2: Food Exploitation Strategy, Domestication and Rice Paddy Field**  
**Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Ryuji ISHIKAWA**

### 1. Leo Aoi HOSOYA, Ping YANG

**Institution:** Kanazawa University; Shiga Prefectural Museum of Biwa Lake

**Title of Presentation:** Ethnoarchaeology of Plant Food Usage and Cultivation in the Lower Yangtze Region

**Abstract:** To construct a framework for interpreting the Neolithic Lower Yangtze food production and processing routines and their relationships to social backgrounds, we have conducted ethnographic research at traditional farming villages in Hangzhou and Jiangsu. Interviews of elderly farmers and observation of food exploitation activities are mainly applied, supported by literature survey and artifact analyses at folk museums. Working tools and procedure for food production and processing are systematically recorded, and it is practically the first time that this type of record has been constructed in China. Jiangsu is the area where intensification of rice paddy field happened in the late Neolithic to form a complex, rice-based society, whereas it did not happen in Hangzhou. Through observing the traditional food resource management and its relationships to natural and social backgrounds, we attempt to construct frameworks reflecting characteristics of those two regions.

### 2. Ryuji ISHIKAWA, Taro KATAOKA, Linghua TANG

**Institution:** Hirosaki University; Hirosaki University; Jiangsu Academy of Agricultural Science

**Title of Presentation:** Studies on the Domestication Process of Chinese Edible Plants, Water Chestnut (*Trapa bispinosa*)

**Abstract:** Water chestnut is an edible aquatic plant growing in East Asian countries including China, Korea, and Japan. In China, water chestnut is one of the sources of starch even today. Seed size is varied among subspecies in China but is relatively larger than Japanese subspecies. In order to know their domestication process, nuclear size was examined by flow-cyto meter. The Japanese common water chestnut was confirmed as tetraploid, whereas Chinese sample was diploid. Thus, potentially, human selection affected its large seed size. As further confirmation of such human selection requires molecular markers, we obtained Next Generation Sequencer data from both kinds of water chestnuts. An attempt was made to reconstruct their chloroplast genomes from the data and some domains corresponding to INV and LSC were successfully established. Based on the comparison, INDEL markers were established and applied to trace maternal lineages. Nuclear markers were also developed to evaluate their genetic polymorphism.

### 3. Hiroyuki TASAKI, Tetsuro UDATSU, Yunfei ZHENG, Pin DING, Bin LIU, Ningyuan WANG

**Institution:** Ehime University; Miyazaki University; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** Paddy Field Construction and Utilization of the Liangzhu Period Viewed from the Trial Excavation of the Xunshan Site

**Abstract:** We discovered a paddy field of the Liangzhu period (3400-2200 BC) by a trial excavation at the Xunshan site, using phytolith analyses and observation of soil layers. It was confirmed that the paddy field was created in an alluvial lowland extending for 420 m east to west and 280 to 330 m north to south. As shown by the results of

sedimentary facies and soil structure analyses, the paddy field consisted of an upper plow layer and lower subsoil layer. The sheared form of the surface of the subsoil layer indicates that a flat tool was used to move horizontally. In addition, laminae and mud-chips were mixed in the subsoil layer, suggesting that rotating pressure occurred. These results suggest plowing work that rotated the soil by pulling stone ploughs, found in the Liangzhu period. Developing the alluvial lowlands using stone plough heads must have become full-fledged in the Liangzhu period.

#### **4. Yu ITAHASHI, Takashi GAKUHARI, Masashi MARUYAMA, Hiroki KUKUCHI, Junmei SAWADA, Kenji OKAZAKI, Hirofumi TAKAMUKU, Leping JIANG, Guoping SUN, Ningyuan WANG, Bin LIU, Shin'ichi NAKAMURA, Minoru YONEDA**

**Institution:** The University Museum, The University of Tokyo; Kanazawa University; Graduate School of Oceanography, Tokai University; Chinese Academy of Social Sciences; Niigata University of Health and Welfare; Tottori University; Doigahama Site Anthropological Museum; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University; The University Museum, The University of Tokyo

**Title of Presentation:** Dietary Shift of the Neolithic Rice Farmers at the Lower Yangtze River Region Elucidated by Amino Acid  $\delta^{15}\text{N}$  Analysis

**Abstract:** We report stable nitrogen and carbon isotopic compositions of bone collagen and nitrogen isotopic composition of individual amino acids from human and faunal remains collected from Kuahuqiao, Hemudu, Tianluoshan and Liangzhu in the Lower Yangtze region. It appears that early Neolithic rice farmers at Kuahuqiao, Hemudu and Tianluoshan included freshwater fish in their diets. In addition, dogs and pigs exploited freshwater resources just like humans. By contrast, the contributions of freshwater fish to the human diets of Liangzhu, which is a late Neolithic site, decreased from that of the early Neolithic period. And pigs of Liangzhu seem not to have consumed freshwater resources. Based on these isotopic compositions, food consumption and animal husbandry by humans in the Neolithic Lower Yangtze region seem to have shifted in association with the development of agriculture.

#### **5. Kenji OKAZAKI, Hirofumi TAKAMUKU, Jie CHEN, Guoyao RUI, Fengshi LUAN, Dong WEI, Hong ZHU**

**Institution:** Tottori University; Doigahama Site Anthropological Museum; The Shanghai Museum; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Shandong University; Jilin University; Jilin University

**Title of Presentation:** Difference in Oral Environments between the Neolithic Populations with Wet-Rice and Millet Domestications in East China

**Abstract:** Oral pathology has been utilized by bioarchaeologists worldwide as a method to assess diet in past societies because it is strongly related to subsistence patterns. The purpose of this study is to document and interpret differences in oral health between the agriculturalists practicing wet-rice and millet cultivation in the Neolithic societies of China. The skeletal remains examined in this study are taken from the following four sites: Guangfulin in Shanghai, Majiabang in Zhejiang, Beiqian in Shandong, Jiangjialiang in Hebei. The presence of antemortem tooth loss, carious lesions, periapical abscess, alveolar resorption, calculus accretion, and the degree of dental wear were examined in each tooth using a 10x magnifying lens and a dental mirror in accordance with standards established by Lukacs and Hillson. The results of this study is the possibility that the masticatory stress was smaller in the wet-rice farmers than in the millet farmers. This might have been associated with the difference in food-preparation technique.

## 6. Songtao CHEN, Guiyun JIN, Fuqiang WANG, Wenwan WU, Zhenzhen ZHAO

**Institution:** Shandong University; Shandong University; Yantai Museum; Nanjing Museum; Shandong University

**Title of Presentation:** Multidisciplinary Research on the Subsistence Strategy of Wutai Site, Shandong Province, China

**Abstract:** We studied the subsistence strategy of Wutai, a late Neolithic coastal site in Shandong province, with a multidisciplinary approach. Archaeobotanical research showed that the inhabitants exploited not only crops, but also many species of wild plants. Foxtail millet and broomcorn millet were the most important crops, but some rice and wheat were also found. Archaeozoological research suggested the existence of livestock such as pig, cattle, and dog; in addition, a few wild animals such as deer and marine fish were present. We also analyzed the stable isotope ratios of humans and animals. The mean carbon (-7.9‰) and nitrogen (8.7‰) isotope ratios of humans indicated that they mainly relied on C4 food resources with some meat. Based on the available evidence, we believe that the inhabitants of the Wutai site had a diversified subsistence strategy in that they not only cultivated millet crops and fed livestock, but also hunted wild animals and gathered wild plants.

## 7. Shao LEI

**Institution:** Ningbo Municipal Institute of Cultural Relics and Archaeology

**Title of Presentation:** Excavation and Research at the Daxie Prehistoric Salt Production Site in Ningbo, Zhejiang

**Abstract:** The prehistoric cultural deposits at the Daxie site, dating back to 4400-4100 years ago, were the earliest known sea-salt production remains found in the coastal areas of China. These findings provide rich data for exploring the origin and development of the sea-salt industry in ancient China and cast light upon other important issues such as salt transportation, salt trade and social complexity in the eastern coastal areas.

## Session 31: Isotope, DNA, Health, and Demography Organizer: Yaowu HU

### 1. Yaowu HU

**Institution:** Department of Archaeology and Anthropology, University of Chinese Academy of Sciences

**Title of Presentation:** Beyond the Diets: Hair Isotopic Fluctuations Reflect the Physiological Stresses of Modern and Ancient Humans in China

**Abstract:** Besides dietary reconstruction, the stable isotope of human tissues has been recognized to be a useful biomarker to indicate human's physiology, nutrition, and disease. None has been undertaken yet in China. In this study, a stable isotopic analysis of a series of human hairs of modern and ancient times was carried out, aiming to record the mutual relationship between the isotopic variations and human physiological stress (colon cancer and disease). This pilot study will open up a new window to understand the physiological stage, disease, and reason of death of ancient humans in China besides their diets.

### 2. Christopher KIM

**Institution:** Columbia University

**Title of Presentation:** Salt Production and the Political-Economic Landscape of Northern Shandong, ca. 1250 – 500 BCE

**Abstract:** This paper analyzes the recent archaeological evidence for salt production in northern Shandong in conjunction with relevant textual and paleogeographic evidence to examine the development of the region's political



economy from the Late Shang to Warring States period. The analysis reveals that contrary to what the received texts suggest, a Qi state salt monopoly was not established until after 500 BCE. Early salt production in northern Shandong was organized locally; both the Shang and Zhou states utilized local elites as intermediaries to exploit the resource. The evidence also reveals that large-scale salt production in the region declined after the mid-Western Zhou period. I argue that this was not simply due to the weakening of the Zhou royal power, but also because the Zhou center lost its function as the redistributor of high-value resources when the polities subordinate to the Zhou were able to access such resources as salt on their own.

### 3.Cheng Yi LEE

**Institution:** Institute of History and Philology, Academia Sinica

**Title of Presentation:** Isotopic Perspectives of Dietary Patterns in Taiwan After the Introduction of Crops

**Abstract:** Bone collagen isotope data of 53 human individuals excavated from 11 sites were collected in order to trace the dietary patterns of these prehistoric people after rice and millet were introduced into Taiwan ca. 5000 cal. yr BP. The 11 sites were separated into two groups, belonging to 4600-2000 cal. yr BP and 2000-400 cal. yr BP, respectively. The result indicates that the prehistoric people did not focus on crops after the introduction of crops into Taiwan. A comparison of the diets of the 53 individuals of the two groups reveals that dependence on marine resources may have decreased in the coastal area during the later time interval, i.e. the Iron Age.

### 4.Dongya YANG

**Institution:** Department of Archaeology, Simon Fraser University

**Title of Presentation:** Ancient DNA Analysis of Archaeological Fish Remains

**Abstract:** Fish remains have been recovered abundantly from archaeological sites around the world, but the use of such remains for archaeological investigations has been significantly affected by the lack of reliable morphological criteria for accurate species/population identification. Through several case studies, this presentation aims to demonstrate that ancient DNA analysis can not only provide reliable species/population identification but also accurate sex identification of fish remains. Such reliable and accurate identifications are now made possible by the maturity of ancient DNA techniques and the accumulation in GenBank of reference DNA sequences for most fish species. Among many benefits, ancient DNA analysis of fish remains opens new opportunities for researchers to revisit previous studies of fish remains to obtain new insights on fish-use and fishery activities of the past.

### 5.Xiaoran ZHANG, Yawei ZHOU, Yiming WANG, Miao MENG

**Institution:** Zhengzhou University

**Title of Presentation:** Tooth Abrasion and Health Status of Yangshao Culture Residents at the Wanggou Site, Zhengzhou

**Abstract:** By observing, comparing and analyzing 2816 teeth of 174 individuals from the site of Wanggou, the tooth wear of ancient humans in the Yangshao Period was discussed. The teeth of Wanggou residents were observed and graded according to the 8 - grade standard established by Smith, and the average tooth wear grade and the difference index of front and back tooth wear were calculated. The occurrence rate of special wear, dental caries and bony eminence in the samples was analyzed. As a result, it is found that the average tooth wear grade of the Wanggou group is 3.4, that of males is 3.63, and that of females is 3.61; the difference index ratio of front and back tooth wear is 1: 1; 26 cases have special abrasion caused by deep overbite of the jaw; the occurrence rate of pit wear of molar

occlusal surface is 2.5 %; the prevalence of dental caries of Wanggou inhabitants is 68.97%, dental caries rate is 26.56%, and total DMFT is 4.30; the occurrence rate of bony eminence is 5.2 %, and the degree of jaw bulkiness is not obvious. It is concluded that the degree of tooth wear of the Wanggou population is generally light, close to that of the residents of the Xiawanggang group in Henan province. It appears that Yangshao culture people had some similarities in diet structure and dental habits with those of Xiawanggang.

## 6. Jun LI

**Institution:** School of Sociology and Anthropology, Sun Yat-Sen University

**Title of Presentation:** Detection of Archaeological Demographic Transition in China

**Abstract:** The signal of the Neolithic Agricultural Demographic Transition has been detected in northern and eastern China from mortuary data and the density of archaeological sites during the Neolithic agricultural transition. From 800 to 1300 years after the adoption of the agricultural system, the proportion of immature skeletons from the hunter-gatherer-fisher economy increases from 0.10-0.13 to 0.19. The site densities also change abruptly and correlatively.

## 7. Hirotaka TOMITA

**Institution:** Kyushu University

**Title of Presentation:** Differences in Health Status between Urban and Rural Settlements in Western Japan in the Edo Period

**Abstract:** The purpose of this study is to clarify the diversity of health condition in urban and rural settlements in western Japan in the Edo period. The urban settlements such as castle towns were inhabited by people of various social statuses, including warriors, merchants, and craftsmen, whereas the rural settlements were inhabited predominantly by farmers. However, differences in health status between the urban and rural settlements have not been fully investigated. This study examines human skeletal remains of some urban and rural settlements of the Edo period excavated in western Japan. Enamel hypoplasia (EH), cribra orbitalia (CO) and dental caries are studied. The results show that there was no significant difference in respective stress markers between the urban and rural settlements.

## 8. Masatomo MATSUURA

**Institution:** Kyushu University, Graduate School of Integrated Sciences for Global Society (Japan)

**Title of Presentation:** Cranial Morphological Characteristics in the Kofun Period in Middle Kyushu

**Abstract:** Morphological characteristics of the human skulls from Kofun burials have been studied in terms of temporal and regional changes, and the geographic cline of morphological traits of those cranial bones has been suggested to start from Northern Kyushu. The materials in Middle Kyushu have also been studied and are important for the regional characteristics of the Kofun period Kyushu. However, of those materials and methods of analysis, some are inadequate to clarify these characteristics. Thus, this study has been made to solve these problems and discuss morphological characteristic of people of the Kofun period in Middle Kyushu. This research demonstrates immigrants' characteristics and the difference of degree between the northern and southern areas in Middle Kyushu. There is a possibility that this tendency shows difference of scale of immigrants or their descendants moving.

## 9. Corey NOXON

**Institution:** Ritsumeikan University

**Title of Presentation:** Jōmon Paleodemography: Insights into the Roles of Sedentism and Agriculture in the Neolithic Demographic Transition

**Abstract:** A paleodemographic analysis of the Jōmon populations of Japan was conducted using skeletal materials. Prior studies based on the number of residential sites have found that a substantial population increase occurred in the Kantō and Chūbu regions in central Japan, which peaked during the Middle Jōmon period, and declines subsequently. This pattern is similar to what is observed during a Neolithic Demographic Transition (NDT). As the Jōmon populations are considered to have been a relatively sedentary, non-agricultural group, they provide an excellent case study for separating the factors of sedentism and agriculture as they relate to the NDT. Skeletal data indicate relatively stable trends in birth rates, contrasting with studies based on the number of residential sites. This discrepancy casts some doubt on the validity of previous studies. The stable population levels also suggest that sedentism alone was not the primary driver of the NDT.

### 10. Dian CHEN, Wugan LUO, Yuling HE, Zhanwei YUE, Jigen TANG, Zhichun JING, Changsui WANG

**Institutions:** University of Chinese Academy of Sciences; University of Chinese Academy of Sciences; Institute of Archaeology, Chinese Academy of Social Sciences; Institute of Archaeology, Chinese Academy of Social Sciences; Institute of Archaeology, Chinese Academy of Social Sciences; University of British Columbia; University of Chinese Academy of Sciences

**Title of Presentation:** A Preliminary Study on Submicro-structural Image of Nephrite from Anyang Yin Ruins Based on Multi-spectral Imaging Technology and Gray-Level Co-occurrence Matrix

**Abstract:** The source of nephrite from Yinxu is always a matter of concern. However, it is not easy to solve, because the major, minor and trace elements in nephrite from different sources usually overlap each other. In the recent years, some submicro-structural methods have been applied to probe into the provenance of nephrite. However, the submicro-structural imaging of nephrite could not be well preserved and the image characteristics cannot be easily described quantitatively. On the basis of such situation, this paper first introduces non-destructive multi-spectral imaging technology, which can be used to obtain and record the structural images directly. Then the gray-level co-occurrence matrix is adopted to establish a set of parameters to describe the characteristics of nephrite. Finally, the validity of the model is verified by multivariate statistics. This study shows that nephrite is consistent in the same period of the Yinxu, but different from period to period. Moreover, the nephrite from Yinxu is different from the present Xinjiang nephrite. In general, this method is a simple and effective approach which could be applied to the research on the source of nephrite artifacts after further improvement.

## Session 32: Interaction between Southeast Asia and Southern China Organizer: Xiaofen HUANG

### 1. Rita DAL MARTELLO

**Institution:** UCL Institute of Archaeology

**Title of Presentation:** Recent Developments on the Spread of Agriculture to Southwest China: A Comparative Analysis of Archaeobotanical Remains, Ecology and Climate

**Abstract:** This paper presents a part of my PhD research, which combines newly obtained archaeobotanical materials from early sites in Yunnan, Southwest China, with regional climate and ecology, in order to delineate the development of agricultural practices during the early 2nd to 1st millennia BC. Particular focus will be given to

comparative morphometric analyses of crop remains (rice, millets, soybean and buckwheat) from sites in Yunnan and already published datasets from Central and East China. This will plot the evolution of the crops and their adaptation to the specific environmental conditions of Southwest China. This study will help us to gain a deeper understanding of early human-environment interaction in the adoption of agriculture, and provide proxies for the spread of agriculture to Southwest China and beyond.

## 2. Shanshan WEI, Qingping YANG

**Institution:** Shaanxi Normal University, Anthropology Museum of Guangxi; Guangxi Institute of Cultural Relics Protection and Archaeology

**Title of Presentation:** A Study of Prehistoric Cultures in the Zuojiang Huashan Rock Art Region of Guangxi, China

**Abstract:** Archaeological surveys and excavations carried out between 2010 and 2013 in the Zuojiang Huashan Rock Art Region of Guangxi have produced interesting results. These include the identification of 6 successive Neolithic archaeological cultures in the Zuojiang river basin, chronological overlap between shell mound sites, cave burials, and rock art, along with evidence of associations between the rock art and the remains recovered at the archaeological sites themselves. For example, the red stone material found at the sites appears to have been the source of the rock art pigments.

## 3. Junna ZHANG

**Institution:** Beijing Union University

**Title of Presentation:** Ancient Landform and Paleoenvironment of the Luojiaba Site, a Representative Site of the Mysterious Ba Culture Between 5300 - 4500 cal yr BP in Northeastern Sichuan Province, China

**Abstract:** Luojiaba is a representative site of the late Neolithic Period in northeastern Sichuan province, China, which is considered to be the origin of the culture of the mysterious Ancient Ba people. Investigation of the landform and environment of the Luojiaba site was undertaken, in combination with analysis of sediment sporopollen, granularity, magnetic susceptibility and chroma, chemical elements, and soil micro-structure. Based on these analyses, we discuss the ancient landform and paleoenvironment of the Luojiaba site. Our research provides the basis for further study of late Neolithic ancient human life at the site of Luojiaba, and for further understanding of the ancient Ba culture.

## 4. Xingxiang ZHANG

**Institution:** University of Science and Technology of China

**Title of Presentation:** Investigating Human Migration and Horse Trade in Yelang through Strontium Isotope Analysis of Skeletons from Sites in the Zhougshui River Valley, South-West China (1300 BC – AD 25)

**Abstract:** Yelang, a mysterious state located in the southwestern area of early China and dating from the Bronze Age to the Early Iron Age (1300 BC – AD 25), is a cultural interactive junction between the Yunnan–Guizhou Plateau and the Yangtze River Basin. The Zhougshui Basin in Weining County, Guizhou Province, was one of the important distribution areas of the Yelang civilization. This area, which houses the sites of Jigongshan (1300–800 BC), Hongyingpan (700 – 400 BC), and Yinzitan (400 BC – AD 25), has provided a very integrated chronology, spanning from the Bronze Age to the Early Iron Age in the eastern Yunnan – western Guizhou area. To investigate human migration and horse trade at these Yelang sites, we conduct a strontium isotopic analysis on the teeth enamel of humans and horses unearthed from these three sites. We come to the following results: (1) populations of the earlier sites (Jigongshan and Hongyingpan) were all indigenous, whereas at the Yinzitan cemetery, there was an immigrant population: all the people who were buried in an upper limb flexed supine position were non-local; and (2) most of

the horses found at the Jigongshan and Yinzitan sites show different provenances, probably related to the famous Dian and Zuo horses recorded in historical documents, providing more clues for further study on the horse trade in South-West China during the Bronze Age and the Early Iron Age.

### 5. Luhong ZHENG, Hui DU

**Institution:** Sichuan Provincial Institute of Cultural Relics and Archaeology; Southwest Minzu University of China

**Title of Presentation:** The “Ba” Acculturated to “Han”: An Ethnic Archaeological Analysis Basing on the Archaeological Site of Chengba in Qu County in Sichuan Province

**Abstract:** The archaeological site of Chengba is located in eastern Sichuan province, on the left side of the Qu River, and surrounded by water on three sides. It was the main area of the ethnic group of “Cong”, one branch of the “Ba” people who lived since the pre-Qin era. Since 2014, the Sichuan Provincial Institute of Cultural Relics and Archaeology initiated the project at the Chengba site, systematically investigating, and excavating it. The city wall base, several small-scale settlement sites, water wells, kilns, and a complex of tombs from the late Warring States period to the Eastern Han dynasty (AD 25-220) were found in the last 5 years.

According to historical literature and archaeological finding, Qu County was established in the late Warring States period, and abandoned in the Six Dynasties period (AD 220–589). Chengba was the political, economic and cultural center of Eastern Sichuan. At the same time, this area was deeply influenced by various cultures, such as the Shu, Chu, Qin and Zhou, and was the contact zone where different powers encountered. Many artifacts displaying different cultural elements found at the Chengba site manifest the complex ethnic relationships. The varied material culture was replaced by a homogeneous culture in the Han dynasty. This archaeological phenomenon reflects the process of the area being integrated into the Han culture. We believe that the data from the Chengba site will help to establish the chronology of cultures in the area of the upper reach of the Jialing River, and boost research on the ethnic groups in Eastern Sichuan.

### 6. Xiaofen HUANG

**Institution:** University of East Asia in Japan

**Title of Presentation:** The Exploration and Research of Ancient Cities in the Red River Delta—By Examining the Excavation Results of the Luy Lau City in Vietnam

**Abstract:** The recent excavation and research of the Luy Lau City in northern Vietnam reveal its origin from around 110 B.C. since Emperor Wu of Han established Jiaozi province. The city prospered for 800 years through the Six Dynasties until the early Tang dynasty. Various relics of each dynasty have been unearthed in the Red River Delta city, demonstrating that Chinese culture and written language had been integrated with local cultures. Bronze cast drums of the Don Son culture, Chinese silk, and glass from India and the Mediterranean area have been found together. For the first time, Luy Lau is proven to be the hub of cultural exchange of South and East Asia.

### 7. Yuduan ZHOU, Heng SOPHADY, Hubert FORESTIER

**Institution:** School of History, Wuhan University; Deputy Director General for Cultural Heritage, Ministry of Culture and Fine Arts; Département de Préhistoire, Muséum National d'Histoire Naturelle,

**Title of Presentation:** Excavation at the Hoabinhian site of Laang Spean Cave in Cambodia and its Significance in Southeast Asia and South China Prehistory

**Abstract:** Discovered and initially excavated in the 1960s, Laang Spean Cave was re-excavated in 2009 by the Franco-Cambodian Prehistoric Mission. After 10 years' fieldwork, an enriched archaeological sequence of Neolithic, Hoabinhian and Pre-Hoabinhian levels has been documented. Both 14C and OSL dating methods

have been utilized to construct a solid chronological framework from 3ka to more than 71ka. Laang Spean is at present the sole prehistoric site associated with a typical Hoabinhian technocomplex (5-11ka) discovered in a well-defined stratigraphy in Cambodia. The Hoabinhian lithic assemblage of the site provides an important reference for comparison with other lithic industries in both Mainland Southeast Asia and South China, considering that the earliest Hoabinhian site has recently been reported in Yunnan, Southwest China, and the associated faunal and environmental data help to discuss the technical behavior and subsistence strategy of the last hunter-gatherers before the establishment of Neolithic society on this mainland.

### 8. Yinghua LI, Side HAO, Wanbo HUANG, Hubert FORESTIER, Yuduan ZHOU, Huan LI

**Institution:** School of History, Wuhan University; The Provincial Museum of Hainan Island; Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences; Muséum National d'Histoire Naturelle; Institut de Paléontologie Humaine; School of History, Wuhan University; School of History, Wuhan University

**Title of Presentation:** A New Variability of Cobble-Tool Industry Associated with a Bone Tool Technology from the Luobi Cave, South China (ca. 11 - 10 ka): A Comparative Perspective from Southeast Asia

**Abstract:** The lithic industry of South China has been characterized as simple “cobble-tool” industry persisting from the early Pleistocene to the Holocene, and the most representative industry of Southeast Asia is also marked by pebble-tool techno-complex termed Hoabinhian during the late Pleistocene-early Holocene. The possible cultural link of the two regions has been proposed but the technological characteristics and variability within the two industries are elusive. In this paper we conduct technological analysis on a “cobble-tool” industry associated with bone tool technology from the Luobi Cave, Hainan Island, dated to ca. 11-10 ka and compare it with the well-studied typical Hoabinhian site of Laang Spean in Cambodia. Except for a minimum similarity in operational sequence (chaîne opératoire) the major differences have precluded the Luobi Cave as a potential Hoabinhian site, indicating a high originality and a new variability in the tool-kit of modern human groups during the late Pleistocene-early Holocene transition in South China and Southeast Asia.

### 9. TzeHuey CHIOU-PENG

**Institution:** University of Illinois Urbana-Champaign

**Title of Presentation:** Digging into the Roots of the Dian Culture: A Preliminary Study of Materials from Prehistoric Settlements Near Lake Dian in Yunnan, China

**Abstract:** Till the end of the last century, interpretation of the socially stratified Dian culture (c. 4th century BC- 1st century AD) has been based primarily on materials from Bronze Age burials around Lake Dian in Yunnan, China. The analysis of available mortuary data alludes to various contributing sources for the making of the Dian group, yet a shortage of settlement records impedes research on the formation process of the culture; meanwhile, a ceramic sequence to assist in clarifying possible chronological issues is yet to be established. In the light of recent systematic investigations of occupational sites around Lake Dian and in adjacent lands, this work examines the beginning of the Dian culture, and explores the reasons behind social changes that eventually led to the florescence of the culture.

### 10. Mariko YAMAGATA

**Institution:** Okayama University of Science

**Title of Presentation:** Ancient Eaves Tiles with Human Face Decoration: A Comparative Study Between Vietnam and Nanjing

**Abstract:** This paper focuses on the similarity of the human face motif depicted on eaves tiles found in central and

northern Vietnam, and those found in Nanjing. In central Vietnam, these tiles have been uncovered at the ancient citadel of Linyi including Tra Kieu. Some faces strongly resemble those found in Nanjing, while others are unique to central Vietnam. Taking Nanjing's chronology into account, which assigns the tiles found in Nanjing mainly to Eastern Wu, the tiles found in central Vietnam might be thought to date from the 3rd century CE. The recent excavations of Luy Lau citadel in northern Vietnam, however, discovered eaves tiles with human face decoration that are dated to the 2nd century CE, earlier than tiles found in Nanjing. Through the comparative study of eaves tiles discovered in Vietnam and China, the provenance, date and distribution of the tiles are discussed.

### 11. Sharon Wai-yee WONG

**Institution:** Department of Anthropology, The Chinese University of Hong Kong

**Title of Presentation:** A Preliminary Comparison of Glazed Stoneware Jars Produced in South China and Central Vietnam during the 13th to 17th Centuries

**Abstract:** This paper discusses the production and usage of glazed stoneware jars produced in South China and Southeast Asia. In the absence of detailed comparative research on historical accounts and archaeological findings in both regions, previous studies have assumed that the major production centres of glazed storage jars for local usage and maritime trade were from Shiwan Kilns, Guangdong, Cizao Kilns, Fujian, and Binh Dinh Kilns, Central Vietnam. Champa was the early maritime state that ruled central and southern Vietnam. It was a group of island-like settlements separated from one another by mountains, but open to the sea to the east, especially exchange with China. This paper connects the archaeological evidence from both production centres and consumption sites for analyzing the relationships among production, transportation, and consumption patterns of these glazed stoneware storage jars found in South China and Southeast Asia during the 13th to 17th centuries.

## Session 33: Ancient Metallurgy Organizer: Wengcheong LAM

### 1. Wengcheong LAM

**Institution:** The Chinese University of Hong Kong

**Title of Presentation:** Rethinking the Meaning of Bronze Technology in Eastern Lingnan During the First Millennium BCE

**Abstract:** Although the arrival of bronze technology in eastern Lingnan has been discussed in the literature, it is yet to be clear the extent to which bronze technology contributed to the construction of social hierarchy and complexity process. This talk will first reanalyze the chronology of bronze materials and the technological tradition of bronzes based on previous published data and metallurgical analyses. In addition, through a synthetic analysis of the distributional pattern of bronzes and their relations with settlement patterns, this paper tries to challenge the often-taken-for-granted assumption that the manufacturing of bronzes was closely relevant to the social complexity process in eastern Lingnan. Instead, the manufacturing of bronze objects was dispersed and the distribution of stonewares with the so-called double-F motifs, apparently imitations of bronze ritual vessels developed in the Central Plains, might be more significant in the consolidation of social boundaries.

### 2. Yang LI, Yanxi WANG, Xudong JIANG

**Institution:** School of History, Wuhan University; Field Museum; Conservation Center, Hubei Museum

**Title of Presentation:** Thin-Walled Bronzes and Technological Variations during the Bronze-Iron Transition of Ancient

China

**Abstract:** The technological transition from bronze to iron in early China was a vibrant period stimulating innovations and experimentations of new metallurgical techniques. In this study, our team examines 24 thin-walled bronze objects and collects reports on additional 92 similar bronzes from the Eastern Zhou period (8th to 3rd century B.C.), a period that is traditionally considered as the end of Bronze Age in China. It turns out that these bronzes use thermal forgery, a rare technique in Chinese bronze tradition, instead of the dominant piece-mold casting, as the major fabrication technique. The use of cold and thermal treatments was also involved in the production processes. This finding suggests that the bronze industry remained, even developed, its technical vibrancy in the end of Bronze Age.

### 3. Benjamin SABATINI

**Institution:** University of Science and Technology of China (USTC)

**Title of Presentation:** The Modeling and Hacking of Lead Isotopes for Material Flow Analyses

**Abstract:** Accepting that the recycling of metal was a common occurrence in all metal manufacturing capable societies, whereby alloy types of different compositions were melted together and recast into new objects, the use of lead isotopes in provenance studies is problematic. With the mixing of metal the lead isotopic signatures of objects were undoubtedly altered with the isotopic results being predominated by the absolute amounts of lead contributed by each piece of metal. This presentation will focus on the modeling of lead isotopic mixing and a method to discern the possible shifts in isotopic signatures to account for contributions from several ore sources. The models show that the use of lead isotopes, and other isotopes applied similarly, is dubious for provenancing objects, and that isotopic data may be far better applied in reverse engineered and hacked material flow analyses (MFA's).

### 4. Qingzhu WANG

**Institution:** Yale University

**Title of Presentation:** Identifying Local Bronze Production Without Direct Evidence: Cases from Zhengzhou and Panlongcheng

**Abstract:** Zhengzhou and Panlongcheng are two of the most important early Shang sites with significant discoveries of bronze objects. In the past, due to limited discoveries of bronze workshops outside Zhengzhou during the early Shang period, scholars could only hypothesize about local bronze production in Panlongcheng based on styles. The recent discovery of a bronze workshop in Panlongcheng confirms the possibility of bronze production at this site and provides an opportunity to assess how to identify local bronze production without direct evidence of workshops. In this paper, I conduct a detailed analysis of the style, chemical composition, and lead isotopes of bronzes from Zhengzhou and Panlongcheng to investigate possible evidence that might reveal local bronze production. This study will improve our understanding of bronze production during the Shang period, and increase our knowledge of the socio-political and economic organization of the Shang state.

### 5. Yoshinori TAJIRI

**Institution:** Kyushu University

**Title of Presentation:** A Study on the Diffusion of Bronze Casting Technique in the Japanese Archipelago: Positioning New Materials Excavated from the Japanese Archipelago in East Asia

**Abstract:** In this research, with regard to the diffusion of bronze casting technology in East Asia, I will use new



materials excavated from the Japanese archipelago. In recent years, both clay and stone molds were discovered from the Suku Takauta Site in Kasuga city, Fukuoka Prefecture. Traditionally, the bronze casting technique, which is said to have come from the Korean Peninsula, was a technology using stone molds, but this discovery reveals that the casting technology using the soil mold was also propagated from the beginning. Although the clay mold itself has not been excavated in the Korean Peninsula, the existence of the clay mold has been inferred from the study of products. Future research may reveal the area of the Korean peninsula from which the technology has been transmitted. In addition, consideration will be given to the fixing problem of the clay-mold technology in the Japanese archipelago.

## 6. Wen Yin CHENG, Shen CHEN

**Institution:** University of Toronto

**Title of Presentation:** Shang Bronze Casting: The Making of the Bronze Moulds Through Petrography

**Abstract:** The bronze-casting technology has been a fascinating focus that has captivated scholars throughout the history of archaeology. In order to comprehend the production method of Chinese bronzes during the Shang dynasty we must look beyond the bronze objects to include the casting moulds used to form the bronze vessels. Although the moulds are not the final product made by the artisans, they tell a more intimate story about the artisans and their manipulation of raw materials. By using petrographic analysis on the Shang dynasty bronze moulds housed at the Royal Ontario Museum, we approach the question how the moulds were made according to the different types of moulds so as to gain further insight into the choices that the artisans made to produce the bronze vessels.

## 7. Yu LIU, Jigen TANG, Jianyu LIU, Zhichun JING

**Institution:** Institute of Archaeology, Chinese Academy of Social Sciences; South University of Sciences and Technology of China; The Palace Museum; The university of British Columbia

**Title of Presentation:** Pursuing the mineral sources of Yinxu bronze objects (BC13th-BC11th): study on the lead ingots from Anyang, China

**Abstract:** So far more than 2000 bronze vessels and thousands of other type bronze objects have been excavated at Yinxu, the capital of the late Shang dynasty (BC13th-11th), located in Anyang, Henan Province. The discussion of the mineral sources of Yinxu bronze objects has lasted a long time because few ingots have been found at Yinxu. Recently 300 pieces of metal ingots were uncovered at Yinxu, which provides some new clues to the problem. Through Metalloscope observation, SEM-EDS and ICP-MS analysis of 12 ingot samples, the composition, microstructure, trace elements and lead isotope data have been analyzed. The results indicate that the ingots are not pure lead but lead-copper alloy. The lead Isotope data denote “ordinary common lead”, and are analogous to those from bronze objects or slags of the 4th phase of the Yinxu period, which imply that the bronzes mineral sources are probably from the same lead ore in that time.

**Session 34: The Formation Process of a Rice-Based Civilization in the Chinese Neolithic 3: Urbanization and Movements of People and Material**  
**Organizers: Leo Aoi HOSOYA, Shin'ichi NAKAMURA, Minoru YONEDA**

## 1. Kazuyo NISHIHARA, Guoping SUN, Yonglei WANG, Shin'ichi NAKAMURA

**Institution:** Kyoto University; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University

**Title of Presentation:** Shifts in the Style of ‘Butterfly-Shaped Ornaments’ of the Tianluoshan Site and Their Social

## Background

**Abstract:** Wooden artifacts called ‘Butterfly-shaped Ornaments’ are characteristic artifacts of the Hemudu culture. Particularly from the Tianluoshan site (5000-3500 BC), Zhejiang, a representative site of this culture, diverse types of ‘Butterfly-shaped Ornament’ starting from its earliest examples have been recognized. Some traits of these ‘Butterfly-shaped Ornament’ styles are shared with those excavated from the Hemudu site.

‘Butterfly-shaped Ornaments’ are also regarded as non-practical artifacts, and thus distinguished from other various Tianluoshan wooden artifacts. They were symbolic artifacts produced in advance of the Liangzhu culture prestige goods and the commencement of intensive rice farming.

In this paper, the social role of ‘Butterfly-shaped Ornaments’ is discussed based on the analyses of chronological shifts of the ‘Butterfly-shaped Ornament’ styles at Tianluoshan, particularly the transformation of the design and structure of the backside.

## 2.Hiroki KIKUCHI, Masashi MARUYAMA

**Institution:** Chinese Academy of Social Sciences; Graduate School of Oceanography, Tokai University

**Title of Presentation:** Transition in the Exploitation of Animals and Urbanization: From Tianluoshan to Liangzhu

**Abstract:** The lower Yangtze valley in China, which is the highly likely origin of rice cultivation, and one of the areas of the domestication of livestock and poultry, has raised global research interests. In this area, alongside social complexity and urbanization, the focus of animal exploitation shifted from local wild animals to specific livestock such as pigs. In this paper, using archaeozoological analytical methods, the animal exploitation of the Tianluoshan (5000-3500 BC) and Liangzhu sites (3400–2200 BC) is compared in terms of the composition of exploited animals and the tendency in animal exploitation to discuss the urbanization process.

## 3.Masaaki KANEHARA

**Institution:** Nara University of Education

**Title of Presentation:** Urbanization from the Perspective of Environmental Shifts and Plant Exploitation

**Abstract:** It has been discovered, through analyses on environmental changes and plant exploitation, that shifts of cultural phases in the early Neolithic in the Lower Yangtze valley were deeply related to sea transgression timings, which could have much influenced the alluvial plain. Till the Hemudu Period (5000-3500 BC), rice paddy and wild nut gathering had even significance in the subsistence strategy, but after the Liangzhu Period (3400–2200 BC), intensive rice paddy economy was developed. Analyses of ancient parasite eggs suggest that functional spaces were demarcated in Liangzhu settlements, an indicator of urbanization.

## 4.Yoshiki MIYATA, Shinji KUBOTA, Masashi KOBAYASHI, Yastami NISHIDA, Akiko HORIUCHI, Nobuo MIYAUCHI, Kunio YOSHIDA, Guoping SUN, Yonglei WANG, Shin'ichi NAKAMURA

**Institution:** Kanazawa University; Kanazawa University; Hokuriku Gakuin University; Niigata Prefectural Museum of History; The University Museum, The University of Tokyo; The University Museum, The University of Tokyo; The University Museum, The University of Tokyo; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Kanazawa University

**Title of Presentation:** Paleo-diets Reconstructed from Food Residue in Pottery in the Lower Yangtze Valley Using Lipid Analysis, Compounds-Specific and Bulk Stable Isotope Composition

**Abstract:** We studied lipid, compounds-specific and bulk stable isotope composition of archaeological cooking pots from the Kukukyou, Tianluoshan (5000-3500 BC), and Liangzhu (3400-2200 BC) sites, aiming at reconstructing the culinary culture of early rice farmers. In the Hemudu culture, animal and plant resources such as rice, water chestnut and acorn played an important role in the subsistence strategy, as indicated by food residue analysis of pottery. In this paper, we discuss the shift in cooking ingredients at the three Neolithic sites, the amount of terrestrial animal or freshwater fish the populations of these sites consumed, using compounds-specific stable isotope analysis.

### 5. Xiaoli QIN, Shin'ichi NAKAMURA, Bin LIU, Ningyuan WANG, Ye ZHAO, Minghui CHEN, Yoshimitsu KAWAMURA

**Institution:** Kanazawa University; Kanazawa University; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Ishikawa Archaeology Association

**Title of Presentation:** Inter-Regional Relationships in the Late Liangzhu Culture from the Scope of Prestige Goods Circulation

**Abstract:** During the Chinese Liangzhu Period (3400–2200 BC), a city state was formed based on extensive irrigation systems for rice farming and specialized manufacture of lithic tools, jade works, pottery and lacquered wares, and the formation of the Liangzhu site complex centred on the Mojiashan City. Furthermore, to maintain the established state, the population developed the production of prestige goods: mainly jade works, but lacquered wares and finely made pottery as well, and controlled ritual systems as a part of their ruling system. It is considered that the ritual system based on prestige goods was one of most significant factors to have sustained the Liangzhu state for more than 1,000 years. This paper discusses the relationship between the Liangzhu culture and the northern Yangtze Valley focusing on circulation of jade goods: the symbol of rulers.

### 6. Minoru YONEDA, Takashi GAKUHARI, Yu ITAHASHI, Guoping SUN, Bin LIU, Ningyuan WANG

**Institution:** The University Museum, The University of Tokyo; Kanazawa University; The University Museum, The University of Tokyo; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology; Zhejiang Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** Oxygen Isotope Analysis of Human and Animal Remains from Neolithic Sites of the Lower Yangtze Valley in Light of Human and Object Provenance

**Abstract:** We conducted oxygen isotope analysis in enamel carbonate and bone / dentine phosphate to estimate the provenance of human and animal remains, including ivory objects, from the Tianluoshan (Early Neolithic) and Liangzhu (Late Neolithic) sites in Zhejiang Province. In general, enamel carbonate shows wider diversity among the Liangzhu humans than the Tianluoshan humans, suggesting more frequent human movement in the Late Neolithic. On the other hand, bone and dentine phosphate shows complicated results on ivory objects from the Tianluoshan site, although the diagenetic effect on phosphate might not be negligible in some cases. This suggests a possible trade network of precious objects in the Early Neolithic period in the Lower Yangtze River.

### 7. Ningyuan WANG

**Institution:** Zhejiang Provincial Institute of Cultural Relics and Archaeology

**Title of Presentation:** The Liangzhu Walled City and the Water System: Its Discovery and Research

**Abstract:** The Liangzhu site was discovered in 1936, but until 1986, there was no holistic view of the Liangzhu site complex presented in archaeological research—only a series of partial studies had been conducted. In 1986, an array of royal burial mounds, ceremonial terraces, palaces and Tangshan were discovered, and the ‘Liangzhu site complex’ was recognized. Since 2007, city walls and the outer facilities have been discovered, and their functions have been studied as ‘urban archaeology’. In 2015, the whole water system of the city was found, and to date the Liangzhu site complex is dubbed a ‘state-level’ urban center, the power of which extended for more than 1000 square kilometers. This paper reviews the research history, illustrating how the understanding of the Liangzhu site complex has been developing along with multi-disciplinary research.

**Session 35: The French-DPRK Archaeological Mission at Kaesong. Urban Development of the City of Kaesong from the Koryo Period to the 20th Century**  
**Organizer: Élisabeth CHABANOL**

### 1. Élisabeth CHABANOL

**Institution:** Ecole Française d'Extrême-Orient (EFEO, French School of Asian Studies)

**Title of Presentation:** The Archaeological Mission at Kaesong: Presentation of the Project and its Evolution

**Abstract:** In February 2011, a four-year project proposal was accepted by the Consultative Commission for Archaeological Researches in Foreign Countries of the French Ministry; the Archaeological Mission at Kaesong was thus formed to comprise the French School of Asian Studies (École Française d'Extrême-Orient, ÉFEO) on the French side and the National Authority for the Protection of Cultural Heritage (NAPCH) on the North Korean side. In 2015, the project was renewed for four more years. In 2014 and 2015, the first results of the project were exhibited in Pyongyang (Korean Folklore Museum) and Kaesong (Koryŏ Museum). In November 2017, a joint exhibition catalogue was published. As the director of the French-DPRK Archaeological Mission at Kaesong, I shall present this project and its evolution from the archaeological work in the field (2011-2016) to the first publications.

### 2. Jun Gyong CHOE

**Institution:** National Authority for the Protection of Cultural Heritage, DPRK (NAPCH)

**Title of Presentation:** The Historical Sources on the Kaesong Fortress

**Abstract:** Even if they are not many, this presentation will summarize all the historic texts and the archives which mention the Fortress of Kaesŏng: its construction, the collapse of some sections and their repairs and its links with the life of the city. These texts are particularly important for finding out the names and the locations of the gates, which have largely disappeared. The following texts will be discussed: "Koryŏsa", "Koryŏgodojing", "Sŏnhwabongsa Koryŏdogyŏng", "Chunggyŏngju", "Sinjung tonggu kyoji sunnam", "Chŭngbo munhon pigo", "Sejong sillok chiriji".

### 3. Christophe POTTIER

**Institution:** Ecole Française d'Extrême-Orient (EFEO, French School of Asian Studies)

**Title of Presentation:** Inventory of the City Walls of Kaesong: Methodology and Results

**Abstract:** Mentioned in historical records and commonly known by some schematic maps, the documentation of the successive walls of the city of Kaesŏng remained quite shallow. In the framework of the MAK, work has been undertaken since 2010 to map and document more accurately the defense systems, the construction techniques and the repairs of the walls. The paper will present the long and tedious field surveys that have gathered important and original data on these features and on the way that they were integrated into their topographic environment and the strategic networks.

#### 4. Chol Jun RI

**Institution:** National Authority for the Protection of Cultural Heritage, DPRK (NAPCH)

**Title of Presentation:** Archaeological Excavation of the South Great Gate and its Findings

**Abstract:** The gate of Namdaemun, the south gate of the last city of Kaesong, is quite well known as it is still well preserved and its history is well documented in various historical records. A series of excavations has been conducted by the MAK from 2012 to 2016 at this gate in order to study its evolution and the different occupations in its vicinity. The presentation will focus on the excavations works undertaken and their results. In particular, it will extrapolate the trajectory how these excavations have revealed an unexpected and complex history of modification.

### Session 36: Philosophy, Religion and Mortuary Studies Organizer: Keith N. KNAPP

#### 1. Keith N. KNAPP

**Institution:** The Citadel

**Title of Presentation:** The Meaning(s) of Animals on Hunping: The Religious Imagination of the Second to Fourth Century Jiangnan

**Abstract:** Hunping, pottery vessels with five small jars on top of a larger one, have long captivated researchers' attention. They were manufactured for only two hundred years and have been found solely in graves in southeast China southeastern. Many scholars have argued that they were receptacles for the soul of the deceased and represent Daoist or Buddhist paradises. Less attention has been paid to the prominent presence of animals on these vessels. The types of animals portrayed on the jars include both ordinary and auspicious animals. Why did the makers of these vessels want animals to adorn these jars? What meanings were associated with these particular creatures? To answer these questions, I will examine Han dynasty funerary arts, medieval category books, and southern ethnic minorities' folk beliefs. I will argue that the jars represent neither Daoist nor Buddhist utopias; instead, they manifest China's popular religion, in which animals always played an important role.

#### 2. Eileen Hau-ling LAM

**Institution:** The Education University of Hong Kong

**Title of Presentation:** A Study of Lacquered Head Covers in Han Burials

**Abstract:** According to archaeological discoveries to date, most of the lacquered head covers have been found in tombs dated between the late Western Han and the early Eastern Han in Jiangsu Province. In today's archaeology reports, head covers are usually called mianzhao, literally face mask; their shape resembles an open-bottomed wooden box and was placed over the head of the deceased with an extending end on top to cover the upper chest. These head covers are generally associated with a kind of funerary object named wenming, granted by Emperor Xuan, recorded in the Hanshu and the long tradition of covering the head and face of a corpse. By studying excavated lacquered head covers, this paper seeks to further investigate the structure and the decoration, particularly the inlaid plaques and mirrors on the objects, and its connection with the afterlife belief in the Han burial context.

#### 3. Mitchell MA

**Institution:** University of Toronto Mississauga

**Title of Presentation:** Confucianism and Chinese Archaeology

**Abstract:** The relationship between archaeology and historiography in China has often been debated amongst scholars working both within China and abroad. This debate centers around the argument that archaeology, with its empirical approach on studying material remains, has not lived up to its potential as an independent discipline, but instead is merely used as a tool for historiography. This paper seeks to clarify the epistemology of this phenomenon by evaluating its genealogy in the socio-cultural contexts of Confucianism, an ideology considered a cornerstone of the traditional Chinese culture. The argument made is that archaeology and historiography are entangled with the same unresolved questions on historicity central to Confucianism: a reverence to the continuity of history and a moral authority of antiquity that transcends time.

#### 4.Hui PENG

**Institution:** Changzhou Museum

**Title of Presentation:** From Prehistoric Mounds Terrace to Mound Tombs in the Chinese Jiangnan Area

**Abstract:** Mound tombs are the mainstay archaeological features in the Jiangnan area from the Shang dynasty to the early Warring States period. Recent discoveries have demonstrated their history can be traced back to the Songze culture in 5000B.P. The mound tombs of Maham in Korea share many similar characteristics with those in the Jiangnan area in China.

#### 5.Bo LIU

**Institution:** John Carroll University

**Title of Presentation:** The Images of Women in Paintings of Northern Song Tombs

**Abstract:** This paper is a pioneering study of the images of women in Northern Song dynasty tombs with the perspectives and methodologies of archaeology, art history, and history. Focusing on materials excavated from Kaifeng, Luoyang, and Zhengzhou, the capital region of the Northern Song, I will address the transition of shinütu tradition, from emphasizing physical beauty, represented by those produced from the Tang dynasty, to inner virtues as seen in many Southern Song paintings. Due to the scarcity of shinütu from the Northern Song period, many questions remains unanswered, including when, how, and where such a major transition occurred. This research of the abundant but regrettably understudied images of women from excavated tombs will shed new light on the history of shinütu, and the cultural and social history of the Northern Song period.

#### 6.Lan DING

**Institution:** South-Central University for Nationalities

**Title of Presentation:** The Decorative Pattern of Chu Tomb-Protecting Beasts and Their Use in Guiding the Soul to Heaven

**Abstract:** Over 400 tomb-protecting beasts (Zhenmushou) have been unearthed in tombs of the state of Chu from the late Spring and Autumn Period to the late Warring States Period of China (670-256 BC). The history of the decorative pattern of the Chu tomb-protecting beasts, which is rich in color and peculiar design, may be divided into three stages: at the early stage, the decorative pattern is mainly cloud; at the medium stage, it is enriched with clouds, dragons, birds, circles and scales; at the later stage, it becomes simple, with only clouds and circles. Based on

the literature received from ancient China, the dragon, the bird and the deer are the assistants of the sorcerers. These animals are believed to have the ability to guide the soul of the tomb's owner ascending to the heaven, the abode of the tomb owner's ancestors, who are believed to have been gods. We can propose that the Chu tomb-protecting beasts present a picture of the soul of the tomb's owner ascending to the heaven with the guidance of the sorcerers' assistants, like the dragon, the bird and the deer.

## 7. Yasutaka FUJII

**Institution:** Nagoya City Museum

**Title of Presentation:** The Way of Demons' Eastward Movement

**Abstract:** At the end of the Eastern Han, Zhang Ling created the Wudoumi dao, which Zhang Lu inherited and transformed into a huge religious movement. During the Six Dynasties, Guidao, "The Way of Demons," an early form of Daoism, became widely practiced in southern China, especially Jiangnan. At a late third-century site, in Fukuoka, Japan, archaeologists have unearthed two gu (wine vessel)-shaped lead cups. No Yayoi or Kofun period sites have ever yielded this type of artifacts, which makes these truly remarkable specimens. Nevertheless, an early Six Dynasties tomb located in Jiangnan, which contains the remains of a Daoist priest, a similar lead ear-cup was found. This indicates that this type of lead ware vessel should be considered an artifact of the Guidao. Similar types of gu-shaped lead ware have been found in Lelang. These circumstances suggest that Guidao was spreading eastward from China into the Korean peninsula and Japan.

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## Poster Abstract

### 1. Jennifer AUSTEN, Jenna M. DITTMAR, Ruilin MAO, Hui WANG, Hui-Yuan YEH

**Institutions:** University of Reading; McDonald Institute of Archaeological Research, University of Cambridge; Gansu Provincial Institute for Cultural Relics and Archaeology; Gansu Provincial Institute for Cultural Relics and Archaeology; School of Humanities, Nanyang Technological University

**Title of Poster:** Evidence of Respiratory Infection from Rib Osteomyelitis in Late Bronze Age China

**Abstract:** Our study showcases a rare case of osteomyelitis in a skeleton from a late Bronze Age cemetery located at Mogou, Lintan County, Gansu Province, China, that was active between 1700-1200 BCE. An adult male (M995:R2) was found to have severe osteomyelitis in the right 6th rib, with observable large cloacae, sequestra, and bone destruction of a third of the cortical bone, causing internal exposure of the rib midshaft. The sternum and left 7th rib were also affected. Due to the rare expression of osteomyelitis in the ribs, occurring in less than 1% of modern osteomyelitic cases, the objective of this research is to describe the pathological changes present in this individual in order to better understand the symptoms that were experienced. Based on this assessment, this study postulates how this individuals' quality of life was affected by this chronic and debilitating condition.

### 2. Tomomi NAKAGAWA

**Institution:** Okayama University

**Title of Poster:** Examination of Human Skeletal Remains with Traumas in Yayoi Period Focusing on the Kuma-Nishioda Site

**Abstract:** Traumas on human skeletal remains from the Yayoi period, when people started agriculture in the prehistoric Japanese archipelago, are examined. These traumas have been understood by some researchers as an evidence of warfare, because of its higher frequency compared to the preceding Jomon hunter-gatherer society, and its concentration in particular sites or regions.

In my poster presentation, I focus on the cases with traumas excavated from the Kuma-Nishioda site, Fukuoka Prefecture, in the Yayoi period. Particularly high frequency of trauma is observed in the skeletal remains from the site. I present the result of basic examination of the cases with traumas, and delineate the kind of tools that inflicted the injuries and the situation in which they were used.

### 3. Akiko NAKAMURA

**Institution:** Nara National Research Institute for Cultural Properties

**Title of Poster:** Tracing the Construction Process of the Shangjing Palace Site, Bohai Kingdom

**Abstract:** This study aims to trace the construction process of the Shangjing site, one of the capital cities of the Bohai Kingdom (698-926AD) in northeast China, by analyzing the excavated roof tiles from this site. Some of them turned out to have been produced in the same molds, based on the common impressions of surface damage of molds resulting from repeated use. These materials and their scanned three-dimensional images enabled us not only to understand the development of surface damage of the molds, but also to arrange the roof tiles chronologically in much finer scale. Based on this chronology, the building sequence of the palace area is traced; it is revealed that the residential areas for the king were constructed before the administrative institutions.

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#### 4. Hisashi NAKAO, Tomomi NAKAGAWA, Kohei TAMURA, Yuji YAMAGUCHI, Naoko MATSUMOTO, Takehiko MATSUGI

**Institution:** Department of Anthropology and Philosophy, Nanzan University; Okayama University; Tohoku University; Okayama University; Okayama University; Japan National Museum of History

**Title of Poster:** Prehistoric Violence in Japan

**Abstract:** This study investigates when and how prehistoric violence occurred in the Japanese archipelago. First, we show the rates of injured individuals based on exhaustive surveys of human skeletal remains from the Jomon to the Kofun period, suggesting that we can find relatively strong evidence for collective violence in some specific areas (i.e., the Kinki and Kyushu areas) in the middle phase of the Yayoi period. Next, we focus on the northern Kyushu area in the same phase and investigate how collective violence occurred in the area by looking at demographic dynamics based on the data of Kamekan burials. Our statistical analysis shows a positive correlation between the demography and the rate of injured individuals, which suggests that the demography is a possible cause of the collective violence in the northern Kyushu area in the middle phase of the Yayoi period.

#### 5. Takafumi NIWA, Haruhisa MIFUNE, Takekazu NAGAE

**Institution:** Nara National Research Institute for Cultural Properties; University of Toyama; University of Toyama

**Title of Poster:** Experimental Archaeological Research on “Lost Lead Casting”

**Abstract:** Experimental archaeological research results on Chinese bronze vessels are presented in this poster. A technique for producing a mold using a lead model, “Lost lead casting”, has been presented in previous research as one method that was likely utilized for manufacturing Chinese bronze vessels. A number of experimental research studies have been performed applying this approach, but no detailed record has yet been published. In this study, a series of “Lost lead casting” experiments were carried out, and details were recorded which reveal that it is indeed possible to produce a mold using this method. We also performed scientific analyses to clarify the features that remain in molds as well as resultant experimental products.

#### 6. Wei SHENG

**Institution:** Hunan Provincial Institute of Archaeology

**Title of Poster:** A Preliminary Study of the Banzhu Culture - A Society in a Mountainous Area in South China from 1200BC to 900BC

**Abstract:** In 2013, Hunan Provincial Institute of Archaeology excavated the Banzhu site, which was near to the Li River in western Hunan province. We gained large numbers of remains from this excavation. And from 2017 to 2018, we conducted comprehensive research on these archaeological materials and brought up a new archaeological culture named “the Banzhu culture”, which could be one typical case for understanding a society in a mountainous area in south China from 1200BC to 900BC.

#### 7. Chunxue WANG, Dong WEI, Huiqiu SHAO

**Institution:** Research Center for Chinese Frontier Archaeology, Jilin University

**Title of Poster:** New Evidence of Human Activities During the Transition Period from the Upper Paleolithic to the Early Neolithic in the Lop Nor Area, Xinjiang, China

**Abstract:** An integrated investigation in the Lop Nor area was carried out by a joint team during 2014-2017. Twenty-

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nine lithic localities were discovered. The radiocarbon dates of these sites were from 12706-13242 cal. yr B.P. to 10230-10175 cal. yr B.P., paralleling the transitional period from the late Pleistocene to the early Holocene. The stone assemblage includes cores, flakes, chunks, microblades and tools. The principal flaking technique is indirect percussion, but direct hammer percussion technique is also used. Most lithic artifacts are middle and small in size. Scrapers are the main tool type. By comparison, the technique of the microblade cores is very similar to the other sites in north China, and the microblade technologies belong to the same tradition. The culture is considered to be an example that illustrates the East-West communication and diffusion along the road during that time.

### 8.Fan YANG, Guiyun JIN

**Institution:** School of History and Culture of Shandong University

**Title of Poster:** The Analysis of Plant Remains of Jinzhai Site in Anhui Province

**Abstract:** The site of Jinzhai is located in Jinzhai, Xiangou of Suzhou city, Anhui province, which belongs to the middle-late Dawenkou Culture and the early Longshan Culture in the middle Huaihe River. Systematic sampling from cultural units belonging to the late Dawenkou Culture for flotation and phytolith analysis were undertaken during the excavation in 2016. The results of analysis indicate that foxtail millet, broomcorn millet, and rice make up the main proportion of farming crops, with foxtail millet prevailing over broomcorn millet. Rice grains along with leaves and stems were taken back from the site. The harvesting time among those three crops are different, which may indicate the separation of spike and storage. In this case, de-husking was possibly processed before people ate those crops.

### 9.Bing YI

**Institution:** Department of Archaeology and Anthropology, University of Chinese Academy of Sciences

**Title of Poster:** Isotopic Investigation of Breastfeeding/Weaning Practices in Modern and Archaeological Populations in China

**Abstract:** Isotopic analysis of breastfeeding/weaning practices in modern and archaeological populations has become a hot topic in the fields of biomedical and bioarchaeological research for revealing the isotopic fractionation between mothers and infants and the social care for the children in modern and ancient populations. However, such studies are extremely scarce in China. Here the hair and fingernails from modern mother-infant pairs (n=7) were sampled to examine isotopic fractionation effects caused by the breastfeeding and weaning practices based on Chinese diets. In addition, one case study of isotopic analysis of serial sampling of human dentine (n=5) as well as bones (femora and ribs; with long and short turnover times) from the same individuals from the Late Neolithic (4500 BP) Gaoshan Ancient City site in the Chengdu Plain was undertaken, aiming to reconstruct the weaning practices and life histories of individuals.

### 10.Hailin YI

**Institution:** Shandong University

**Title of Poster:** Zooarchaeological Research at the Site of Shalongka in Qinghai Province

**Abstract:** The site of Shalongka in Hualong County, Qinghai province, China, is located on the second terrace of a tributary of the Yellow River, including abundant remains of a microlithic culture, as well as the Yangshao, Qijia

and Majiayao cultures. Over 700 animal bones were excavated by Qinghai Provincial Institute of Cultural Relics and Archaeology (QICA) in 2017, which were mainly from strata of the microlithic and Qijia cultures and comprised of snail, Phasianidae, pig, small deer, sika, cattle, goat, rabbit, Mustelidae, Felidae and Cricetidae. Animal bones were poorly preserved and weathered heavily, which to a certain extent reflects the more efficient utilization of animal bones and the more limited meat resources. Through preliminary research, it was a hunter-gatherer economy model in the microlithic culture period and a combination of crop planting, animal husbandry and hunting in the Qijia culture period. The site of Shalongka provided valuable materials for the zooarchaeological research of northwestern China from 8000B.P to 4000B.P.

### 11. Bettina ZORN

**Institution:** Weltmuseum Wien

**Title of Poster:** The Approval of Digital Media Applied to the Sample of Rubbings from the WU Liang Shrine Presented at the New Gallery "Perception on China" at Weltmuseum Wien, AUSTRIA

**Abstract:** One show case in the new gallery at Weltmuseum Wien that opened on October 2017 highlights the history of the rubbings of the WU Liang Shrine as museum objects (the collection of Weltmuseum Wien), presenting them in a new form of interactive digital presentation. It is a way of enlarging and deepening knowledge of one specific object. This special sample explains the different scenes and gives the visitor a chance to study details. The poster will point out from a visitor's point of view some difficulties in the application being implemented in the new digital use by referring to a visitor's value analysis.

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## ——《大众考古》发展迈向新台阶



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《大众考古》作为国内第一本面向社会大众兼具专业权威的科普及文化期刊，坚持以科学性、思想性、知识性、趣味性兼具的用稿原则，旨在帮助公众更好地了解和认知有关人类文化及文明，特别是中华文化及文明的创造与发展历程、人类认识自我文化及文明的科学方法和探索路径、人类对既有文化及文明成就研究的意义和科学精神的价值，以唤起全民对文化遗产及传统文明的理解、尊重、保护、传承、发展意识，达到激发人文热情、感受文化恩惠、敬畏历史创造、重温古典之美、领略科学魅力，不断丰富人们的精神文化生活，扩大中华文明的传播力和影响力的目的。

自2013年7月创刊以来，我们一直秉持最初的宗旨和原则，不断践行考古“科学化、大众化”的理念，张忠培先生曾为本刊题词：“大众考古的追求，是以考古启迪大众之智，应实行提高前提下的普及。‘提高’是源，‘普及’是流，源不竭，流长流”，正是在前辈学人的鞭策和勉励下，《大众考古》立足于学术研究，并以深入浅出的形式对重大发现和科研成果进行解读和共享，促进科学思想的传播和共享，使文化遗产能够融入公众的日常生活，并得到了学术界和公众的认可和支撑。杂志累计刊发600多篇文章，内容涉及国内外不同时期的考古发现和研究成果；作者涵盖各地科研院所、博物馆和高校，从院士、长江学者到高中生，只要有新观点、新方法、新材料、新视角即可，不以人废言。目前《大众考古》已被中国知网、维普、超星等期刊数据库收录；2016年5月荣获首届中国考古学大会公众考古“金铸奖”；2017年2月入选国家新闻出版广电总局认定的第二批学术期刊。

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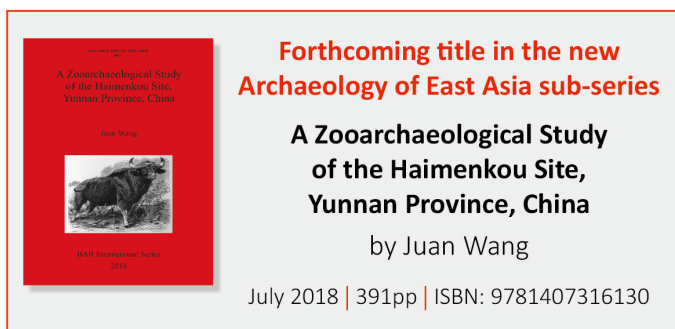
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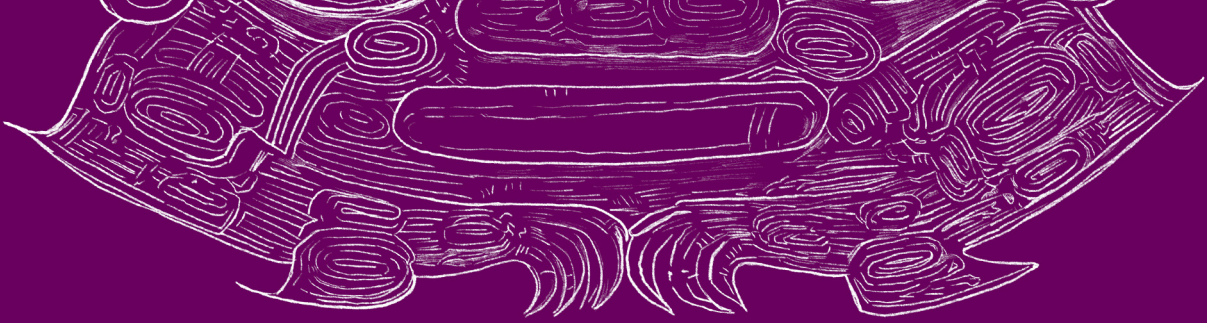
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