10th Worldwide Conference of the Society for East Asian Archaeology (SEAA10)

Aberdeen, Scotland, United Kingdom,

August 19-23, 2025

PROGRAMME AND ABSTRACTS

10th Worldwide Conference of the Society for East Asian Archaeology (SEAA10)

Aberdeen, Scotland, United Kingdom, August 19-23, 2025

Hosted and organized by

Aberdeen University

The Society for East Asian Archaeology (SEAA)

http://www.seaa-web.org

Supported by

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蔣經國國際學術交流基金會

Chiang Ching-kuo Foundation for International Scholarly Exchange

CONFUCIUS INSTITUTE OF THE UNIVERSITY OF ABERDEEN

阿伯丁大学孔子学院

TABLE OF CONTENTS

Table of Contents

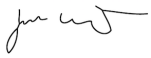
Welcome message from the meeting organizer

Dear Colleagues, welcome to the 10th Worldwide Conference of the Society for East Asian Archaeology!

Welcome also to Aberdeen! Following on from our meetings in Daegu, South Korea in 2022 and Nanjing, China in 2018 our meeting venue has returned to Europe for the first time in 25 years! Here in Scotland, we are being hosted by one of the UK's youngest archaeology departments, a department newer than the SEAA itself. In contrast, our hosting institution is one of Britain's ancient universities, Aberdeen was founded 1495, 530 years ago. We hope you will explore the campus, the city and its beaches and shoreline, museums and galleries, shops and restaurants. Our mid-conference trip will take you through lush Northeast Scotland, to see some of the exceptional archaeology of the region and visit an on-going major excavation on the Moray coast.

The SEAA was founded with the purpose of promoting international and interdisciplinary collaboration and exchange as well as dialogue on ongoing and new research by archaeologists focusing on East Asia. Research on the Archaeology of East Asia continues apace and we have a lot to present here. Over these five days we will see more than 300 papers, posters, and presentations. At this meeting we are also able to celebrate the work of Professor Gina Barnes, a driving force in the founding of the SEAA and a mentor to many scholars at the conference.

Thank you all for coming to the conference here in person and thanks also to The Development Trust of the University of Aberdeen, The Chiang Ching Kou Foundation, and the Confucius Institute of the University of Aberdeen for their support, our student and fieldtrip helpers, the university catering team, who will provide refreshments throughout. Also to the SEAA council for their extensive involvement in conference set up, and to the conference services office of the University of Aberdeen, especially Jessica Hippy and Nikki Pearce, for tireless logistical support throughout the process of building the conference.



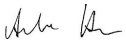
Joshua Wright
Local Organizing Chair, SEAA10

Welcome message from the SEAA President

On behalf of the Society for East Asian Archaeology (SEAA), it is my great pleasure to welcome you to the Society's 10th Worldwide Conference (SEAA10) held at the University of Aberdeen in beautiful Scotland. While Scotland may not be the most obvious place for a meeting on East Asian archaeology to be held, there is a surprising number of connections between the two regions. For one, there are a number of megalithic monuments in an extraordinary landscape that allow for great comparisons with megalithic structures in various parts of East, Central, and Southeast Asia as well as general comparative work on human-environment and human-landscape interactions. Furthermore, the University of Aberdeen is home to a wonderful archaeology department which uniquely is placed within the Geosciences, thus spanning humanities, social sciences, and physical sciences. It houses researchers conducting fieldwork in Northern Europe (including Scotland, of course), Scandinavia, the North Atlantic, Mongolia and the circumpolar region from Siberia to the Canadian arctic, making it a true centre of Eurasian archaeology. Last but not least, Dr. Joshua Wright, who is heading the local organizing team, is known to many in the SEAA community for his research on monumentality and movement, settlement patterns, mobile pastoralist economies, political landscapes, and the spatial structure of communities, primarily in China and Mongolia on which he has presented at many SEAA meetings over the years. While SEAA is so fortunate as to have robust membership numbers from scholars located in China and North America and to a lesser extent Japan, Korea, Europe, and Australasia, we have yet to attract more scholars working in the northern zone beyond China, making Aberdeen with its connections into this region an ideal place to attract scholars focusing on northern Eurasia and at the same interest in the region among SEAA members working elsewhere.

Indeed, the beauties of Aberdeen and the draw of the scholarship at the University of Aberdeen have drawn a considerable number of scholars to this conference, leading to a rich programme with presentations, posters, and discussions to extend over four days, with an excursion in the middle for an opportunity to see the beauty of Scotland and its rich archaeology and history and to relax and chat with other scholars at the conference. We are running up to four consecutive sessions to accommodate 122 papers and posters in 29 sessions, some of them double sessions running over a whole morning or afternoon. We are expecting over 300 participants from over 20 countries ranging from undergraduate students to senior figures in the field, all participating in person for the first time since the Covid19 pandemic. We are very much looking forward to seeing so many colleagues and friends – some old and hopefully also many new – in person to learn about recent research, catch up, talk, and explore together both the research presented and the beauties of Scotland.

Once again, in the name of the SEAA Executive Board and SEAA Council, welcome to SEAA10 and Aberdeen.



Dr Anke Hein

President, Society for East Asian Archaeology

The SEAA Executive Board and Council

SEAA Council:

Executive officers:

President: Anke HEIN, Associate Professor (University of Oxford, UK)

Vice-President: Siran LIU, Associate Professor (University of Science and Technology Beijing)

Secretary: Jina HEO, Assistant Professor (Chonnam National University, South Korea)

Treasurer: Ruiliang LIU, Curator (British Museum, London, United Kingdom)

Regional representatives:

Australasia: Kuei-chen LIN (Assistant Research Fellow, Institute of History and Philosophy, Academia Sinica, Taiwan)

China: Hongliang LÜ (Professor, Department of Archaeology, Sichuan University, PRC)

Europe: Ariane PERRIN (Centre for Korean Studies, Paris, France, and Ca' Foscari University of Venice, Italy)

Japan: Daisuke, NAKAMURA (Associate Professor, Saitama University, Faculty of Liberal Arts, Saitama, Japan)

Korea: In Uk, KANG (Professor, Kyung Hee University, Seoul, Korea)

North America: Andrew WOMACK (Asian Studies and Anthropology, Furman University, USA)

Appointed officers:

SEAA Web Editor: Michael STOROZUM, (Newcastle University, Newcastle upon Tyne, UK)

SEAA Public Relations Officer: Siyi WU (University of Oxford)

SEAA Social Media Coordinator: James COBURN (University of Illinois, Champaign-Urbana)

Archaeological Society Liaisons:

Society for American Archaeology (SAA) Liaison: Francis ALLARD, PhD (Professor, Indiana University of Pennsylvania)

Association for Asian Studies (AAS) Liaison: Garry GUAN (Managing Editor, Chinese Cultural Relics (The English Edition of Wenwu), Minneapolis, USA)

Indo-Pacific Prehistory Association (IPPA) Liaison: Yoshiyuki IIZUKA: Senior Research Scientist, Institute of Earth Sciences, Academic Sinica

Japanese Archaeological Association Liaison: SASAKI Ken'ichi, PhD (Professor, Meiji University, Tokyo, Japan)

Theoretical Archaeology Group (TAG) Liaison: N.N.

European Association of Archaeologists (EAA) Liaison:: N.N.

European Association for Asian Art and Archaeology (EAAA) Liaison: Annette KIESER, PhD (Lecturer, Institute for Chinese Studies, University of Muenster, Germany)

Main preparatory committee members for SEAA 10

Dr. Joshua WRIGHT (University of Aberdeen)

Dr Anke HEIN (University of Oxford, SEAA President)

Supported by

CPD and Event Services (University of Aberdeen)

Contact address

CPD and Event Services University of Aberdeen Room 26 University Office Regent's Walk Aberdeen AB24 3FX

Transportation and Logistical Information

Registration and Information Desk

The Registration and information table is in the foyer of Elphinstone Hall. Will be staffed daily 9:00-17:00. Here you can collect your conference badges, find the answers to many questions, and get directions.

Getting to the Conference Venues

All of the conference venues are on the Old Aberdeen Campus of the University of Aberdeen and within a few minutes walk of each other. Hillhead student accommodations are close by campus and accessible by c.15 min walking or bus. Other hotels are in the city centre, a 30-40 minute walk.

The Old Aberdeen Campus is accessible from the city center by several bus lines, 20,19,1-2. The city is well served with public busses (https://www.firstbus.co.uk/aberdeen) and taxis. The train station and ferry port are in the centre of the city.

Aberdeen Taxi Companies
Rainbow City Taxi https://www.rainbowcitytaxis.com 01224 878787
ComCab https://comcab.co.uk/aberdeen/ 01224 353535
Uber is present in Aberdeen, but their service is limited.

Transportation from Aberdeen Airport (ABZ)

The airport connected to centre by a bus (#727) (c.£5) or taxi (c.£30) ride of about 15 minutes.

Transportation from Edinburgh Airport (EDI)

Edinburgh airport is 150 km south of Aberdeen. The journey by train (http://www.scotrail.com) is c.3 hours via Edinburgh Haymarket station. Buses are also available (https://www.edinburghairport.com/transport-links/buses-and-coaches/aberdeen-bus-links).

Transportation to the Civic Reception (begins 7PM on the 19th at Aberdeen Town House)

Bus 20 at 18:08 from right in front of King's College, get down at Marischal College and walk to the Townhouse
Bus 19 at 18:01, 18:21, 18:40 from west of the library and get off at School Hill and walk to the townhouse.
Bus 1 at 18:18, 18:40, or bus 2 18:29 or 18:50 from Regents Walk on King Street. Get off at Castle Street, and you're right there.

Walk from Old Aberdeen via College Bounds, Spital, Gallowgate, and Marischal square. 30-40 minutes

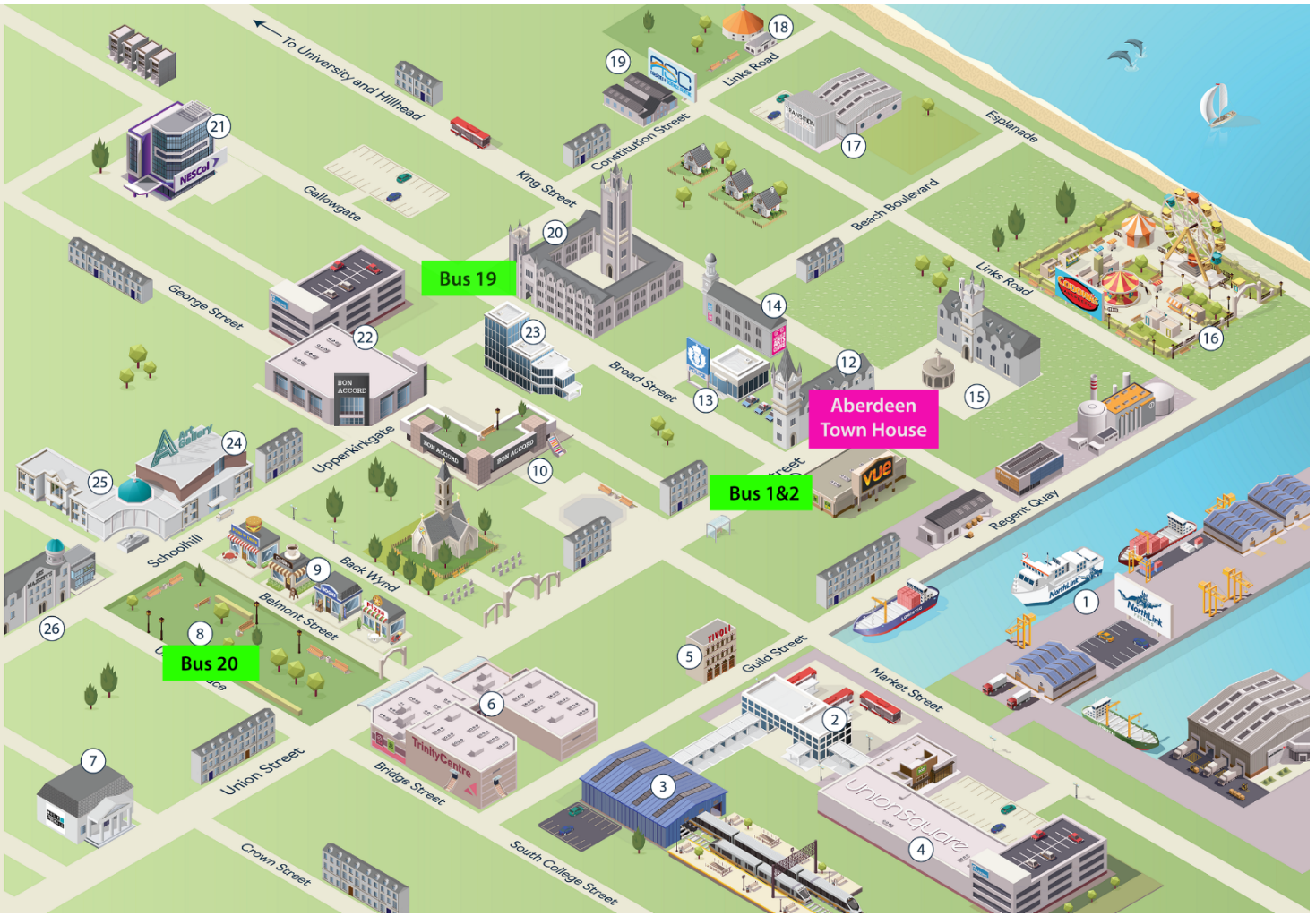
The conference information desk can call or book a taxi for you.

Transportation to Hillhead Accommodations

Bus 20, northbound, from the front of King's College or on High Street.
Walk via Don Street or via Chanonry and then across Seaton Park.

Aberdeen City Centre

1. Ferry Terminal
2. Bus Station
3. Train Station
4. Union Square
5. Tivoli Theatre
6. Trinity Centre
7. The Music Hall
8. Union Terrace Gardens
9. Belmont Street
10. Bon Accord St Nicholas
11. Vue Cinema
12. Court House
13. Police Station
14. The Lemon Tree
15. Castlegate
16. Codona's Funfair
17. Transition Xtreme
18. Beach Ballroom & Ice Rink
19. Aberdeen Science Centre
20. Marishal College
21. North East Scotland College
22. Bon Accord Main
23. Marishal Square
24. Aberdeen Art Gallery
25. Cowdray Hall
26. His Majesty's Theatre



Mid-Conference Trip

Everyone registered for the conference is also registered for the mid-conference day trip. Lunch will be provided during the day.

Multiple buses will carry us north from Aberdeen and stop at several sites along the way. Because we are a large group, we will travel along different routes and visit sites at different times. One leg of the journey will be long, a ride of 1.5 hours between Sueno's Stone and Aberdeen, other stages will be less.

All the buses will meet at lunchtime in the coastal village of Burghead, site of University of Aberdeen's ongoing excavations of a major early Medieval coastal fortress.

Boarding place: Library Circle on Old Aberdeen Campus
Boarding Time: 08:00
Busses depart promptly at 08:30, or earlier when fully loaded.
Return to Aberdeen: 18:00

Sites to be visited,

Loanhead of Daviot stone circle
A well-preserved example of the most common type of late Neolithic or Early Bronze Age stone circle in Aberdeenshire. Here you still see the megalithic 'recumbant' main stone group and the footprint of a ring cairn within the circle.

Inverurie, The Bass and Pictish stones.
Within the modern town churchyard can be found both the imposing medieval motte and bailly castle footings of the Bass of Inverurie (12th-13th century CE) and a fine selection of carved Pictish stones from the area.

Bughead Pictish fort
The Burghead promontory fort that was inhabited until the 9th century CE. Excavations have exposed massive fortifications of stone and wood as well as living spaces and craft production within the walls and the citadel.

Sueno's Stone
One of the best examples of a full carved monumental Pictish stele. The stone was created in the 9th century CE. Its many images show soldiers and rulers engaged in warfare as well as early Christian imagery.

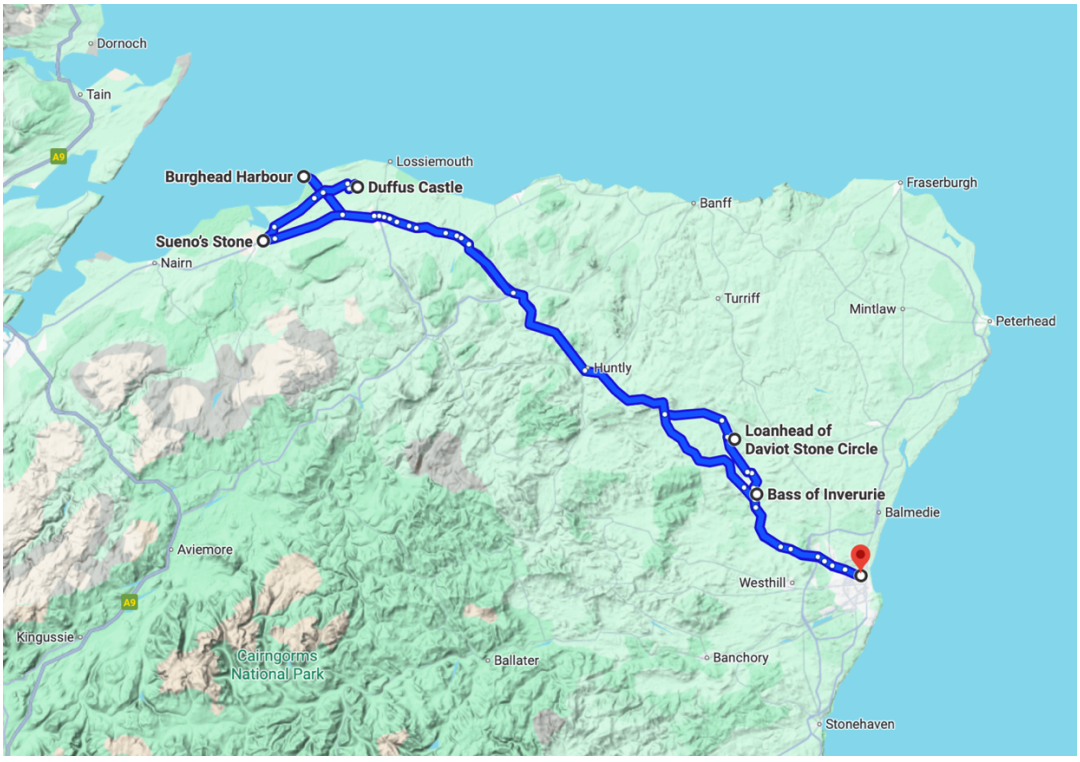
Duffus Castle
The standing ruin of a motte and bailey castle founded in the 12th century CE and used for 500 years after that.

Along the route we will pass through the rich lowlands of the Garioch (Gee-rie) and within sight of the distinctive once walled hillfort of Mither Tap west of the highway and just north of Aberdeen. Around Huntly, we will cross into the piedmont of the Cairngorm mountains and cross the River Spey, a famous whisky distilling stream. In Moray we pass through the town of Elgin, noted for early dinosaur discoveries and an impressive ruined cathedral.

Visit Aberdeenshire https://www.visitabdn.com and Visit Moray Spayside https://morayspeyside.com, and well as Historic Environment Scotland's https://www.trove.scot provides detailed information on these sites and countless others.

Mid-Conference Trip Schedule and Route

SCHEDULE CIRCULAR A	CIRCULAR B SCHEDULE	DURATION	SEGMENT
8:30-9:00	17:05-17:35	30 min	Aberdeen Library to Inverurie.
9:00-9:40	16:25-17:05	40 min	Visit the Pictish Stones and Medieval motte
9:40-9:55	16:10-16:25	15 min	Inverurie to Loanhead of Daviot Stone Circle
9:55-10:35	15:30-16:10	40 min	Explore LHD Stone circle
10:35-11:50	14:15-15:30	75 min	Loanhead of Daviot Stone Circle to Burghead
11:50-14:00	12:05-14:15	2 hrs.	Burghead lunch and site tour (all groups are here at the same time)
14:00-14:20	11:50-12:05	15 min	Duffus Castle to Burghhead
14:40-15:20	11:10-11:50	40 min	Duffus Castle
15:20-15:40	10:50-11:10	20 min	Duffus Castle to Sueno's Stone
15:40-16:15	10:15-10:50	35 min	Experience Sueno's Stone
16:15-18:00	8:30-10:15	105 min	Aberdeen Library to Sueno's Stone.



Refreshment

The conference will provide frequent refreshment breaks and lunches for all participants. These will all take place in Elphinstone Hall. If you want more, there are some great venues here in Old Aberdeen.

Kilau Coffeeshop can be found on High Street as it passes through campus — they know we're coming! You can also get sandwiches and lunches there. More coffee and food can be found at Grub and **Shelter** cafes on opposite ends of the High Street through campus. **J.G. Ross bakery** is open in the morning and mid-day and offers a range of Scottish hot and cold classic food and sweets to take away.

If it's a pub you want, you must visit the legendary **St Machar Bar**. It is also found on High Street. More conventional pub and food choices can be found on the east and south edges of campus along King Street and College Bounds as well as in the centre of the city.

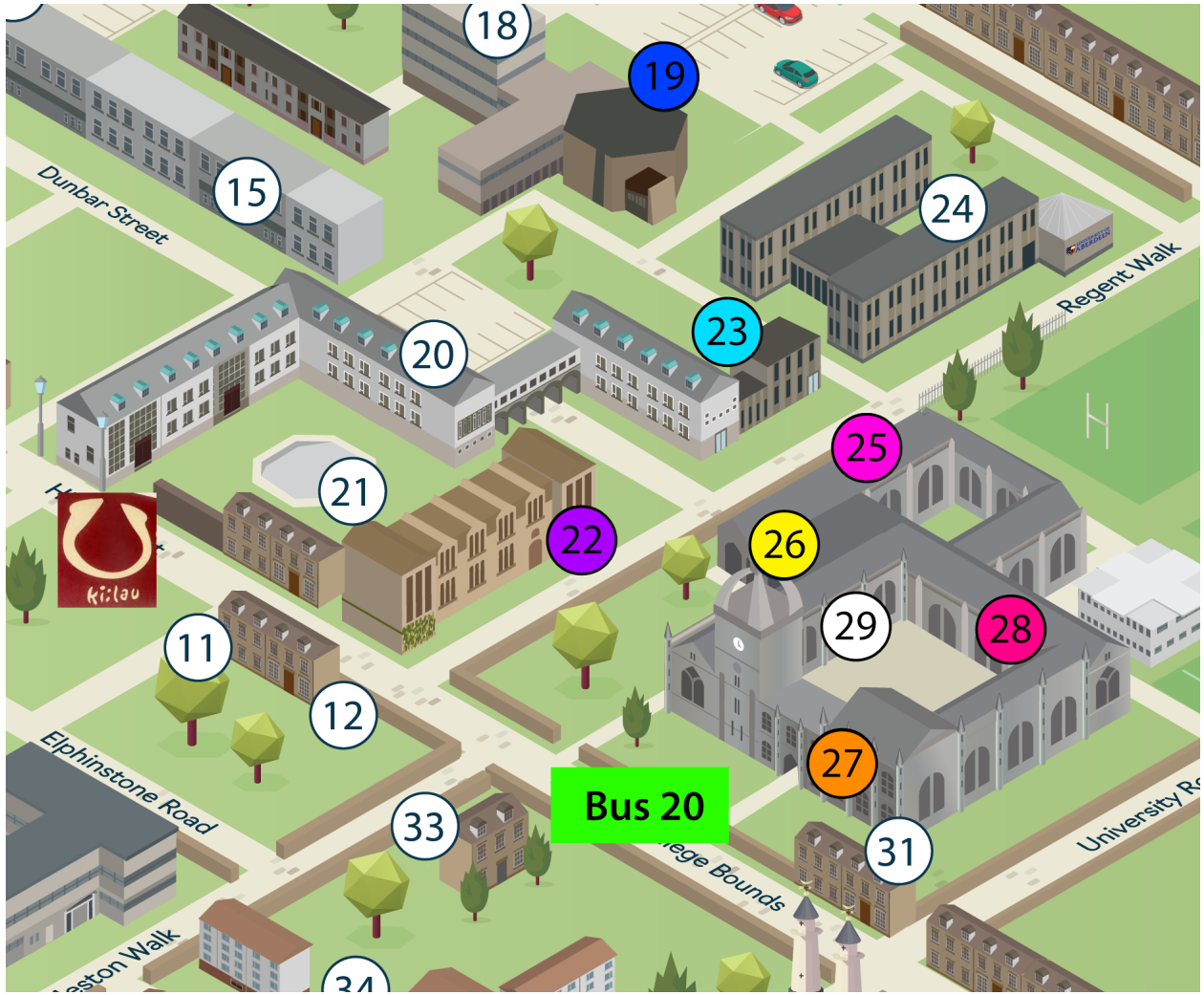
Scottish Delicacies

Scotland has some famous foods, haggis, black pudding, Irn-Bru, whisky, salmon, venison, beef, shortbread, tablet and fish (usually haddock) and chips which you can find in many places.

In the Northeast of Scotland there are also local foods. Pies, containing chicken, skirlie, beef, and macaroni and cheese, are staple items. Pies can often be found at bakeries such as JG Ross on campus. Cullen Skink, which is a creamy soup, made of smoked haddock, potatoes and onions. Stovies which are a potato and meat dish eaten with oatcakes and pickled beets. Skirlie, made of fried oatmeal and onions. Butteries, also known as a Rowie in Aberdeen, are robust baked items that can be found in bakeries, or freshly packaged in shops. Try them all!

Old Aberdeen Campus

- InfoHub
1. Zoology Building
2. Cruickshank Building
3. 23 St Machar Drive
4. Old Aberdeen Town House
5. Students' Union Building
6. St Mary's
7. Fraser Noble Building
8. Science Teaching Hub
9. The Sir Duncan Rice Library
10. Meston Building
11. Multi-Faith Chaplaincy
12. Confucius Institute
13. Security Office
14. Counselling Service
15. Edward Wright Building
16. Edward Wright Annexe
17. MacRobert Building
18. William Guild Building
19. Arts Lecture Theatre
20. Taylor Building
21. Old Brewery
22. New Kings (NK10)
23. Regents Building
24. University Office
25. Elphinstone Hall
26. Linklater Rooms
27. Kings College (KCG7/KCF7)
28. Kings College Centre (KCCC)
29. King's College Chapel
30. King's Pavilion
31. 50-52 College Bounds
32. Butchart Centre
33. Powis Gate
34. Crombie Halls/Annexe
35. Rocking Horse Nursery
36. King's Hall
37. Humanity Manse
38. International Centre
39. Aberdeen Sports Village
40. The Bounds



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		Tue 19th Aug				Wed 20th Aug				Thurs 21st Aug
		KCCC	KCF7	NK10	KCG7	KCCC	KCF7	NK10	KCG7	
Morning	9:30-10:30	**1.** New Approaches to Gifting, Tribute, and Trade across Asia (11th century BCE - 10th century CE).	**2.** Archaeological Perspectives on Resource Use and Cultural Practices in prehistoric and historical Taiwan	**3.** Frontier of Shang-Zhou archaeology: borderland, mobility and network	**4.** Pigs in East Asia: Domestication, Ritual, and Social Change	**5.** Chinese Porcelains in a Global Perspective: Trade and Cultural Exchange (9th–17th Century)	**6.** From Forest and Fields: Investigating Food, Fuel and Plant Use in Ancient China	**7.** Reporting back on The Wall: People and Ecology in Medieval Mongolia and China	**8.** Archaeological discoveries and research viewpoints of the Huai River Valley during the Shang (ca. 1400-1200BC)	Mid-conference full day trip to visit Aberdeenshire Archaeology.
	10:20-10:50	Coffee Break				Coffee Break				
Morning	11:00-13:00	New Approaches to Gifting, Tribute, and Trade across Asia (11th century BCE - 10th century CE).	Archaeological Perspectives on Resource Use and Cultural Practices in prehistoric and historical Taiwan	Frontier of Shang-Zhou archaeology: borderland, mobility and network	Pigs in East Asia: Domestication, Ritual, and Social Change	Chinese Porcelains in a Global Perspective: Trade and Cultural Exchange (9th–17th Century)	From Forest and Fields: Investigating Food, Fuel and Plant Use in Ancient China	Reporting back on The Wall: People and Ecology in Medieval Mongolia and China	Archaeological discoveries and research viewpoints of the Huai River Valley during the Shang (ca. 1400-1200BC)	
	12:00-14:00	Lunch				Lunch - Visit Nara to Norwich VR				
Afternoon	13:00-15:00	SEAA Association General Meeting (KCG7)				**9.** New Insights into East Asian Metallurgical Archaeology	**10.** Materiality of Human/Non-human Animal Relationships in East Asia	**11.** Exploring social complexity in early Chinese societies.	**12.** Critical Examination of Korean Archaeology: New Voices, Alternative Perspectives	
	15:00-15:30	Coffee Break				Coffee Break - Poster Introductions				
Afternoon	15:30-18:00	Keynote Lectures (Arts Lecture Theatre)				Materiality of Human/Non-human Animal Relationships in East Asia	New Insights into East Asian Metallurgical Archaeology	Exploring social complexity in early Chinese societies.	Critical Examination of Korean Archaeology: New Voices, Alternative Perspectives	
Evening	19:00-20:30	Opening Reception (Aberdeen Townhouse. Broad Street and Union Street, Aberdeen)								

		Friday 22nd Aug					Sat 23rd Aug				Sun 24th Aug
		KCCC	KCF7	NK10	KCG7	Regents	KCCC	KCF7	NK10	KCG7	
Morning	9:30-10:30	**13.** Social Complexity and Early State Development in the Middle and Lower Yellow River Valley	**14.** Ritual and functional: Weapons in ancient Chinese society	**16.** Public and Community Archaeology and Museums	**17.** The Relationality of Plants, Environments, and Humans	**18.** Exploring the West: New Scientific Approaches to the Archaeology of Xinjiang and Qinghai	**25.** Beyond the Surface: Pottery as a Window into Cultural, Social, and Economic Dimensions of the Past	**26.** Rethinking the Southern Silk Road in the Bronze Age: Interaction Networks between the Central Plains, Southwest China, and Southeast Asia	**27.** Ten years of Bioarchaeology at Mogou, a Bronze Age cemetery in Gansu, China	**28.** Current approaches in Korean Archaeology (2): New findings, New ideas	Post Conference Tours
	10:20-10:50	Coffee Break					Coffee Break				
Morning	11:00-13:00	15. Social Complexity and Early State Development in the Middle and Lower Yellow River Valley	15. Architecture and Social Spaces	Public and Community Archaeology and Museums	The Relationality of Plants, Environments, and Humans	Exploring the West: New Scientific Approaches to the Archaeology of Xinjiang and Qinghai	Beyond the Surface: Pottery as a Window into Cultural, Social, and Economic Dimensions of the Past	Rethinking the Southern Silk Road in the Bronze Age: Interaction Networks between the Central Plains, Southwest China, and Southeast Asia	Ten years of bioarchaeology at Mogou, a Bronze Age cemetery in Gansu, China	Current approaches in Korean Archaeology (2): New findings, New ideas	
	12:00-14:00	Lunch - Poster Session					Lunch-Visit Nara to Norwich VR				
Afternoon	13:00-15:00	**19.** Current approaches in Korean Archaeology (1): New findings, New ideas	**20.** New archaeological science research in Neolithic northern China: a multidisciplinary perspective	**21.** Eurasian Archaeology.	**22.** Ritual and Functions of Objects	**24.** Interconnections of Environment, Economy, and Culture in East Asia	**29.** Past, Present, and Future of East Asian Ceramics: Circulation, Exchange of Technologies, and Consumption in a Globalized World	**30.** Acceptance and Innovation: The Studies of Animal Motifs in China during Han and Jin Dynasties	**32.** When People Move: Migration, Exchange, and Cultural Change	**33.** Queen Mother of the West: Papers in Honour of Professor Gina Lee Barnes and her contribution to Japanese archaeology	
	15:00-15:30	Coffee Break					Coffee Break				
Afternoon	15:30-18:00	Current approaches in Korean Archaeology (1): New findings, New ideas	New archaeological science research in Neolithic northern China: a multidisciplinary perspective	Eurasian Archaeology.	23. Key Issues in the Study of the Early Chinese Economics (panel discussion)	Interconnections of Environment, Economy, and Culture in East Asia	Past, Present, and Future of East Asian Ceramics: Circulation, Exchange of Technologies, and Consumption in a Globalized World	**31.** Archaeological Discoveries and Relics in Sichuan, China	When People Move: Migration, Exchange, and Cultural Change	Queen Mother of the West: Papers in Honour of Professor Gina Lee Barnes and her contribution to Japanese archaeology	
Evening	19:00-20:30						Closing Reception and Awards Ceremony (Elphinstone Hall)				

Timetable of Conference Events

DAY 1, TUESDAY, AUGUST 19th, MORNING

REGISTRATION & INFORMATION (Elphinstone Hall Foyer)

08:30 – 09:30 REGISTRATION AND MORNING COFFEE. (Elphinstone Hall)

SESSION 1 (KCCC)

New Approaches to Gifting, Tribute, and Trade across Asia (11th century BCE - 10th century CE)

09:20 – 09:40. **Tribute, trade and connectivity between early China and the Eurasian steppes: different stories of luxury lacquers and goldworks.** Yan LIU.

09:40 – 10:00. **Eurasian Trade and Tribute in Parrots during the First Millennium CE.** Leslie WALLACE.

10:00 – 10:20. **Image as Text: Hezi you and the Ji Lineage on the Zhou Eastern Frontiers in the mid-tenth century BCE**. Yan SUN.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Tribute for the Son of Heaven: The Political Economic Reorganization of Zhou Kingship in the Eastern Royal Capital.** Christopher KIM.

11:10 – 11:30. **China's Early Maritime Connections with the South: Perspectives from archaeology, history, and environmental science**. Francis ALLARD.

11:30 – 11:50. **Origin Stories: a Bronze "Cymbal" from Hepu as a Case Study?.** Allison MILLER**.**

11:50 – 12:10. **New Interpretation of the Si Gong Pan 邿公盤.** Chinhau LEI.

12:10 – 12:30. **Bronze mirror exchange in Lingnan and broader Han Empire: a network approach.** Wengcheong LAM.

12:30 – 12:50. **Glass vessels from Guangxi of the Han times.** Hau-Ling Eileen LAM.

SESSION 2 (KCF7)

Archaeological Perspectives on Resource Use and Cultural Practices in prehistoric and historical Taiwan

09:20 – 09:40. **Farming and cultural dynamics in south-western Taiwan from the Neolithic to the Metal Age derived from archaeobotanical records**. Christian LEIPE, Jou-Chun LU, Ko-An CHI, Shu-Min LEE, Hung-Cheng YANG.

09:40 – 10:00. **Exploring culinary practices during the Neolithic-Iron Age transition in southwestern Taiwan: A case study at Sanbaopi**. Li-Ying WANG.

10:00 – 10:20. **Preliminary Petrographic Insights into Neolithic and Iron Age Pottery from the Heping Dao B Archaeological Site, Northern Taiwan.** Daniel David PINZÓN CASTELLANOS , Miguel Ángel SÁNCHEZ CARRO, María CRUZ BERROCAL.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Archaeological Cultures and Early Indigenous Peoples of Southwest Taiwan: A Case Study of the Hsu Hsiu Ts'ai Site.** Shu-Min LEE, Hung-Cheng YANG.

11:10 – 11:30. **Dietary Practices in Early Iron Age Southwest Taiwan: Evidence from a Cooking Feature at the San-Pao-Pi Site.** Ko-An CHI.

11:30 – 11:50. **The Use of Imported Porcelains in Southwestern Taiwan: From the Late Iron Age to the Historical Period.** Jou-Chun LU.

SESSION 3 (NK10)

Frontiers of Shang-Zhou Archaeology: borderland, mobility and network

09:20 – 09:40. **Radiocarbon database of prehistoric China: re-model the timeline of cultural interaction through the Arc in the second and first Millenium BCE**. Ray LIU.

09:40 – 10:00**. The rise of the Zhou people in the Bin Region and the base point of the Zhou people's destruction of the Shang Dynasty - Starting from the carbon-14 dating of several sites.** Liu WEI.

10:00 – 10:20. **Reconsidering the Borders of the Shang Dynasty through Sangxingdui Bronzes.** Raphael WONG.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Horsepower at the frontier: rethinking horse and chariot remains in the Wei River Valley around 1000 BCE.** Limin HUAN.

11:10 – 11:30. **The Earliest Bronze Horse Sculptures in China: Origins of Materials and Technologies.** Cheng LIU, Yuan HE, Yanli LI**.**

11:30 – 11:50. **Early Evidence of Post-Mortem Fetal Extrusion in Equids: A Case from the Western Zhou Period (1045–771 BC) Site of Yaoheyuan in Northwestern China.** Yue LI, Zexian HUANG, Qiang MA, Chengrui ZHANG, Feng LUO.

11:50 – 12:10. **Revisiting Zhouyuan in the Western Zhou dynasty—a culturally and demographically diverse Zhou dynastic center**. Alice CHENG.

12:10 – 12:30. **Ancestral Legacy and Social Reform in the Northern Borderlands of the Western Zhou Capital: New Insights from Xitou (西头)**. Haifeng DOU**.**

12:30 – 12:50. **Multidisciplinary analysis reveals the social inequality patterns in the Central Plains of the Eastern Zhou Dynasty in China.** Baoshuai ZHANG.

12:50 – 13:10. **Roderick CAMPBELL** (Center for the Study of the Ancient World, New York University). Discussant

SESSION 4 (KCG7)

Pigs in East Asia: Domestication, Ritual, and Social Change

09:20 – 09:40. **A Tale of Two Domestications: An Attempt to Compare Pig Domestication in the Middle East and China**. Max PRICE.

09:40 – 10:00. **Pigs, millets and rice: Early stages of domestication of pigs in northern and southern China**. Hitomi HONGO, Hiroki KIKUCHI.

10:00 – 10:20. **The process of pig domestication in the Central Plains, Neolithic China.** Yue YOU.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Dental calculus analysis reveals shifting human-pig relationships in North China.** Jiajing WANG, Yue YOU.

11:10 – 11:30. **Mortality Profile of pig and the evolution of management strategies during the pre-Qin period in the Central Plains region**. Yongqing ZHANG, Yunbing LUO, Yiting LIU.

11:30 – 11:50. **The spread of Neolithic intensive millet-pig system from Loess Plateau to Tibetan Plateau.** Jishuai YANG, Xiaoyan YANG.

11:50 – 12:10. **Managed Pigs and dogs as cultural analogue to millet farmers to settle down high-altitude Tibetan Plateau (>2500 masl) during the Late Neolithic.** Yaowu HU.

12:10 – 12:30. **The Relationship Between Domestication and Dietary Shifts in Pigs in Northeast China.** Xiaohong LU, Lin BAN, Chunxue WANG.

12:30 – 12:50. **Ritual Use of Pigs at the Hengshui Cemetery during the Western Zhou Period in China.** Lin BAN (Jilin niversity), Xiaohong LV, Chunxue WANG.

12:50 – 13:10. **Exploitation of *Sus scrofa* specimens in prehistoric Ryukyu Islands**. Kei AONO, Chiaki KATAGIRI, Motomasa NAMIKI, Hitomi HONGO.

13:10 – 13:30. **Ancient genomics reveal Chinese pig domestication history associated with human migration and management**. He YU.

12:00 – 14:00 LUNCH (Elphinstone Hall) 12:00-14:00

DAY 1, TUESDAY, AUGUST 19th, AFTERNOON

SEAA General Meeting (KCG7) 13:00-15:00

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 18:00 Keynote Talks (Arts Lecture Theatre). 15:30 -18:00

15:30 – 15:45 Welcome

15:45 – 16:30 **Professor Gordon NOBLE** (University of Aberdeen) **The CITADEL Project: Rescue- and Research-led Investigations at a Pictish Elite Centre**

16:30 – 17:15 **Professor emeritus Kazuo MIYAMOTO**, (University of Kyushu/Sichuan University) **The spread of Japonic and Koreanic in Prehistoric North-East Asia based on archaeological evidence**

17:15 – 18:00 **Professor Hilde DE WEERDT** (KU Leuven) **Modeling the Source Ecologies of Chinese Infrastructural History in the Longue-Durée**

Opening Reception 19:00-20:00

19:00-20:00 **Civic Reception, Aberdeen Townhouse, Union Street Aberdeen**. See 'transportation' above for full directions on how to get there.

DAY 2, WEDNESDAY, AUGUST 20th MORNING

REGISTRATION & INFORMATION (Elphinstone Hall Foyer)

9:00 REGISTRATION OPENS

SESSION 5 (KCCC)

Chinese Porcelains in a Global Perspective: Trade and Cultural Exchange (9th–17th Century)

09:20 – 09:40. **History of the Sunken: Discussion of the export of Chinese ceramics in the 9th-10th centuries from the shipwrecks of the Belitung, Intan and Cirebon.** Kunpeng XIANG.

09:40 – 10:00. **Interaction on Ceramic Production Techniques in East Asia: A Focus on the Ceramic Industry of Northern China in the 9th Century.** Siya CHEN.

10:00 – 10:20. **Trade and Consumption of Ceramics of Lingnan Dao during the 9th Century**. Baihui HU.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Study on the Porcelain Cargo and Related Issues of the Chau Tan Shipwreck.** Jianan FAN.

11:10 – 11:30. **Changes and patterns of Chinese ceramic export in the 11th and 12th centuries.** Yu DING.

11:30 – 11:50. **The Hidden Origins: A New Perspective on Dehua-Style Qingbai Porcelain from Huaguang Reef I Shipwreck**. Wenpeng XU.

11:50 – 12:10. **An Analysis of the Phase Changes in Black-Glazed Porcelain from the Min River Basin, Fujian, through Shipwreck Evidence.** Zhitao CHEN.

12:10 – 12:30. **Research on the Production and Trade Exchange of Celadon in Fujian Province during the Song and Yuan Dynasties.** Hui WU.

12:30 – 12:50. **Quality, Trade, and Global Ceramic Products: A Quality Analysis of Chinese Longquan Celadon Trade in the Persian Gulf from 1200 to 1500 AD**. Qinzhe AI**.**

SESSION 6 (KCF7)

From Forest and Fields: Investigating Food, Fuel and Plant Use in Ancient China

09:20 – 09:40. **Archaeobotany in China: Past, Present and Future.** Rita DAL MARTELLO, Liya TANG, Marvin DEMICOLI**,** Jade D'ALPOIM GUEDES.

09:40 – 10:00. **Investigating food including plant and animal usage from flotation samples at Zhaoguo Cave in southern China**. Sheahan BESTEL.

10:00 – 10:20. **Entering Agriculture: alternative strategies of early villagers in Northern and Southern China**. Ling QIN.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Research on Carbonized Plants at the Sitai Early Neolithic Sites in Northern China**. Shuzhi WANG, Haiyan WANG.

11:10 – 11:30. **The Rise and Fall of Grinding Traditions: Tracing Early Food Processing Practices in Prehistoric China**. Zhenhua DENG**.**

11:30 – 11:50. **Rice cultivation and rice cooking seen from pottery : A comparison of Kuahuqiao and Hemudu**. Shinji KUBOTA, Guoping SUN, Leping JIANG.

11:50 – 12:10. **Fuelling the Neolithic: Examining the ecological footprint of the Northern Chinese Neolithic through anthracology.** Marvin DEMICOLI**.**

12:10 – 12:30. **Increasing agricultural production, alternative strategies of intensification and diversification in northern and southern China.** Dorian FULLER.

12:30 – 12:50. **Cooking in 'the centre of the world': Micro-structural archaeobotanical analysis on charred food remains from Wangchenggang (Henan, China).** Yu-Chun KAN, Long MA.

12:50 – 13:10. **Tree Utilization of Early Bronze Age in Central China: Based on charcoal analysis in Xiwubi copper metallurgy site.** Yuchao JIANG, Jingjing CUI, Yuanting SU, Wei TIAN.

13:10 – 13:30. **The Use of Wood in the Terracotta Army Pits and Mausoleum of China's First Emperor**. Ying YANG, Yin XIA, Wenbin SHAO.

SESSION 7 (NK10)

Reporting back on The Wall: People and Ecology in Medieval Mongolia and China

09:20 – 09:40. **The Wall(s) – Comparative Perspectives on the Different Medieval Wall Systems in Mongolia and China.** Gideon SHELACH-LAVI, Chunag AMARTUVSHIN, Dan GOLAN.

09:40 – 10:00. **Technologies as aide for the Archaeological Research of The Wall Project**. Tal ROGOVSKI**,** Or FENIGSTEIN.

10:00 – 10:20. **Building the Frontier: Construction Materials and Building Practices Along the Walls of Medieval Mongolia.** Dor HEIMBERG**.**

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **"The Benefits Are Everlasting": Court Debates over Frontier Fortifications in the Jin and Ming Empires Compared**. Johannes LOTZE.

11:10 – 11:30. **Dispatches and projections: Liao frontiers and the historiography of pre-Chingisid Mongolia**. Lance PURSEY.

11:30 – 11:50. **A Peek into the Pots of the "Wall People": Dietary Traces of Frontier Garrisons in Medieval Mongolia.** Jingchao CHEN.

11:50 – 12:10. **Feeding The Wall: first insights into medieval plant production and consumption in Eastern Mongolia.** Lara GONZALEZ CARRETERO, Jingchao CHEN.

12:10 – 12:30. **Provisioning and pastoralism along the Mongolian medieval long wall system: analysis of Liao and Jin era faunal assemblages.** Tikvah STEINER, Gideon SHELACH-LAVI, Rivka RABINOVICH.

12:30 – 12:50. **Bioarchaeological Analysis of Two Individuals Buried in the Medieval Wall System of Mongolia.** Uuriintuya MUNKHTUR, Daniela WOLIN, Chunag AMARTUVSHIN.

12:50 – 13:10. **Mortuary Practices and Landscapes of the Mongol Empire's Eastern Flank.** William HONEYCHURCH, Chunag AMARTUVSHIN, Batdalai BYAMBATSEREN.

SESSION 8 (KCG7)

Archaeological discoveries and research viewpoints of the Huai River Valley during the Shang (ca. 1400-1200BC)

09:20 – 09:40. **Changes in Settlement Patterns During the Shang Dynasty: An Archaeological Perspective.** He YULING.

09:40 – 10:00. **The Hierarchical structure of settlements of the Huai River Valley during the Shang.** Xiaolin HE.

10:00 – 10:20. **Archaeological observations of buildings in the Huai River Valley during the Shang**. Nan CUI.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Animal husbandry and exploitation strategies of the Bronze Age mound site of Taijiasi: evidence from stable isotopes.** Quan ZHANG, Xiaolin HE.

11:10 – 11:30. **Utilization of Stone Materials in the Huai River Valley during the Middle Shang Dynasty: A Case Study of the Taijiasi, Guduiqiao, and Yingshuisi Sites.** Xin SU.

11:30 – 11:50. **The varied innovations of mould-making techniques of the Middle-Shang period in the Huaihe region.** Zhenfei SUN, Siran LIU, Xiaolin HE.

11:50 – 12:10. **A study on the layout and grading of the copper casting handicraft industry in the Huanbei City period**. Xuemei SONG.

12:10 – 12:30. **The crossing the boundaries-moving metals in the Middle Shang period.** Siran LIU.

12:30 – 12:50. **The prevalence of high radiogenic lead during the Sui Dynasty and its impact on frontier regions**. Ji ZHANG.

DAY 2, WEDNESDAY, AUGUST 20th AFTERNOON

12:00 - 14:00 LUNCH (Elphinstone Hall)

SESSION 9 (KCCC)

New Insights into East Asian Metallurgical Archaeology

14:00 – 14:10. **Opening remarks.** Takafumi NIWA

14:10 – 14:30. **Identifying firing and casting processes of the Late Shang and Western Zhou bronze vessel casting moulds**. Wen Yin (Elaine) CHENG.

14:30 – 14:50. **Scientific Analysis on Casting Materials from Yaoheyuan, Ningxia: The approach of understanding technological choices in a remote workshop.** Yiyan DONG.

14:50 – 15:10. **Introduction and Imitation: Scientific Analysis of the Seima - Turbino style Inverted Hook Copper Spear Excavated in China.** Yu LIU. Jiangtao GAO, Kunlong CHEN.

15:00 – 15:30 COFFEE BREAK and POSTER INTRODUCTIONS (Elphinstone Hall)

15:30 – 15:50. **Basic structure of casting molds in ancient China as seen from archaeological and scientific research**. Takafumi NIWA, Taisuke MURATA.

15:50 – 16:10. **The Iron Production System in the Kinki Region during the Kofun Period: Insights from Smithing-Related Artifacts**. Tamino SONO.

16:10 – 16:30. **Recycling Cupellation Waste in Glass Production: Evidence from Blihun Hanben and neighbouring sites in Taiwan.** Kuan-Wen WANG, Chu-Ya YANG, Thilo REHREN, Melissa CADET, Yoshiyuki IIZUKA, Laur DUSSUBIEUX, Cheng-Yi CHU.

16:30 – 16:50. **Recent Discussions on Early Iron Production Technology on the Korean Peninsula: A Comparison of Iron Production Technology in the Southern Coast of Korea Peninsula and Northern Kyushu, Japan**. Sangmin KIM.

16:50 – 17:10. **From Exotic to Borderland: A Perspective of Yelang Metallurgy onto Han Dynasty's Strategizing of Southwestern Barbarians.** Dongyi YANG, Xiaotong WU, Herong ZHANG, Xingxiang ZHANG.

17:10 – 17:30. **The iron technology and tradition in Xinjiang during the Han and Jin dynasties**. Mengyi ZHANG.

17:30 – 17:50. **Indigenous brass production in Medieval South China.** Hongyan XIAO, Xinzhen YUE, Jianfeng CUI.

17:50 – 18:10. Discussion

SESSION 10 (KCF7)

Materiality of Human/Non-human Animal Relationships in East Asia

14:00 – 14:20. **The Distribution of Indigenous and Exotic Bovines in Ancient China (8000–771 BC).** Ying Tung FUNG.

14:20 – 14:40. **Human-Bovini relationship on the Central Plains of China from the Middle Neolithic to the Bronze Age**. Xiaochen PEI.

14:40 – 15:00. **In the wilderness: animal exploitation in the periphery of Liangzhu society (3300-2300 BC).** Ningning DONG.

15:00 – 15:30 COFFEE BREAK and POSTER INTRODUCTIONS (Elphinstone Hall)

15:30 – 15:50. **Symbols of Birds and dragons in Shang Dynasty Anyang Yinxu.** Junko UCHIDA.

15:50 – 16:10. **Elephants in Bronze Age Central China – Megafauna / Human relationships as seen through material culture.** Rowan FLAD, Yiting LIU, Xiaoge HE.

16:10 – 16:30. **A comparative analysis of elephant teeth unearthed from the Yinxu and Jinsha sites, with implications for human-animal relationships and habitats.** Kuei-Chen LIN, Zhiqing ZHOU**.**

16:30 – 16:50. **Oracle Bone Divination at Shimao, Shanxi Province, China**. Katherine BRUNSON, Zhipeng LI, Songmei HU, Tong YANG**,** Zhouyong SUN.

16:50 – 17:10. **Oracle Bone Divination in Ancient Japan and Korea.** Jie SHEN.

17:10 – 17:30. **Crossing Qin (秦) and Rong (戎): Interaction in the Agro-Pastoral Contact Zone from the Perspective of Ancient Chinese Horse Culture.** Hiroki KIKUCHI.

17:30 – 17:50. **A study of marine shells from Tomb M1 of the Cao Wei State (AD 220–265) in Xizhu Village, Luoyang, China**. Juan WANG.

17:50 – 18:10. **A Study on the Utilization of Animal Resources in Handicraft Workshops during the Western Han Dynasty: Focusing on the Xi'an Ducheng Site.** Yongqing ZHANG.

SESSION 11 (NK10)

Exploring Social Complexity in Early Chinese Societies

14:00 – 14:20. **The Path to Inequality: A Case Study of the Construction of Chengtoushan Ancient City**. Zihao FAN.

14:20 – 14:40. **Noble Tombs and Social Complexity: Insights from the Longtoushan Site in Southeastern China**. Lin FU.

14:40 – 15:00. **Exploring Plant Exploitation and Food Practices in the Loess Plateau, China: A Comparative Microbotanical Analysis in Urban and Rural Settings during the Late Neolithic Period**. Yahui HE.

15:00 – 15:30 COFFEE BREAK and POSTER INTRODUCTIONS (Elphinstone Hall)

15:30 – 15:50. **Alcohol and Social Complexity: Residue Analysis of Fermented Beverages in Bronze Age China**. Jingbo LI.

15:50 – 16:10. **Beyond Pottery: Human-Clay Interactions in Prehistoric Northwest China at Macro and Micro Scales**. Siyu LIN, Karen MILEK.

16:10 – 16:30. **Feasting activities, the built environment, and social complexity in early China.** Li LIU**.**

16:30 – 16:50. **State Control over Labors and Pottery Production in Early Complex Societies: From the Perspective of Cross-Cultural Comparison**. Xueyan LYU.

16:50 – 17:10. **Animal Sacrifices and Sacrificial Pits: Ritual Practices and Cultural Interactions at Sanxingdui**. Xuekai QI, Rui WEN.

17:10 – 17:30. **Population aggregation, sharing strategy and community organization: the formation of early village in North China**. Dongdong TU.

17:30 – 17:50. **Comparative Insights into Social Complexity: Lingjiatan and Hongshan Societies in Neolithic China**. Wenjing WANG.

17:50 – 18:10. **Discovery of the first clamshell mosaic depicting a dragon in southern China: A multidisciplinary archaeological project at the Xuecheng site**. Feng XU, Dongdong TU**,** Chuenyan NG.

18:10 – 18:30. **Mega-site Without Hierarchy: An Exploration of the Settlement Pattern and Social Organization at the Jijiazhuang Site in the Late Neolithic Northern Loess Plateau**. Chao ZHAO, Dongfeng HUO, Shuyun LI, Yujia LIU, Yina SHI.

SESSION 12 (KCG7)

Critical Examination of Korean Archaeology: New Voices, Alternative Perspectives

14:00 – 14:20. **Human and Nonhuman Agency and the Dolmens of the Korean Bronze Age**. Ilhong KO

14:20 – 14:40. **Changes in the Production and Distribution of Household Storage Jars in Mahan and Baekje, Southwestern Korea**. Youngseok YU.

14:40 – 15:00. **The Socioeconomic Significance of Household Craft Production in Mahan and Baekje, Southwestern Korea**. Soobin CHO, Jina HEO**.**

15:00 – 15:30 COFFEE BREAK and POSTER INTRODUCTIONS (Elphinstone Hall)

15:30 – 15:50. **The Relationship between Central and Local Authorities in Ancient East Asian Society: Focusing on the Baekje Tombs**. Chaean LEE, Nakjung KIM, Yejin JO.

15:50 – 16:10. **Steatite Ornaments in Korea and Japan 250-700CE.** Lauren GLOVER.

16:10 – 16:30. **Critical Examination of the 'Later Baekje' Discourse in Korean Archaeology**. Jihu LEE, Daeyoun CHO, Siyun LEE.

16:30 – 16:50. **New Perspectives on the Use of Iron Sand in the Metallurgy of the Korean Medieval Period**. Namkyu LEE**.**

DAY 3, THURSDAY, AUGUST 21st

08:00 - 18:00 MID-CONFERENCE FIELDTRIP, ABERDEENSHIRE ARCHAEOLOGY

- Board coaches at the Library Turning Circle at Sir Duncan Rice Library.
- Coaches depart promptly at 08:30, or earlier when fully loaded
- Packed lunch is provided.
- See description of trip above.

DAY 4, FRIDAY, AUGUST 22nd
MORNING

REGISTRATION & INFORMATION (Elphinstone Hall Foyer)

9:00 REGISTRATION OPENS

SESSION 13 (KCCC)

Social Complexity and Early State Development in the Middle and Lower Yellow River Valley: New Discoveries and Interdisciplinary Approaches

09:20 – 09:40. **New Discoveries and Insights from the Paleolithic to Neolithic Transition at the Zhaojia Xuyiao Site, Shandong Province**. Qianqian SUN.

09:40 – 10:00. **Social Changes around 2500 BCE in A Medium-Sized Settlement: Evidence from the Zhongnangong Site**. Shen XU, Zongyue RAO, Zhenzhen ZHAO, Bo SUN.

10:00 – 10:20. **Different Models of Early State Development: A Case Study of the Liangchengzhen and Yao Wangcheng Sites in the Lower Yellow River Region during the Longshan Period**. Xiping HUI.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Recent archaeological discoveries and research on the Yangshao Cultural in Shanxi of China**. Yuan ZHENG.

11:10 – 11:30. **The Discovery and Understanding of the Bailiping Site in Qinshi, Shanxi: A Cultural Hub of East-West Interaction and North-South Exchange in the Early State Period**. Hui ZHAO, Xuexiang CHEN, Hua WANG, Shaodong ZHAI, Yanyan YANG.

11:30 – 11:50. **The Rise and Fall of Early Stone-Walled Enclosures in Northern China and the Impact of Ancient Climatic Marginality**. Guanghui ZHANG.

11:50 – 12:10. **Networks of metal circulation during the Early Bronze Age of China (ca. 1800-1000 BC).** Qingzhu WANG, Xuexiang CHEN, Jianfeng LANG, Anne UNDERHILL, Hui FANG.

12:10 – 12:30. **The Large Knife-shaped Coins of the Qi State and Their Role in Resource Control and Economic Circulation**. Bo XU.

12:30 – 12:50. **Wheat for Food Security in the Bronze Age: Archaeobotanical Evidence from the Xichen Site, Eastern China**. Xuexuang CHEN, Jiajing YU, Shen XU, Fei ZHANG, Qingzhu WANG.

SESSION 14 (KCF7)

Ritual and functional: Weapons in ancient Chinese society

09:20 – 19:40. **Bronze vs Iron: Weapons of the Qin Terracotta Warriors.** Xiuzhen LI.

09:40 – 10:00. **Rituals Enshrined in Artifacts: The Halberd as Discovered in Chinese Tombs.** Xiaojuan TIAN, Shuti ZHAO.

10:00 – 10:20. **The Concept of "Ceasing War and Pursuing Virtue" Reflected in Chinese Weaponry**. Yanli GUO.

10:20 – 10:50. **Research on Pre-Qin Armor in China.** Congcang ZHAO.

10:50 – 11:10 LATE COFFEE BREAK. (Elphinstone Hall)

SESSION 15 (KCF7)

Architecture and Social Spaces

11:10 – 11:30. **Flat tegulae or Curved tegulae: Two roof-tile systems in early China**. Meng LYU.

11:30 – 11:50. **Continental Connections: The biological connection between Korea and Japan during the late Yayoi and early Kofun periods.** James COBURN.

11:50 – 12:10. **Negotiated afterlives: Emulation, Display, and Localized Decision-Making in Eastern Zhou Tomb Construction in the Xiang-Yi Plain**. Glenda CHAO.

12:10 – 12:30. **Cave Use in Agricultural Society**. Kenri SATO.

12:30 – 12:50. **The Archaeological Discoveries and Research History of Front-Cave Structures in Chinese Buddhist Grotto Temples**. Yu SHI.

12:50 – 13:10. **Social and semiotic transitions in the carved spaces of religious sites across Asia during the first Millenium CE**. Francesca MONTEITH.

SESSION 16 (NK10)

Public and Community Archaeology and Museums in East Asia

09:20 – 09:40. **Preserving China's Patrimony: Early Sino-American Collaboration in Cultural Heritage Management**. Clayton BROWN.

09:40 – 10:00. **Social networks in Johan Gunnar Andersson's archaeological fieldwork in China (1921–1924)**. Yu ZHUANG.

10:00 – 10:20. **The Early History of Archaeology in Hong Kong: Fragments, Connections, Potentials**. Tullia FRASER, Agnes Py SUNG.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **"Is my pretty horse authentic?" Scientific investigation of Chinese Tang-style pottery figurines for authentication purposes**. Benedetta VITALE, Eliano, Angelo AGOSTINO, Marta BOSCOLO MARCHI, Anna Maria Carmen ANTONINI.

11:10 – 11:30. **Scraping Imaginary Moss off the Hieroglyph: Chinese Public Reception of Egyptian Archaeology, 1890s–1930s.** Tian TIAN**.**

11:30 – 11:50. **"Not important but not useless" – Public attitudes to archaeology in urban and rural Mongolia**. Lisa RANDISI.

11:50 – 12:10. **Bringing Archaeology to Young Learners Through AR and VR Technologies**. Erin NOXON,Corey NOXON.

SESSION 17 (KCG7)

The Relationality of Plants, Environments, and Humans

09:20 – 09:40. **The Origins of Agriculture on the Mongolian Steppe: New Data and New Perspectives**. Christina CAROLUS, Asa CAMERON, Bukhchuluun DASHZEVEG.

09:40 – 10:00. **Agricultural Extensification Corresponding to the Increase of Pastoral Activities in Prehistoric Chifeng, Northeast China.** Yufeng SUN, Xin JIA, Yonggang SUN,Rachel REID, Xinyi LIU.

10:00 – 10:20. **Modeling climatic suitability and millet cultivation dispersal on the Tibetan Plateau and surrounding region: Insights from ecological niche and pollen-based reconstruction.** Yawei YOU.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Environmental Changes over 1000 Years at the Karako-Kagi Site in Japan.** Tetsuya SHIROISHI**,** Saburo FUJITA, Masashi MORI.

11:10 – 11:30. **Agropastoralist Subsistence Strategies in a Mongol Empire (1206-1500 CE) Household.** Aspen GREAVES, Jargalan BURENTOGTOKH, William GARDNER.

11:30 – 11:50. **The Archaeology of Tea: Taste, Smell and Sensory Approaches to Plant Use in Ancient China**. Melody LI**.**

Session 18 (REGENTS LECTURE THEATRE)

Exploring the West: New Scientific Approaches to the Archaeology of Xinjiang and Qinghai

09:20 – 09:40. **Uncovering Prehistoric Catastrophes at Lajia (Qinghai).** Yuzhu ZHANG.

09:40 – 10:00. **From Lowlands to Highlands: Settlements Patterns in the Qaidam Basin during the Bronze Age**. Jian MA.

10:00 – 10:20. **Metallurgy in the Arc: resource management strategy in frontier of China during the First and Second Millennium BCE**. Ray LIU**.**

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **A Landscape Analysis of the Husta Site in Xinjiang's Bortala River Basin**. Yu SHI (Durham University), Peng WANG.

11:10 – 11:30. **Horns and hooves: Burial Practices and Human-Animal Relationships in the Late Prehistory of the Eastern Tianshan Mountains**. Marcella FESTA.

11:30 – 11:50. **The Study on Early Bronze Metallurgy within the Regions of East Tianshan Mountains in Xinjiang during the 2nd ~ 1st millennium BC**. Yuchen TAN**.**

11:50 – 12:10. **Pastoral Workshops? Rethinking Pastoral Bone Production in the Tianshan Region.** Yuxuan WANG.

12:10 – 12:30. **Early Populations and Water Resource Management in Xinjiang: Insights from Kuiyukexiehai'er**. Xiangpeng ZHANG.

12:30 – 12:50. **Ancient Threads: Textiles from the Yanghai Cemetery, in Turpan, Xinjiang**. Maeryamu YIBULAYINMU.

12:50 – 13:10. **Sacrificial vessel in Tibet in ancient China: Study on Kapala Bowl at Wenjiang Duo Site in Qushui County.** Liang CHEN, Cuo YONG, Lin XI, Bo ZHANG.

12:50 – 13:10. **Bo SUN** (Shandong Provincial Institute of Cultural Relics and Archaeology). Discussant

DAY 4, FRIDAY, AUGUST 22nd AFTERNOON

12:00 - 14:00 LUNCH and POSTER SESSION (Elphinstone Hall)

SESSION 19 (KCCC)

Current approaches in Korean Archaeology (Part 1): New findings, new ideas

14:00 – 14:20. **Characteristics of the landscape of the Unified Silla Royal Temple**. Yuna HAHM.

14:20 – 14:40. **Study on the changes in the central tomb group due to urbanization of the Silla capital in the 4th to 6th centuries**. Hyoungyoul PARK.

14:40 – 15:00. **Wave and Net Motifs in Silla Glassware: Cultural Fusion through Trans-Eurasian Trade**. Jaeyeon LEE, Sungjoo LEE.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **A Study on Chinese Ceramics from Baekje and Unified Silla**. Jiyoon LEE.

15:50 – 16:10. **Storage in Complex society of Korea : Systems and Meaning**. An HANSOL.

16:10 – 16:30. **Archaeological Indicators of Early States Core area: The Silla Case.** Kimyeong JANG

16:30 – 16:50. **A Restoration Study of Pungnap Fortress in Seoul Using Cultural Layer Data.** Sehwon DZON**.**

16:50 – 17:10. **Early urbanization of Gaya.** Taehee KIM, Surin PARK**.**

SESSION 20 (KCF7)

New Archaeological Science Research in Neolithic Northern China: A multidisciplinary perspective

14:00 – 14:20. **The functional weed ecology of paddy rice management: a case study from the Nishikubo wetland, Japan**. Rubi WU, John G. HODGSON, Yukiko KIKUCHI, Hiroo NASU, Michael CHARLES.

14:20 – 14:40. **Human Mobility and Animal Resource Utilization in the Prehistoric Lower Yangtze River Region**. Xiaoran WANG.

14:40 – 15:00. **Isotopic evidence for diverse animal feeding ecologies influenced by early Neolithic millet cultivation in northern China between 10 to 6 ka cal. BP**. Quan ZHANG, Bo SUN, Fengshi LUAN, Yanchang LIU, Li HE.

15:30 – 15:50. **Geoarchaeological Reconstruction of the Construction and Utilization of Ancient Houses from the Longshan Period at the Qingqiu Site**. Wenfei LIU, Xuexiang CHEN, Yijie ZHUANG, Guiyun JIN.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:50 – 16:10. **Beyond Sudden Collapse: Reconceptualizing the Longshan-Erlitou Transformation based on Settlement Data**. Zichan WANG.

16:10 – 16:30. **Specialized dog husbandry for mortuary practices: a 3D geometric morphometric approach to investigating the dog mandibles at the Shang site of Daxinzhuang, Northern China**. Yao GAO, Hua WANG, Hui FANG, Quan ZHANG, Yameng ZHANG.

16:30 – 16:50. **Building on written texts: anthropological and archaeometeric approaches to 'post-Qin' archaeology in China**. Chun YU.

SESSION 21 (NK10)

Eurasian Archaeology

14:00 – 14:20. **Horsepower – Interaction between China, Mongolia and the steppe 2000-0 BCE**. Ursula BROSSEDER.

14:20 – 14:40. **Killing in the Name of: the Evolution of Animal Sacrifice on the Steppes of Mongolia.** Asa CAMERON.

14:40 – 15:00. **Herders and herded in the eastern Mongolian Gobi - traces of pastoralist identities in the zooarchaeological record at Delgerkhaan Uul**. Sarah PLEUGER-DREIBRODT.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **Horse as resource: Isotopic insight into horse acquisition and management in Western Zhou societies**. Xinyi OUYANG, Xiaohong WU.

15:50 – 16:10. **Archaeological Geophysical and Geochemical Approaches to Investigating Late Bronze Age Khirigsuur Monuments in Mongolia.** Emily EKLUND, Jargalan BURENTOGTOKH, William GARDNER**.**

16:10 – 16:30. **Death and Murder in the Mongol Heartland**. Jan BEMMANN.

16:30 – 16:50. **Probable cases of gout in Medieval Mongolian population: Findings from the Khorig Mountain cemetery**. Byambadorj BATSUREN.

16:50 – 17:10. **Discovering Metalworkers in the Mortuary Context in Bronze Age China and Beyond.** Zichan WANG.

17:10 – 17:30. **Bronzeware spread from Eurasian grassland area to the Central Plains of China viewed from the bronze graves of Mongolian Plateau**. Kazuo MIYAMOTO.

SESSION 22 (KCG7)

Ritual and The Functions of Objects

14:00 – 14:20. **The Social Structure of Jade Headdresses in Liangzhu Culture**. Chigusa UCHIDA.

14:20 – 14:40. **Two ways of ritualisation: blade-shaped jade artefacts in early China and Mesoamerica**. Xin LIN**.**

14:40 – 15:00. **A Study on Owl-shaped Bronze You Vessels from Shang Dynasty.** Xiyang DUAN.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **Music in Miniature: the Significance of Small Bronze Bells (shō dōtaku) and Bronze Bell Pottery Skeuomorphs (dōtakugata doseihin) from Japan's Yayoi Period.** Kirie STROMBERG.

15:50 – 16:10. **The Rise and Fall of the Libation Rite Based on Archaeological and Paleographic Data**. Elizabeth CHILDS-JOHNSON**.**

16:10 – 16:30. **Back to the Tomb: Discussing Warring States Manuscripts as Archeological Artifacts**. Maddalena POLI.

SESSION 23 (KCG7)

Panel Discussion: Key Issues in the Study of the Early Chinese Economics

16:30-18:30

PANELLISTS:

Lothar VON FALKENHAUSEN (University of California, Los Angles).

Enno GIELE (Heidelberg University).

Chris KIM (New York University).

Maxim KOROLKOV (Heidelberg University).

Yung-Ti LI (University of Chicago).

Ruiliang LIU (British Museum).

Alice YAO (University of Chicago).

SESSION 24 (REGENTS LECTURE THEATRE)

Interconnections of Environment, Economy, and Culture in East Asia

14:00 – 14:20. **Modelling the evolution of Taihu Lake and spatial analysis of Neolithic occupation on the East China coast**. Shenglun DU.

14:20 – 14:40. **Preliminary Exploration on the Evolution and Circulation Pattern of the Highly Radiogenic Lead Resources in the Shang Dynasty.** Renjie MA, Jianfeng CUI.

14:40 – 15:00. **The Use of Cowries in the Western Zhou Dynasty**. Yuanyuan ZHANG.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **Lacquered Gauze in Han Dynasty in Haiqu, China, and its Material Culture**. Jianlan WANG.

15:50 – 16:10. **Spatial and Temporal distribution of the paleo-oyster reefs on the south coast of Laizhou Bay, Bohai Sea, China**. Zhihua YANG, Zhenwei QIU, Dan LIU, Wenhui LIU.

16:10 – 16:30. **Archaeozoological and geoarchaeological reconnaissance study in coastal Krabi (Ban Laem Nang / Railay Beach, Thailand)**. Konstantina SALIARI, Erich DRAGANITS, Martin ZUSCHIN, Charles HIGHAM, Pitsanupong KANJANAPAYONT.

16:30 – 16:50. **Ecological environment of Early-Mid Holocene millet cultivation in northern China: insights from the Xinglong site.** Zhenwei QIU,Lina ZHUANG, Huiyun RAO, Zhihua YANG, Wenhui LIU.

16:50 – 17:10. **The earth science approach to archaeology: a case study on the Xinglong site.** Guanyu WANG.

DAY 5, SATURDAY, AUGUST, 23rd MORNING

REGISTRATION & INFORMATION (Elphinstone Hall Foyer)

9:00 REGISTRATION OPENS

SESSION 25 (KCCC)

Beyond the Surface: Pottery as a Window into Cultural, Social, and Economic Dimensions of the Past

09:20 – 09:40. **Pottery Production and Usage of the Xiantouling Culture: Craftsmanship of Hunter-Gatherer-Fishers in Prehistoric Southern China (7000–5000 BP)**. Jing CHENG, Gary CLINE, Andrew KOH.

09:40 – 10:00. **Cultural Trajectories in Prehistoric South China: Rethinking the Origins of Xiantouling Through Ceramic Forming Techniques**. Tsz Mei LI.

10:00 – 10:20. **Unveiling the Culinary Landscape of Jomon Japan: Starch-Based Insights into Pottery Use**. Ayako SHIBUTANI.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Technological Diversity in the Late Neolithic Yuanshan Pottery of Taiwan.** Che-Hsien TSAI.

11:10 – 11:30. **Craft Production and Food Consumption: New Perspectives on Liangzhu Socio-economic Organization Through Pottery Analysis**. Mi WANG, Yiyi TANG**.**

11:30 – 11:50. **The First Regional Cross-Study of Bronze Age Pottery from Northern Bactria Sites (Central Asia)**. Élise LUNEAU, Verónica MARTÍNEZ FERRERAS.

11:50 – 12:10. **Rice cooking in the Kofun period of Southern Kyushu, Japan** . Yoshiki MIYATA, Tomokazu ONISHI, Kenji KANEGAE, Naoko NAKAMURA, Shinji KUBOTA.

12:10 – 12:30. **Unveiling the Shang-Zhou Transition via Ceramics: A Multi-analytical Approach**. Andrew WOMACK**,** Yitzchak JAFFE**,** Karine TACHÉ.

12:30 – 12:50. **Dynamic Subsistence Influence of Central Plains Regimes on Northern Frontier: Insights from the Fuluta Cemetery through Organic Residue Analysis**. Ruitong YAO, Chunbai HU, Xiaohong WU.

12:50 – 13:10. **Interregional and intraregional interaction of the Tianshanbeilu population in eastern Xinjiang from the perspective of pottery analysis**. Baodong ZENG, Tao MA, Yongqiang WANG**,** Jie ZHANG, Liangren ZHANG.

SESSION 26 (KCF7)

Rethinking the Southern Silk Road in the Bronze Age: Interaction Networks between the Central Plains, Southwest China, and South/Southeast Asia

09:20 – 09:40. **Resources and Rituals: Revolutions in Ancient Shu and the Shang, Zhou Dynasties**. Haichao LI.

09:40 – 10:00. **The Sanxingdui Site in the Context of Ancient China: Characteristics and Nature of External Interaction with the Middle Changjiang Region and the Central Plain**. Jay XU.

10:00 – 10:20. **Interpreting shared motifs and object types in Bronze Age China**. Haicheng WANG.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **Bovines and Economic Diversification during the Bronze Age in Southwest China**. Alice YAO

11:10 – 11:30. **Twenty years on from "looking north" in early Southeast Asian metallurgy: What is the current evidence for late 2nd / early 1st millennium BC interactions between Mainland Southeast Asia and southern China**. Thomas PRYCE.

11:30 – 11:50. **The Seashell Road in the Early Bronze Age**. Xiaoli QIN.

11:50 – 12:10. **Manufacturing Slit Rings in a Bronze Age Society: Insights from the Pearl River Delta.** Yating LIAO.

SESSION 27 (NK10)

Ten years of bioarchaeology at Mogou, a Bronze Age cemetery in Gansu, China

09:20 – 09:40. **The Mogou Bioarchaeology Project: Exploring health, demography & violence in Bronze Age China**. Jenna DITTMAR, Angela DAUTARTAS, Jennifer AUSTEN**,** Xiaoya ZHAN, Ruilin MAO.

09:40 – 10:00. **Mogou Paleodemography- Trends in Fertility** . Angela DAUTARTAS, Elizabeth BERGER, Jenna DITTMAR, Abigail GANCZ**,** Jennifer AUSTEN.

10:00 – 10:20. **Bones, Burials, and Bonds: Exploring Kinship Practices in the Mogou Cemetery**. Xiaoying REN, Xiaomin YANG, Ruilin MAO.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **An exploration of health at Mogou using cribrous lesions**. Jennifer AUSTEN, Jenna DITTMAR, Angela DAUTARTAS, Xiaoya ZHAN, Ashley SCHULTZ.

11:10 – 11:30. **Intestinal Parasites Infection and Its Syndemic Effects among the Mogou Ancient Population**. Xiaoya ZHAN, Hui Yuan YEH**,** Ruilin MAO, Shaoqing WEN.

11:30 – 11:50. **Proteomic Analysis of Dental Calculus Shed Light on Dietary Practices and Oral Microbiome of the Mogou Population.** Zhiyan ZHANG, Ruilin MAO, Yishi YANG, Guoke CHEN, Chao NING.

11:50 – 12:10. **Dietary Practices and Subsistence Strategies at the Mogou Cemetery: Insights from Stable Isotope Analysis** . Yihsien LIN, Shengpeng JIANG, Xiaohong WU, Yingliang YANG, Ruilin MAO.

12:10 – 12:30. **Rowan FLAD** (Harvard University). Discussant

SESSION 28 (KCG7)

Current approaches in Korean Archaeology (part 2): New findings, new ideas

09:20 – 09:40. **The funerary rituals for warrior in ancient Silla and Gaya**. Hyunjoo LEE.

09:40 – 10:00. **An Archaeobotanical Study of the Subsistence Economy of the Royal Capital of Silla.** Sonyeon AHN.

10:00 – 10:20. **Changes in Pottery Culture of the Bronze Age in the Island Regions of the Korean Peninsula**. Gyeongmin PARK.

10:20 – 10:50 COFFEE BREAK. (Elphinstone Hall)

10:50 – 11:10. **The Tradition of Pottery Production Techniques for Burial Goods during the Bronze Age in Korea**. Sujung LEE.

11:10 – 11:30. **No Room for the Dead: Late Bronze Age Mortuary Practice, Neuk-do, South Korea**. Sunghyun PARK**.** Ian KUIJT.

11:30 – 11:50. **Broad-spectrum foodways in the Neolithic Korean peninsula during the middle Holocene**. Seungki KWAK. Hyomin SONG.

11:50 – 12:10. **Production and Distribution of Gold Works in Silla**. Doyoung KIM, Gaeun JEON.

12:10 – 12:30. **A Preliminary Discussion of Gender and Marital System in the Buyeo Society**. Yangjin PAK.

DAY 5, SATURDAY, AUGUST 23rd
AFTERNOON

12:00 - 14:00 LUNCH (Elphinstone Hall)

SESSION 29 (KCCC)

Past, Present, and Future of East Asian Ceramics: Circulation, Exchange of Technologies, and Consumption in a Globalized World

14:00 – 14:20. **The Interaction of Aesthetics and Technology between East and West, from the Perspective of Low-fire Polychrome Glazed Pottery in China**. Yulai CHEN, Rui WEN.

14:20 – 14:40. **Ceramic Production of Longquan Celadon Imitations in the Fuhe River Basin, Jiangxi Province, China**. Xuelin HAO. Wenjiang ZHANG.

14:40 – 15:00. **Whitewares from the Southern Regions of the Song Dynasty in East Asia: Trade Routes Reflected through Excavation Patterns in Goryeo and Japan.** Gyeongin KIM.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50 **Regional Variations in the Distribution of Chinese Ceramics Imported to the Korean Peninsula during the Goryeo Dynasty(918-1391)**. Yunjeong KIM.

15:50 – 16:10. **Unveiling the Production of Turquoise-Glazed Floor Tiles: A 13th-Century Mongol Empire Workshop at Zharantai Gol in the Orkhon valley and its wider implications**. Susanne REICHERT.

16:10 – 16:30. **Circulation and Use of Korean Ceramics Unearthed from 14th to 16th Century Japanese Archaeological Sites**. Gowoon SEONG.

16:30 – 16:50. **From Import to Local Imitation: Yixing Teapots in Europe - Consumption, Trade, and Manufacturing**. Xuyang GAO.

16:50 – 17:10. **Reinventing Jingdezhen in 20th-Century Britain: Travellers, Collectors, Potters, and the Myth of 'Imperial Kilns'**. Siyi WU.

17:10 – 17:30. **Jie CHEN** (Shanghai Museum). Discussant

SESSION 30 (KCF7)

Acceptance and Innovation: The Studies of Animal Motifs in China during Han and Jin Dynasties

14:00 – 14:20. **Riding or Taking: Transportation Methods to Heaven in Qin and Han Dynasties as Revealed by Archaeology**. Huichih CHUANG.

14:20 – 14:40. **Invasive Auspicious Beasts: The Replacement of Animal Figurines with Stamps of Propitious Creatures on Soul or Spirit Jars (hunping 魂瓶)**. Keith KNAPP.

14:40 – 15:00. **A Brief Exploration of Hellenistic Mythical Animal Imagery in Newly Discovered Jin-Style Belt fittings**. Hu ZHU.

SESSION 31 (KCF7)

Archaeological Discoveries and Relics in Sichuan, China

15:30 – 15:50. **Ceramic specialization and social complexity connections: a case study from the Sanxingdui and Jinsha Sites, China**. Juanying XIAO.

15:50 – 16:10. **Results from the Chengdu Plain Archaeological Survey**. Joshua WRIGHT, Rowan FLAD, Kuei-Chen LIN, Gwen BENNETT, Zhiqing ZHOU.

16:10– 16:30. **Bronze Casting Techniques and Technological Innovations at Sanxingdui.** Jianbo GUO, Kunlong CHEN, Liang QU, Jianjun MEI, Zhenbin XIE.

16:30 – 16:50. **Archaeological Survey and Smelting Technology Studies at the Copper Smelting Site of Zhaiziyuan.** Lushan WEI.

16:50 – 17:10. **Shaping Taxation: The Mutual Influence of Morphological and Institutional Dynamics in 50 tael Silver Bullions of Ming Dynasty**. Tian LIU, Zhiyan LIU, Siran LIU.

16:10 – 16:30. **The Cultural Transition of East Zhou and Han Dynasty in Sichuan Area from the Huabeidi site**. Shuo YANG.

17:10– 17:30. **A preliminary study of the use of kilns in Meishan during the Tang and Song dynasties.** Yiting HUANG.

17:30 – 17:50.). **The Cultural Transition of East Zhou and Han Dynasty in Sichuan Area from the Huabeidi site** . Shuo YANG.

SESSION 32 (NK10)

When People Move: Migration, Exchange, and Cultural Change

14:00 – 14:20. **Revisiting the Qin and Han expansion into the northeast** Carola FRANZEN.

14:20 – 14:40. **Immigrants and Criminals in Ancient China (770 BCE-220 CE)**. Christine LEE.

14:40 – 15:00. **From the Perspective of a Unified Regime: The Interaction between the Capital and Regional Buddhist Statuary Styles in the Eastern Wei 东魏 and Northern Qi 北齐 Dynasties**. Siyi WANG.

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **Mobile Social Networks in the East Asian Desert Corridor. Or How the East was Won.** Lisa JANZ**.**

15:50 – 16:10. **The first settlers of Han culture in the southern periphery: Review of seventy year archaeological work since the discovery of Lei Cheng Uk Han Tomb**. Ray M.K. MA.

16:10 – 16:30. **Trade network and landmark: activities in the Late Bronze Age of Mongolia**. Daisuke NAKAMURA**,** Hiroki KIKUCHI, Takashi GAKUBARI**.**

16:30 – 16:50. **Human Movement Routes Modelling along the Eastern Rim of the Tibetan Plateau in the Third Millennium BC**. Yidan ZHANG.

16:50 – 17:10. **Residential Mobility and Intended Use Life: Utilizing 3D Scans of Reconstructions to Compare Material and Energy Costs of Jomon Pithouse Configurations**. Corey NOXON.

17:10 – 17:30. **Natron glass beads unearthed in Japan: The connection between the Mediterranean and East Asia**. Tomomi TAMURA**.**

17:30 – 17:50. **Migration and Tomb Construction as a Background of Cultural Change in Ancient East Asia**. Takafumi YAMAMOTO.

17:50 – 18:10. **Migration and Tomb Construction as a Background of Cultural Change in Ancient East Asia**. Tomoko NAGATOMO.

18:10 – 18:30. **The Archaeology of a Frontier: The Yangzi Delta in the Qin-Han Period**. Brian LANDER

Session 33 (KCG7)

Queen Mother of the West: Papers in Honour of Professor Gina Lee Barnes and her contribution to Japanese archaeology

14:00 – 14:20. **Advancing 'TephroArchaeology' in the Pacific Ring of Fire: Current Progress and Future Research Prospects .** Junzo UCHIYAMA, Peter JORDAN.

14:20 – 14:40. **Of Jades and Jōmon: an alternative perspective on 'adornment'**. Ilona BAUSCH

14:40 – 15:00. **Elite Legitimation and Representation in Kofun Period Japan: A Gendered Perspective on the Role of the Horse and Iron Objects.** Britta STEIN**.**

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

15:30 – 15:50. **Reflecting Beliefs: The Significance of Deity and Beast Mirrors in Kofun Period Japan**. Doreen THIERFELDER.

15:50 – 16:10. **Abstract Visions of Death: Human Figures in Kyūshū Decorated Tombs and Their Social Implications in Late Kofun Society**. Claudia ZANCAN.

16:10 – 16:30. **Goddesses of Fertility and Renewal: Literary, Archaeological, and Ethno-anthropological Perspectives**. Irene Minerva MUÑOZ FERNÁNDEZ.

16:30 – 16:50. **Himiko's immortal peaches? Sources and representations of power in Late Yayoi/Early Kofun Japan**. Mark HUDSON, Katarina ŠUKELJ**.**

16:50 – 17:10. **Himiko, Heiress of the West: A View from Linguistics**. Martine ROBBEETS.

17:10 – 17:30. **Kashihara and the archaeology of resistance in Nara.** Simon KANER, Ken'ichi OKADA

17:30 – 17:50. **Yamato's northern frontier: a reassessment of the Emishi-Ainu connection.** Martijn KNAPEN.

Closing Reception and Awards Ceremony (Elphinstone Hall & Linklater Rooms) 18:00-20:00

- Concluding Remarks
- Graduate Student Paper Awards
- SEAA Celebratory Award honouring Professor Gina Barnes
- Refreshments

POSTER ABSTRACTS

Posters will be displayed throughout the conference in the Linklater Rooms. If possible, poster presenters are asked to be present at their posters to introduce them during the afternoon coffee break on day 2, the 20th, and during lunch break on day 4, the 22nd

POSTERS

Rui BAI (Independent Scholar). **Beyond Enclosures: Spatial Analysis and Social Organization in Neolithic Chinese Communities**

Enclosed settlements, characterized by man-made boundaries like ditches, walls, and palisades that define distinct areas, provide important insights into the social organization of prehistoric societies. Over the past few decades, research on these settlements has evolved significantly. Scholars have shifted their focus from functional interpretations, which emphasized defense and economic activities, to more nuanced understandings of how these settlements shaped social organization. This poster synthesizes theoretical advancements in enclosure studies globally, exploring how anthropological theories and spatial analysis techniques have deepened our comprehension of these sites. Based on studies of European causewayed enclosures, Mississippian mound centers, and Near Eastern settlements, this review emphasizes important theoretical frameworks such as social boundary theory, spatial syntax analysis, and collective memory studies. The application of these theoretical perspectives and new analytical methods, particularly advanced spatial analysis techniques, offers fresh insights into Chinese Neolithic enclosed settlements. Using examples from the Yellow River Valley this research demonstrates how enclosed spaces structured daily activities, social interactions, and community organization. Modern spatial analysis methods, including GIS-based approaches and space syntax analysis, reveal previously unrecognized patterns in the organization and use of space within these settlements. This new perspective not only enhances our understanding of social complexity in Neolithic China but also positions Chinese enclosed settlements as comparative cases for global studies of early community organization. By integrating Chinese evidence into broader theoretical discussions about enclosed spaces and social organization, this research contributes to both regional archaeological interpretations and larger debates about the development of complex societies.

Lin BAN (Jilin University), Xiaohong LV (Jilin University), **Chunxue WANG** (Jilin University), **Yaoting XIE** (Shanxi University). **The Breeding and Function of Dogs in the Western Zhou Dynasty of China: A Case Study of Sacrificed Dogs in Hengshui Cemetery**

This study investigates the breeding and utilization of dogs in the Western Zhou Dynasty, focusing on the sacrificial dogs unearthed from the Hengshui Cemetery in Peng State. Through a comprehensive analysis of ancient DNA, stable isotopes (δ13C and δ15N), and pathological evidence, the research reveals the multifaceted roles of dogs in this society. The findings indicate a clear sex imbalance, with a predominance of male dogs used for labour-intensive tasks such as hunting and military-related activities, while female dogs were primarily valued for their reproductive capacity. Stable isotope analysis suggests that dogs were raised through small-scale, family-based systems, with diets closely tied to human agricultural practices, primarily millet supplemented with human food scraps. Pathological evidence, such as ankle osteoarthritis, further highlights the physically demanding roles of male dogs, often correlating with their involvement in elite households and ceremonial practices. Burial analysis underscores the dual functionality of dogs, serving as both practical assets in life and symbolic entities in death. This study sheds light on the intricate

relationship between humans and animals in the Western Zhou period, offering a deeper understanding of how dogs were bred and utilized to meet societal, economic, and spiritual needs.

Ran CHEN (University of Arizona). **Pottery Functions in Early Agricultural Society: Insights from Microbotanical Analysis at the Peiligang Site**

This study explores the multifunctional roles of pottery vessels from burials during the early development of agriculture at the Neolithic Peiligang site (8000 BP) in North China. A total of 80 vessels were analysed using microbotanical residue analysis to investigate plant-based activities and their contributions to early subsistence strategies. Starch grains from millet, rice, Job's tears, acorn, and tubers, along with phytoliths from various grasses, were identified, indicating the integration of agricultural products with wild resources. Starch damage patterns suggest that cylindrical jars were used for diverse purposes, including storage, alcohol production, and non-plant related activities. Gelatinized starches and alcohol starter related fungi were predominantly recovered from globular jars and a small amphora, pointing to their specialized use in beer brewing and serving in ritual contexts. These findings demonstrate the versatile functions of pottery in food production, storage, and ceremonial practices, offering new insights into early Neolithic lifeways and the agricultural transition.

Hyerin JEONG (Chonnam National University). **Changes in Tomb Burial Traditions in Southern Gyeonggi Province and the Process of Reorganization of Local Society in Baekje during the 3rd to 5th centuries: Using Social Network Analysis and Geometric Morphometrics(GMM)**

In Hanseong-period Baekje studies, southern Gyeonggi was understood to be part of Baekje's direct dominion in the late third century, which included the Seoul and Gyeonggi regions. However, the accumulation of excavations in the Seoul and Gyeonggi regions has raised the need to recognize the growth process of early Baekje differently. In addition, the diversity of tombs in the southern Gyeonggi region has been noted, with the continuation and discontinuation of traditional tombs and the transition to and emergence of Baekje-style tombs occurring simultaneously until the fifth century. In other words, it can be assumed that various burial traditions coexisted in the southern Gyeonggi region during the Hanseong period, depending on the lineage of the builders and the way Baekje's provinces were organized. Therefore, this study aims to identify the community composition and relationship changes in the southern Gyeonggi region during the 3rd-5th centuries to understand the changes in the relationship between local tomb-building groups according to Baekje's provincial strategy.

Jingwen LIAO (Faculty of Archaeology, Leiden University), **Yuzhang YANG** (University of Science and Technology Beijing), **Wanfa GU** (Zhengzhou Institute of Cultural Relics and Archaeology), **Yingxue GONG** (University of Science and Technology Beijing), **Binggui SUN** (Jingdezhen Ceramic University). **Changing drinking patterns in the Late Neolithic Central Plains of China: Residue analysis from the pottery cups**

This study investigates the function of the increasing pottery cups and their relationship with early complex societies in the Late Neolithic Central Plains of China. Residue analysis (starch grains, phytoliths, fungi, and organic acids) from 15 pottery cups, six jiandiping, six jars, and one bottle provides evidence of alcohol consumption using pottery cups at the Shuanghuaishu site, dating from the late Yangshao Culture to the early Longshan Culture (ca. 5,100 - 4,500 cal BP). The Shuanghuaishu site highlights a process of civilization during the Late Neolithic, one of whose features is the introduction of emerging individualized drinking practices through pottery cups. Brewing ingredients included foxtail millets, Job’s tears, Triticeae, rice, tubers, and legumes, with the possible addition of fruit or honey as fermenting agents. It is likely that alcohol was filtered before consumption. The identified cup types, such as ring-footed cups and gu-shaped cups, exhibit elements from the Dawenkou and Qujialing Cultures, indicating broader cultural exchanges during this period. The spatial distribution of these cups suggests their use in both public and private contexts, reflecting a complex social landscape. Their craftsmanship may have been influenced by the declining political power of the Shuanghuaishu settlement in its later phases. These findings provide new insights into the manifestations of alcohol in social and cultural dynamics of early complex societies in the Yellow River Basin.

Hisashi NAKAO (Nanzan University), **Akihiro KANEDA** (Nara National Research Institute for Cultural Properties), **Kohei TAMURA** (Tohoku University), **Kai TATEUCH**I (Tohoku University), **Tomomi NAKAGAWA** (Nagoya University). **Population dynamics and complexity of clay figurines in the Jomon period**

The present study aims to examine the relationship between the population dynamics and the complexity of culture, specifically clay figurines (dogu in Japanese) in the Jomon period of the Japanese archipelago (16,000 BC – 800 BC). Many relevant studies of cultural evolution have argued that as populations and the social networks within them increase, so does the complexity of their cultures (e.g., Henrich 2017; Powell et al. 2009). We test the hypothesis by focusing on the clay figurines from the Jomon period. Clay figurines were produced mainly in the eastern part of the Japanese archipelago during the Jomon period, and it has been commonly claimed that they were used for some ritual purposes. The main purpose of the study is to analyse the fractal dimensions (i.e., the complexity of the data) of three-dimensional data from more than three hundred clay figurines and investigate the relationship between the complexity and the population dynamics in the period.

Takafumi NIWA (Nara National Research Institute for Cultural Properties). **"Industrial Waste" Archaeology in East Asia**

During excavations, it is not uncommon to uncover archaeological relics that can be called “industrial waste” from earlier periods. Such “industrial waste” often serves as valuable evidence for understanding the manufacturing technology of the time. For instance, tuyeres, essential tools in processes such as blacksmithing and casting that require high-temperature blasting for metal metalworking and melting, exhibit variations in shape and size depending on the region, era, and specific processes in use. Another example is the kiln tool known as Sansa Tochin, associated with Nara Sansai pottery in Japan. Its presence across diverse pottery types and regions highlights its widespread use. Examining such artifacts allows us to piece together the interactions and production systems that connected craftspeople of the past. This presentation explores an example of the relationships between distant regions as revealed through the "industrial waste" of past eras.(This work was supported by JSPS KAKENHI Grant Number JP16H05946, JP17H01646, JP20H01365, 23KK0011)

Clarice SPEIGHT MCKEE (University of Oxford). **Selling the Shang: Early Chinese Artifacts in the International Auction Market**

As interest in China’s early past grows, artifacts from the Shang Dynasty have become increasingly coveted commodities at international auction markets. The sale of these artifacts at auction represents a critical intersection of cultural heritage, economics, and archaeological ethics. Using data collected from the two largest international auction houses (Sotheby's and Christie's), this study investigates the factors influencing sale prices of artifacts associated with the Shang Dynasty, as well as the implications of these factors for archaeological research. One of the main factors influencing sale prices is the characteristics of the artifact for sale, such as its age, provenance, type, material and appearance, including any designs, writing, or motifs. These findings reveal broader trends about public interest in the distant past, including how archaeological research shapes what artifacts are most sought-after. One key finding is the significant correlation between the presence of associated publications with an artifact and higher sale prices, underscoring the impact of archaeologists on the auction value of Shang Dynasty artifacts. This research holds serious implications for archaeology in the region. Auctions provide critical context for researchers to understand how the past is perceived outside of a museum or academic setting. Furthermore, understanding the factors that drive this demand for Shang Dynasty artifacts at legitimate auction houses can help address issues relating to looting and illegal antiquity trade. Most importantly, archaeologists can gain a greater awareness of how their work impacts the modern legacy of these ancient artifacts put up for auction today.

William TAYLOR (University of Colorado, Boulder), **Jamsranjav BAYARSAIKHAN** (Institute of Archaeology, Mongolian Academy of Sciences), **Tumurbaatar TUVSHINJARGAL** (Institute of Archaeology, Mongolian Academy of Sciences), **Isaac HART** (University of Utah), **Jack BROUGHTON** (University of Utah). **Understanding animal domestication and exchange in eastern Inner Asia: new insights from Khoid Senkher Cave**

While animal domestication played a central role in early human adaptation to the Mongolian plateau, few archaeological assemblages document the role of animals in early pastoral lifeways in Mongolia, particularly during the 2nd millennium BCE. Here, we present interdisciplinary archaeological and biomolecular investigation of cultural and biological materials from new investigations at Khoid Senkher Cave in western Mongolia, where unique dry preservation conditions have preserved organic remains from two Bronze Age occupation levels. Results demonstrate a key role for both domestic and wild animals, including hare and deer, in the lifeways of the region's early pastoralists. Extraordinarily well-preserved artifacts from the site, including a fire-starter kit, handheld whip, astragalus charm, textile and fibre fragments, fletched arrows, and animal dung (including horse and dog) reveal the complex daily life and material toolkit of Mongolia's earliest herding societies. Other finds from the cave show importance of horses and other animals in ceremony and belief from the earliest human occupants of the region through the Mongol Empire and beyond.

Linying WANG (Lanzhou university). **Ancient DNA reveals human selection strategies for bone-tool materials in Neolithic high-elevation regions—A case study on the bone tools excavated from the Mabu Co site on the Tibetan Plateau**

Bone tools are an important component of human material culture and contain rich information about ancient cultures and technologies. Studies on the sources of the bone-tool materials are uncommon due to the methodological limitations. The Mabu Co site (4420–4465 m a.s.l.) is the world's highest site with sedentary lifestyle supported by fishing and hunting in the high-elevation interior of the Tibetan Plateau more than 4,000 years ago. Commonly excavated bone tools at this site include bone awls, needles, and bipoints. This study selected several fragmented bone tools from the site and used ancient DNA technology to identify the species to learn the humans' selection strategies for materials. The results show that the long bones of argali (*Ovis ammon*) and blue sheep (P*seudois nayaur*) were used to make bone awls. The limb bones of animals with thin-walled bones such as Himalayan musk deer (*Moschus leucogaster*) were used to make bone needles. For bone bipoints, which were likely used for fishing and bird hunting and were in high daily demand at this lakeside village, species of water birds, including the abundant cormorant (*Phalacrocorax carbo*) and the occasional crane (Grus sp.), were used. Our study reveals that the ancient people living on the Tibetan Plateau 4,000 years ago selected bone-tool material from local animal resources.

Ruiqing WANG (Faculty of Humanities and Museums in Nanjing University of The Arts), **Wenjing GUO** (Faculty of Humanities and Museums in Nanjing University of The Arts), **Pingping LIU** (Faculty of Humanities and Museums in Nanjing University of The Arts). **The Sanxingdui Totem and Ancient Shu Civilization: The Intersection of Religion, Society, and Culture**

The Sanxingdui Ruins, as one of the key cradles of ancient Chinese civilization, hold profound historical and cultural significance through the totems discovered among its artifacts. This study analyses the imagery of these totems, exploring the religious beliefs, social structure, and cultural interactions of the ancient Shu civilization. The findings reveal that Sanxingdui totems symbolize the ancient Shu people's reverence for natural forces and deities, with solar worship as the central theme. Birds are depicted as messengers connecting humans with the sun, the sacred tree serves as a ladder to the divine, eyes are represented as the sun, and crowns symbolize vessels for divine descent. These symbols reflect a deep understanding of cosmic order and the origins of life. Additionally, the totems exhibit strong connections to cultural elements from Egypt, Southeast Asia, and the Eurasian continent. This research elucidates the developmental trajectory of the ancient Shu civilization, analyses its role within the broader framework of Chinese ancient civilization, and provides detailed insights into cultural exchanges from a global perspective.

Ting YOU (Lanzhou University), **Linying WANG** (Lanzhou University), **Xiaoyan YANG** (Lanzhou University). **Rediscovering Crops in the Eastern Himalayas: Tracing Cultivation, Domestication, and Prehistoric Use of Chenopodium**

Chenopodium plants, commonly known as goosefoot. As Quinoa garnered considerable attention recently, research on chenopods in Asia has not kept pace. In regions such as southwestern China, including Tibet and Sichuan, there exists a traditional practice of cultivating Chenopodium plants for grains. Within the prehistoric archaeological sites of this region, Chenopodium is one of the most commonly plant residues, with the quantity of Chenopodium seeds in some sites even surpassing that of crop remains. Many researchers have noticed this phenomenon and proposed that it could be the result of deliberate human cultivation and utilization of Chenopodium. This study launched a field investigation on the cultivation and use of chenopods in the southern foothills of the eastern Himalayas, an area that may serve as a centre for chenopods domestication. As highly adaptable crops, chenopods are typically cultivated using intercropping practices to support sustainable agricultural production in this region, we documented the cultivation, consumption and processing of chenopods to deepening our understanding of the link between chenopod remains excavated from archaeological sites and the livelihoods of ancient peoples, including their role in prehistoric diets and subsistence strategies. By employing DNA analysis, we identified the species involved. Our findings reveal for the first time that the chenopods cultivated in this region originated from Chenopodium album, but over time, due to prolonged human selection and environmental influences, distinct morphological traits and genetic variations have emerged, leading to localized varieties. Based on phylogenetic, morphological and spatial distribution analysis, we propose the existence of multiple independent domestication centres of chenopods in Asia.

Chong YU (Sun Yat-sen University). **The exploitation of poultry in the Qing Dynasty: a case study from the Nanyue King Place**

Zooarchaeological studies in China tend to concentrate highly on the evidence of the origins and spread of mammal domestication and husbandry, paying less attention to the use of non-mammal species. Studies on bird remains are particularly rare. In this study, we focus on the poultry remains discovered from the Nanyue King Place in Guangzhou, China, which dominate the faunal assemblage, aims to elucidate the details of the exploitation of poultry in the Qing Dynasty.The animal remains were all collected from the pit H1350 which dated to the Qing Dynasty. Chicken, duck and goose were found in this pit and chicken was the main species. We determine the body part, age, sex, butchery marks, pathology of all three bird species. Skeletal elements frequency was calculated, and biometry and statistical analysis was applied. To further discuss the details of breeding, breed improvement, and castration of chickens, we built a reference collection of modern chicken bones with controlled raising techniques.

Ziliang ZHANG (University of York). **Predicting Site Potential of the Dingcun Palaeolithic Site Group in Shanxi, China Using Spatial Statistical Methods**

Dingcun Site Group (DSG) is the first Palaeolithic site group independently excavated by Chinese archaeologists. Over decades of fieldwork, human teeth, a parietal bone fragment, numerous stone artefacts, and animal fossils have been recovered. Some scholars suggest that the entire southern Linfen Basin (~5000 km²) served as the subsistence region of the DSG population, yet documented localities are limited to an area of approximately 50 km² in the north-central basin. There is a gap between the limited budget and the conduct of basin-level surveys. Traditional field surveys are costly in terms of time, manpower and funding. Therefore, this study aims to predict potential DSG localities within the Linfen Basin using spatial statistical modelling, providing a reference for future large-scale archaeological surveys. Landscape data used includes a digital elevation model, geological, vegetation and hydrological data. Locality information is summarised from published literature. The probability of the locality presence at each pixel is calculated using multivariate logistic regression and raster map algebra and to construct a predictive distribution map for the basin. The analyses were carried out using GRASS GIS and R. The resulting DSG distribution map reveals a high locality concentration, indicating significant potential for discovering new localities in the basin. This study and future field surveys are expected to yield new insights into the spatial dynamics and interactions between populations and landscapes during the Middle to Late Pleistocene in northern China and East Asia

PAPER AND SESSION ABSTRACTS

DAY 1, TUESDAY, AUGUST 19th, MORNING

SESSION 1.

New Approaches to Gifting, Tribute, and Trade across Asia (11th century BCE - 10th century CE)

Organizer:

Leslie WALLACE (Coastal Carolina University)

Spanning topics across a vast temporal and geographic terrain, papers in this panel address the perennial topics of tribute, trade, and gift exchange in Asia (11th century BCE - 10th century CE). Lei and Sun reconsider the inscriptions on several Western Zhou bronzes from Shandong, showing how the careful study and combination of archaeological sources, classical texts, and bronze inscriptions can provide new perspectives on gift-giving practices among Zhou elites. Using archaeological and paleographic materials related to the tributary system of the Zhou royal court, Kim argues for the continued centrality of Chengzhou as a center of trade and tribute networks during the Eastern Zhou. Adopting a broad range of interdisciplinary methods, Allard, E. Lam, W. Lam, and Miller, argue for nuanced approaches to Han and Three Kingdoms material culture in southern China and trade networks in the South China Sea and beyond. Liu considers similar transcultural questions related to the production, circulation, and consumption of luxury gold and lacquerware recovered from elite burials in China, Mongolia, the Altai, and the Black Sea region (4th century BCE- 1st century CE). Finally, Wallace returns to the question of tribute and gift exchange, looking at archaeological and textual records relating to the Eurasian tribute and trade of parrots during the first millennium CE.

09:20 – 09:40. **Yan LIU** (Institute of Culture and Heritage, Northwestern Polytechnical University).
Tribute, trade and connectivity between early China and the Eurasian steppes: different stories of luxury lacquers and goldworks

The movement of objects, people, technologies and ideas is crucial to understanding of the multifaceted nature of cross-cultural interactions throughout human history. This study focuses on two independent cases of production, circulation and consumption of luxury gold and lacquerware recovered from elite burials in ancient China, Mongolia, Altai and the Black Sea region (dating from the 4th century BCE to the 1st century CE), to investigate the specialized technological practice and social dynamics involved in cross-regional tribute and trade between settlements and nomads. Especially, it explores the intersection of material exploration, artisanal performance and identity formation pertaining to prestige goods production to better understand the different facets of culture, economy and politics where human interactions follow variable trajectories through time and space, which has been largely ignored in previous studies. The variability with which different social communities accommodate and reconcile cultural influences from foreign lands will be discussed from a comparative perspective.

09:40 – 10:00. **Leslie WALLACE** (Coastal Carolina University). **Eurasian Trade and Tribute in Parrots during the First Millennium CE**

From charming small green parakeets to majestic great crested cockatoos, parrots abound in Tang dynasty (618-907) archaeological, visual, and textual sources, attesting to their ubiquity as prestige pets in elite households. A variety of parakeets could be found in the interior of the empire, from the famed Longshan 陇山 variety (potentially a variant of Lord Derby's parakeet [Psittacula derbiana]), living in the mountains along the modern Shaanxi-Gansu border, to the rose-ringed (Psittacula krameria), red-breasted (Psittacula alexandri), and blossom-headed (Psittacula roseate) parakeets from Lingnan 嶺南 (modern Guangxi and Guangdong). Still, others, such as the coveted rainbow lorikeets (Trichoglossus moluccanus) and sulfur-crested cockatoos (Cacatua galerita), came from lands much farther afield in Australasia. Focusing on markets in Chang'an or smaller Tang cities as end and/or transfer points in a more extensive network, this paper aims to reconstruct different facets of the Eurasian trade and tribute in parrots via overland and maritime routes during the first millennium CE.

10:00 – 10:20. **Yan SUN** (Gettysburg College). **Image as Text: Hezi you and the Ji Lineage on the Zhou Eastern Frontiers in the mid-tenth century BCE**

Gifting was an important social and political practice in the Western Zhou period (1045-771 BCE) in China. When gifts were granted from the Zhou king to his subordinates, bronzes were often cast to commemorate these events and used in ancestral sacrifices. The inscriptions on those bronzes served not only as historical recordings but as a vital form of communication, conveying messages to audiences during sacrificial ceremonies and social gatherings. This paper examines the bronze vessel Hezi you and explores how its style and inscription were integrated to convey the meaning of the object. Cast by Hezi, the ruler of a Zhou regional state located on the eastern frontiers in present day Shandong, the vessel reflects more than just Hezi's desire to publicize his reception of the royal gift from the Zhou king. The holistic examination Hezi you and other bronzes associated with Hezi reveals the role of Hezi and the Ji lineage in shaping complex and dynamic geo-political relations on the Zhou eastern frontiers in the mid-tenth century BCE.

10:50 – 11:10. **Christopher KIM** (New York University). **Tribute for the Son of Heaven: The Political Economic Reorganization of Zhou Kingship in the Eastern Royal Capital**

Current evidence demonstrates that the ancient city of Chengzhou in present-day Luoyang, Henan was an important entrepôt in the trade and tribute networks of the Western Zhou state (ca. 1045-771 BCE), but the reconfiguration of those networks after Chengzhou became the Eastern Zhou (770-256 BCE) royal capital has not been explored adequately. This paper examines the archaeological and paleographic evidence for Chengzhou and the greater Luoyang region to reconstruct the political economy of Chengzhou and the tributary system of the Eastern Zhou royal court. It investigates how Eastern Zhou kings attempted to reinforce their political legitimacy and ritual sovereignty by bolstering the centrality of Chengzhou in the interregional geopolitical and economic landscapes of North China after the Western to Eastern Zhou transition. In doing so, this study seeks to challenge mainstream historical narratives of Eastern Zhou China that tend to characterize Eastern Zhou kings as weak figureheads who played only marginal roles in the sociopolitical developments of the period.

11:10 – 11:30. **Francis ALLARD** (Indiana University of Pennsylvania). **China's Early Maritime Connections with the South: Perspectives from archaeology, history, and environmental science**

While China's early imperial advance toward the south can be viewed in the context of broad Qin and Han territorial policies, it also set the stage for a very different type of growth, namely its maritime extension to the South China Sea and South Asia. Stemming largely from a Han Shu passage referring to Han Wudi's reign, prevailing interpretations by Chinese scholars view this development as China's opening and control of the so-called Maritime Silk Road, with trading networks originating at the port of Hepu on the southeast coast. While the large numbers of non-local stone and glass beads found in Han period and Three Kingdoms burials at Hepu support this viewpoint, a careful consideration of archaeological, textual and environmental data allows for a richer but in some cases divergent understanding. This talk considers several such perspectives. First, archaeological

evidence for the operation of trading networks in the South China Sea for centuries prior to China's southern expansion challenges the traditional China-centered viewpoint, as does the likelihood that trade occurred on non-Chinese ships until at least the 8th century CE. Second, a look at changes in the numbers and types of trade goods at Hepu and further inland provides insights into the nature and development of maritime trade during the Han period. Third, China's attraction to southern products extracted from the natural world that served overlapping roles as exotic goods and as ingredients with medicinal or aromatic functions asks us to consider the relative importance of tribute, prestige goods and commodities as constituents of a trading network which maintained this orientation throughout much of the 1st millennium CE. Finally, a consideration of coastal and deltaic geomorphology provides further insights into the timing and scale of early maritime trade in southeast China and northern Vietnam.

11:30 – 11:50. **Allison MILLER** (Southwestern University). **Origin Stories: a Bronze "Cymbal" from Hepu as a Case Study?**

The Hepu burials in Guangxi province offer invaluable insights into the Han dynasty's role on the early Maritime Silk Road. Artifacts unearthed at this site provide concrete evidence of the Han dynasty's extensive trade networks reaching Southeast Asia and beyond. A common scholarly approach to interpreting these artifacts involves tracing the origin of specific motifs through comparative iconography. Once the earliest instance of a motif is identified outside China, the motif—or even the entire object, such as the bronze cymbal—is labeled a foreign import. The Hepu bronze cymbal exemplifies this approach. Discovered in a wealthy Eastern Han tomb alongside a Parthian ceramic ewer, the cymbal's iconography—a persimmon and a winged horse—has led scholars to propose a West Asian origin. This presentation challenges this interpretation by demonstrating the strong connections between the cymbal's form and iconography with other incised bronze and lacquer objects found elsewhere in China. It will propose a more nuanced approach to interpreting the cymbal as an object with motifs that originated elsewhere, highlighting the active role played by recipient groups in shaping and adapting foreign motifs and styles to their own needs.

11:50 – 12:10. **Chinhau LEI** (Education University of Hong Kong). **New Interpretation of the Si Gong Pan 邿公盤**

Excavated from M5 of the Changqing Xianrentai Cemetery in Shangdong in 1995, the Si Gong Pancommemorates an aristocratic marriage between the Si lineage and a Jiang-surnamed lineage in the surrounding areas. This bronze vessel has led to continued controversies over the interpretation of its inscription. Scholarly opinions divide over the caster(s) and the receiver of the vessel, the female name in the inscription, the nature of the vessel, the relations of the people involved, and the meaning of some key characters. Methodologically speaking, early discussions mainly took a paleographical approach to studying the inscription, but archaeological sources and classical texts are also utilized to address the issues. Despite the addition of various sources, controversies persist among scholarly communities. Although I agree that this issue should be addressed by using an interdisciplinary approach, I suggest that the interpretation of archaeological sources in previous scholarship has been unduly affected by historical narratives. This presentation argues that archaeological sources, classical texts, and inscriptions should be treated independently and combined systematically. This presentation starts with a re-examination of the archaeological contexts of M5 within the Xianrentai Cemetery. After confirming the tomb occupant's identity from an archaeological perspective, it compares the format of the personal names recorded in the inscription with contemporary textual sources to interpret its content. This presentation ends with a new interpretation of the inscription. It suggests that the vessel was a wedding gift made by Si Gong, the head of the Si lineage, for the bridegroom, Si Zi, and the bride, Jiang Shou, during their wedding ceremony. The vessel should thus be named Si Gong Pan. The vessel is not a dowry but a wedding gift from the bridegroom's family for the newlywed.

12:10 – 12:30. **Wengcheong LAM** (Chinese University of Hong Kong). **Bronze mirror exchange in Lingnan and broader Han Empire: a network approach**

Bronze mirrors have long been recognized as symbols of light luxury and essential commodities in the Han Empire. Their widespread distribution across diverse regions is often regarded as a hallmark of Han-era globalization. However, the mechanisms driving the exchange of these goods remain

insufficiently understood. This presentation introduces new findings based on a reclassification of bronze mirror typologies and a network analysis of their distribution. By comparing key mirror types from Lingnan, Jingzhou, and the Central Plains, it examines the evolution of supply and distribution networks across Han territories. The analysis reveals that Lingnan maintained stronger connections to the Central Plains during the Eastern Han period than to other emerging production centers, such as Jingzhou, which exhibited weakening ties as the Han dynasty drew to a close. These findings offer fresh insights into the economic and political networks that connected Lingnan with other regions of the empire, and shed light on the social and political mechanisms underlying this significant archaeological phenomenon.

12:30 – 12:50. **Hau-Ling Eileen LAM** (The Education University of Hong Kong). **Glass vessels from Guangxi of the Han times**

Glass vessels were generally regarded as precious objects during the Han period (202 BCE–220 CE). To date, archaeological evidence has yielded more than 50 pieces of Han glass vessels, with approximately half discovered in present-day Guangxi province. The glass vessels found in Guangxi are primarily cups, bowls, and dishes. Notably, these glass vessels demonstrate a distinctive geographical distribution pattern, with a predominant concentration in the Guangxi region and sporadic findings in present-day Guangdong province, Vietnam, Thailand, and India, but are absent from other regions that were under the Han reign. There are ongoing discussions regarding the manufacturing locations and origins of these glass vessels, but no definitive consensus has emerged. By studying the glass vessels discovered in Guangxi and neighboring regions, this paper aims to discuss the pattern of distribution of these glass vessels, further explore the origins of the forms, and examine the incentives and implications of selecting glass to manufacture these objects.

SESSION 2.

Archaeological Perspectives on Resource Use and Cultural Practices in prehistoric and historical Taiwan

Organizers:

Li-Ying WANG (Institute of History and Philology, Academia Sinica),
Jou-Chun LU (National Taiwan University)

Austronesian expansion is one of the largest maritime migrations in human history that gradually forms societies with shared cultural and linguistic characteristics across the Pacific and Indian Oceans today. Based on the "Out of Taiwan" model, Taiwan could be the origin of Austronesian expansion that can be traced back to the early Neolithic period, around 5000 years ago. Understanding how migrating people adapted to new environments in Taiwan is important because it could provide valuable insights into the strategies that enabled their successful migration and cultural continuity. This session examines the cultural practices the Austronesian groups used to overcome challenges in varying environments and their cultural development through recent archaeological findings in Taiwan. Papers in this session address the topics of cultural practices through a wide range of archaeological evidence, including ceramics, faunal and plant remains, food residues, and other material culture. Exploring the resource use and cultural development of Austronesian groups in an island setting not only sheds light on the dynamic interactions between humans and their environments, but also provides a broader understanding of the present-day Austronesian traditions.

09:20 – 09:40. **Christian LEIPE** (Freie Universität Berlin and Max Planck Institute of Geoanthropology), **Jou-Chun LU** (Department of Anthropology, National Taiwan University, Taipei City), **Ko-An CHI** (Department of Anthropology, National Taiwan University, Taipei City), **Shu-Min**

LEE (Department of Anthropology, National Taiwan University, Taipei City), **Hung-Cheng YANG** (Department of Anthropology, National Taiwan University, Taipei City). **Farming and cultural dynamics in south-western Taiwan from the Neolithic to the Metal Age derived from archaeobotanical records**

Taiwan is one of the key areas of prehistoric cultural dispersal and migration throughout East Asia and beyond. Archaeological evidence shows that there has been great spatial and temporal cultural diversity across the island region since the introduction of agriculture in the early 3rd millennium BCE. There are still few published archaeobotanical records that provide information on long-term developments of agricultural practices and crop packages. This presentation summarises records of charred plant macroremains from cultural layers of archaeological sites in the South Taiwan Science Park (Tainan City, south-western Taiwan) and the insights they provide into the agricultural practices of local Neolithic and Metal Age populations. The obtained records show that crop packages were diversified over time. It seems that the beginning of the Metal Age marks a major diversification event with the introduction of various pulses that had been cultivated in South Asia long before. We compare the archaeobotanical data sets with archaeological records from Taiwan and other regions to discuss possible population dynamics, long-distant cultural connections and migrations.

09:40 – 10:00. **Li-Ying WANG** (Institute of History and Philology, Academia Sinica). **Exploring culinary practices during the Neolithic-Iron Age transition in southwestern Taiwan: A case study at Sanbaopi**

The transition from the Neolithic period to the Metal Age is often associated with shifts in cultural practices. In southwestern Taiwan, the late Neolithic period represented by the Dahu culture was followed by the Niaosong culture, representing the early Iron Age. The two cultural components display several changes in cultural elements, such as pottery styles, burial practices, and plant remains. To further explore the cultural practices during the transition, this study examines pottery use at the Sanbaopi site in southwestern Taiwan using lipid analysis. The Sanbaopi site was one of the large prehistoric settlements in this region that provides suitable archaeological evidence for discussing the transition. The results of lipid analysis show that there were slightly broader types of residues from Neolithic potsherds compared to those from the Iron Age. In addition, marine resources are rarely detected in potsherds from the Iron Age, which might reflect potential environmental changes or a different cultural preference. The major sources of residues from both cultural phases include ruminants, freshwater resources, pigs, and C3 plants. The source of ruminants is likely associated with deer, while C3 plants are related to rice based on the faunal and plant remains found at the site. Although both rice and millet grains were found at the Sanbaopi site, the results indicate a greater reliance on C3 plants for both cultural phases. It appears that the culinary practices did not change a lot over time, which might suggest a continuous subsistence strategy in similar environmental conditions.

10:00 – 10:20. **Daniel David PINZÓN CASTELLANOS** (Department of Mineralogy, Petrology and Economic Geology), **Miguel Ángel SÁNCHEZ CARRO** (Universidad de Cantabria), **María CRUZ BERROCAL** (INCIPIT). **Preliminary Petrographic Insights into Neolithic and Iron Age Pottery from the Heping Dao B Archaeological Site, Northern Taiwan**

This study examines 25 prehistoric ceramic samples from the Heping Dao B (HPD-B) site on northern Taiwan. Although the site spans a broad occupational history from prehistoric times through historical periods—including European, Chinese, Japanese, and post-war Kuomintang governance—this research focuses specifically on ceramics from the Neolithic and Iron Age. The primary goal is to physically and mineralogically characterize the ceramic assemblage, assessing continuity and shifts in production techniques over time.Polarized optical microscopy was used to analyze thin sections of the ceramics, allowing for the identification of mineralogical composition and insights into production methods, such as raw material selection and firing techniques. This analysis revealed two main manufacturing groups. Manufacturing Group 1 (MG 1), associated with finer ceramics from the Final Neolithic to the Iron Age, demonstrates increased control in firing processes and more refined raw material preparation. In contrast, Manufacturing Group 2 (MG 2) includes ceramics with coarser textures and larger granular inclusions, primarily from the Middle to Final Neolithic periods.Within Manufacturing Group 2, distinct subgroups illustrate varying technological

practices. Subgroup 2C, from the Middle Neolithic, exhibits varied and less-controlled firing conditions with noticeable temperature inconsistency. Subgroup 2B contains inclusions of biotite and muscovite, further indicating inconsistent firing. Subgroup 2A, however, shows more refined grain sizes and homogeneous firing, suggesting a gradual technological improvement that eventually culminates in the advanced techniques observed in GM 1.Future research will incorporate geochemical analysis, expand the ceramic sample pool, and investigate raw material sources across Taiwan's northern region to deepen understanding of evolving ceramic production practices and material choices at the HPD-B site.

10:50 – 11:10. **Shu-Min LEE** (Shoda Culture Ltd.), **Hung-Cheng YANG** (Shoda Culture Ltd.). **Archaeological Cultures and Early Indigenous Peoples of Southwest Taiwan: A Case Study of the Hsu Hsiu Ts'ai Site**

The Niaosung Culture is the predominant cultural manifestation of the Iron Age in the southwest plains of Taiwan, characterized by its extensive geographical range and large settlement size. The Hsu Hsiu Ts'ai site, located in Dongshan District in Tainan City, is rich in archaeological remains attributed to the middle to late phases of the Niaosung Culture, dating from approximately 1,250 to 800 years BP. Comparative analysis of archaeological data from multiple sites reveals regional differences within the Niaosung Culture. For instance, the characteristics of the "ssu-hsi jar," the jar with four buttons, the material composition of ceramic bracelets, and the head style of "bird-head pottery" vary across locations. Cultural periods also exhibit variations in regional development. These findings underscore the importance of regional research on the Niaosung Culture and suggest the potential for internal community differentiation. Historical documents indicate that the early indigenous groups in the Southwest Plain were the Siraya people, whose distribution roughly coincides with the Niaosung Culture. Consequently, the Niaosung Culture is generally considered to be the ancestral culture of the Siraya people. However, the earliest literature concerning the Hsu Hsiu Ts'ai site references the Doroko community, which is associated with another indigenous group, the Hoanya people. This article seeks to elucidate the relationship between the Niaosung Culture and early indigenous communities by analysing archaeological data and historical documents. It aims to present potential scenarios of ethnic interaction, thereby offering diverse explanations for the connections between archaeological cultures and early indigenous peoples.

11:10 – 11:30. **Ko-An CHI** (National Taiwan University). **Dietary Practices in Early Iron Age Southwest Taiwan: Evidence from a Cooking Feature at the San-Pao-Pi Site**

Taiwan's position at the interface of continental East Asia and Island Southeast Asia has played a significant role in prehistoric maritime networks. The emergence of iron tools around 2000 BP catalyzed substantial transformations in material culture and subsistence strategies across the island. This study examines foodways at the San-Pao-Pi site in coastal southwestern Taiwan during the early Iron Age (ca. 2000-1300 BP), focusing on food preparation and cooking activities. Analysis centers on a well-preserved cooking feature and its associated assemblage, including faunal remains (e.g., *Cervus nippon taiouanus*, *Sus scrofa taivanus*, and *Phasianus colchicus*), marine mollusks, archaeobotanical materials, and cooking-related artifacts. Through these materials, we reconstruct food procurement and processing practices during this period. The analysis of faunal and botanical remains, alongside use-wear patterns on cooking implements, provides evidence for specific food preparation techniques and resource utilization strategies. This research contributes to our understanding of early Iron Age subsistence practices and human-environment interactions in coastal Taiwan. While the study identifies patterns that persist in later historical periods, including practices documented among Siraya communities, direct cultural continuity requires further investigation.

11:30 – 11:50. **Jou-Chun LU** (Department of Anthropology, National Taiwan University). **The Use of Imported Porcelains in Southwestern Taiwan: From the Late Iron Age to the Historical Period**

Approximately 1,800 years ago, various regions of Taiwan gradually transitioned into the Iron Age, a period during which the material culture of several indigenous groups persisted and evolved through the successive arrival of the Dutch, Han Chinese, and Japanese. These groups not only shaped the material landscape but also left behind some images in foreign documents that recorded the sustained prosperity of their settlements. These records provide clues for exploring the correlations between archaeological findings and the identities of these ethnic groups. At the

juncture between the Iron Age and the historical period, the material culture of these communities encompassed not only pottery, a limited array of stone tools, and metal artifacts but also porcelains and stonewares imported from China, Japan, and Southeast Asia. These imported artifacts are often contextualized within the broader framework of globalization. However, their adoption and use by local communities may present unique, context-specific logic rather than merely passive acceptance. Examining these dynamics provides critical insights into the agency of local populations in shaping their material culture. This study focuses on the consumption of porcelains among late Iron Age inhabitants in southwestern Taiwan. It aims to identify characteristic patterns of ceramic usage, explore the significance of specific temporal phases, and analyze the behaviors of particular groups, thereby contributing to a nuanced understanding of the social context in ancient Taiwan.

SESSION 3.

Frontiers of Shang-Zhou Archaeology: borderland, mobility and network

Organizers:

Haifeng DOU (Northwest University)
Limin HUAN (LEIZA - Leibniz-Zentrum für Archäologie)
Alice CHENG (Museum Rietberg)

The past decade has transformed our understanding of Shang and Zhou archaeology, revealing remarkable discoveries not only in the traditionally considered core areas on the Central Plains but also in its surrounding regions. This panel examines both new finds and reinvestigations of archaeological materials in the southwestern and northwestern regions, from the newly discovered hoarding pits at the great Sanxingdui site to recent excavations along the northwestern frontier of Shang and Zhou dynasties, including Xitou, Zhaigou and Yaoheyuan. These exciting discoveries provide fresh data and insights into borderland interactions between pastoralists and agriculturalists. Additionally, they propose new theoretical frameworks that reveal the underlying drivers of economies, mobility and networks spanning from the Eurasian steppe to the Yellow and Yangtze Rivers.It is ultimately this rapidly increasing communication that has transformed both the archaeological landscapes and spurred a range of intriguing research topics. This panel aims to overcome geographic, linguistic and disciplinary boundaries, offering a platform for scholars to explore how these new discoveries revolutionize our understanding of the broader Shang-Zhou world, with a particular focus on the role of borderland populations. Therefore, we invite papers addressing (but not limited to) the following topics: New archaeological discoveries vital to understanding communication between the Steppe and Shang-Zhou people. The innovation and dispersal of key technologies, materials and objects related to agriculture, animal husbandry, transportation and material cultures, facilitating adaption to new social and environmental conditions or transforming socioeconomic, political and ritual aspect of the broader Shang-Zhou world. Overarching demographic or economic changes reflected in new archaeological data and quantitative modelling. Synthesis of archaeological, scientific and environmental data to investigate long-distance migration, cultural communication, localisation, economy and their social implications.

09:20 – 09:40. **Ray LIU** (British Museum). **Radiocarbon database of prehistoric China: re-model the timeline of cultural interaction through the Arc in the second and first Millenium BCE**

The Arc, an intermediate zone extending from Northeast China, Inner Mongolia, Northern Shanxi, and the Loess Plateau to the Jin and Wei River Valleys and the eastern part of the Hexi Corridor, played a pivotal role in connecting agricultural and pastoral societies. Archaeological findings within this region offer valuable insights into the dynamics of cultural exchange and transformation on either side of the Arc. However, the rich diversity of local material cultures, economic systems, social identities, and chronological frameworks presents significant challenges in accurately depicting the flow of these elements and their impact on both local and broader communities. This presentation utilizes the most comprehensive radiocarbon dataset in Chinese archaeology to date (Qiu et al., submitted) to reevaluate the chronological sequences of key regional cultures within the Arc, including Zhukaigou, Lijiaya, Lower/Upper Xiajiadian, Datuotou, Weifang Phase III, Yuhuangmiao, Taohongbala, and Maoqinggou. By establishing a refined chronological framework, this study aims to provide a more integrated understanding of the relationships between crops, animals, burial practices, and metalworking within the Arc.

09:40 – 10:00. **Liu WEI** (Northwest University). **The rise of the Zhou people in the Bin Region and the base point of the Zhou people's destruction of the Shang Dynasty - Starting from the carbon-14 dating of several sites**

In recent years, units such as Northwest University in China have carried out continuous archaeological work in the areas of Chunhua, Xunyi, and Binxian. The excavation at important sites such as Zaolinhetan, Sunjia, and Xidongtou in Xunyi shows that the material remains in this area corresponding to the period between 1300 BC and 1100 BC are likely to be the remains created by the Zhou people in the Bin region. Through the dating of the carbonized crop seeds unearthed from these sites, we established the chronological sequence of each site in this area, and from the utilization of animal and plant resources, the exchange with neighbouring cultures, and the hierarchical system of settlement scale, etc., we realized that an important reason for the rise of the Zhou people lies in the development of their own economy and culture and the emergence of political intentions. It is precisely because of this that the Zhou people became the largest ethnic group in the region and purposefully migrated to the Zhouyuan sites, opening up a political path that ultimately destroyed the Shang Dynasty after a hundred years. The rise of the Zhou people lies in the increasing maturity of their own culture, economy, and politics. Coincidentally, the rise of the Qin people is also the same. The rise and development path of the Zhou and Qin civilizations can provide reference for thinking about the rise of ancient civilizations in other countries and regions.

10:00 – 10:20. **Raphael WONG** (Hong Kong Palace Museum). **Reconsidering the Borders of the Shang Dynasty through Sangxingdui Bronzes**

The eight so-called “sacrificial pits” (c. 1300–1100 BC) discovered at Sanxingdui in southwest China in the 1980s and in the past few years have yielded remarkable bronze artefacts that have attracted wide scholarly attention. These bronze artefacts usually take the form of “altars” with elaborate decoration, and they are thought to represent a distinctive culture that set their owners apart from the people of the Shang dynasty (c. 1500–c. 1050 BC) in the Central Plains of China. This paper calls for a rethinking of such idea by pointing out the Shang ornamental system in the Sanxingdui bronzes. The Shang ornamental system in the Sanxingdui bronzes suggests that Shang casters were likely involved in the making of the Sanxingdui bronzes, and that the Sanxingdui bronzes could be considered as a variant of Shang bronzes. Overall, this paper calls for a re-examination of what Sanxingdui has offered to the Shang dynasty - both economically, culturally and politically.

10:50 – 11:10. **Limin HUAN** (LEIZA - Leibniz-Zentrum für Archäologie). **Horsepower at the frontier: rethinking horse and chariot remains in the Wei River Valley around 1000 BCE**

Over the past few decades, horse and chariot remains from 1100–800 BCE have been discovered at more than ten sites across the Wei River Valley, shedding light on the evolving human-animal relationships and the transregional interactions between the Eurasian steppes and the East Asian alluvial plains. These interactions occurred when chariots and horses, introduced from the steppes, reached the region in the late second millennium BCE. Excavations at two recent sites, Xitou in Shaanxi and Yucun in Gansu, provide further evidence of this phenomenon. This paper reviews both old and new finds from Shaanxi, Gansu, and Ningxia, comparing horse and chariot remains along two key dimensions. The first compares sites across different subregions. The second compares individuals with and without horse or chariot remains in the same cemeteries. By examining both

regional and intra-community variations, the paper suggests that horse and chariot remains not only reflect cultural exchanges between East Asia and the steppes but also the diverse choices of local communities. Chariot remains in the Wei River Valley are fewer than in the eastern regions, suggesting that chariots were not widely used by local elites. Instead, chariot components were likely adopted as symbols of status, a ritual practice borrowed from the east. In contrast, horse remains and horse gear were relatively common, with new types of horse gear from the steppes quickly integrated into the region. These findings suggest that some local communities were familiar with horse husbandry, although they did not extensively adopt chariots for transportation or warfare. Instead, they may have been involved in horse breeding and provided their eastern neighbours with horses.

11:10 – 11:30. **Cheng LIU** (Northwest University), **Yuan HE** (Northwest University), **Yanli LI** (Northwest University)). **The Earliest Bronze Horse Sculptures in China: Origins of Materials and Technologies**

The domestication of horses, originating from the Eurasian steppe, had a profound impact on early Chinese societies. While extensive research has been conducted on horses and horse-drawn chariots from the late Shang period (ca. 1250–1046 BCE), their representation in other materials remains less explored. This study presents a comprehensive scientific analysis of the earliest known bronze horse sculptures in China, discovered in a late Shang tomb at Yanjiagou, Ganquan County, Northern Shaanxi Province. The find consists of a pair of horse sculptures with nearly identical forms, with three-dimensional scanning revealing a maximum dimensional variation of ±4 mm concentrated on the face, legs and mane of the horses, whereas the variation on the body is below ±1 mm. The detailed depiction of the mane suggests that the artisans observed real horses and sought to replicate their appearance accurately. The previous assumption of the saddles on the horses' backs proves incorrect. It turns out to be the lid of the vessel, which is essence of these two bronze horses. Analysis of alloy composition and molding patterns indicates a strong technological tradition rooted in central China. This is further supported by the use of highly radiogenic lead, likely sourced from eastern or southern central China. Compared to other bronze artifacts from the same tomb, the casting quality of these two horse sculptures is markedly superior. Although local groups, such as those associated with the Lijiaya culture, possessed bronze casting capabilities, evidence suggests that these sculptures were produced by artisans originating from Anyang, the cultural and technological centre of the Shang dynasty, but with local raw metals.

11:30 – 11:50. **Yue LI** (Northwest University), **Zexian HUANG** (Collaborative Research Centre for Archaeology of the Silk Roads), **Qiang MA** (Ningxia Institute of Cultural Relics and Archaeology), **Chengrui ZHANG** (Harvard University), **Feng LUO** (Northwest University). **Early Evidence of Post-Mortem Fetal Extrusion in Equids: A Case from the Western Zhou Period (1045–771 BC) Site of Yaoheyuan in Northwestern China**

The authors analysed horse remains from a chariot-horse pit (CMK2) associated with elite burials at the Bronze Age site of Yaoheyuan in northwestern China. Among the horses interred in this specific pit, one adult female and one infant show evidence of post-mortem foetal extrusion. This conclusion is based on an examination of their age at death, sex, head orientation, and spatial relationships. The parturition stage of the foal suggests that the interment of the female horse likely occurred in late spring or early summer. The relatively high temperature may have generated gas in the body of the pregnant mare, eventually leading to the extrusion of the foetus. Although the specific reason for the inclusion of a pregnant mare in a chariot-horse pit at Yaoheyuan remains a topic for future research, this case marks the first report of post-mortem foetal extrusion in archaeological horses. The findings offer insights into the timing of horse interment as part of ritual practices among the settled elites during the Bronze Age in China and provide valuable reference data for contemporary equine veterinary science.

11:50 – 12:10. **Alice CHENG** (Museum Rietberg). **Revisiting Zhouyuan in the Western Zhou dynasty—a culturally and demographically diverse Zhou dynastic center**

Recent excavations and research have pointed to the presence of frequent and intense interactions between the Steppe and regions under the control of the Shang and Western Zhou regime. These interactions led to abundant exchanges of objects (e.g. bronze weapons and gold ornaments), and of animals (e.g. horses), as well as of people (e.g. horse specialists). Thanks to the many studies that focus on areas bordering the Steppe, for example the Northern Zone, we begin to understand that these frontiers were culturally and demographically complex. However, not enough has been dedicated to investigating the situation in the dynastic centres. As a case study, this paper aims to revisit the archaeological remains in one of the Western Zhou royal residencies—Zhouyuan in Qishan, Shaanxi province. Its goal is to decipher the extent of Steppe elements in the region, including materials, designs and people, and to understand the impact these elements had on the Zhou political and socioeconomical development. Located in the Wei River valley, Zhouyuan was known to be the base of the Zhou royals. Conventionally, it is thought to be the centre or root of the "royal Zhou" culture, attested by the presence of "Zhou-style" ceramics and ritual vessels. However, a close analysis of the weapons, horse and chariot fittings as well as burial patterns reveal a much more complex picture. In fact, out of all the royal Zhou residencies, Zhouyuan was probably the most demographically and culturally diverse.

12:10 – 12:30. **Haifeng DOU** (Northwest University China). **Ancestral Legacy and Social Reform in the Northern Borderlands of the Western Zhou Capital: New Insights from Xitou (西头)**

The transition from the Shang to Western Zhou dynasty marks a pivotal moment in early Chinese history, as Western Zhou developed a bureaucratic system and ritual practices foundational to later Chinese unification. However, the origins of Western Zhou and the mechanism by which they overcame Shang remain subjects of scholarly debate. Archaeological discoveries of Shang-Zhou remains along the Jing River, north of Xi'an. The exsiting liturature appear to align with historical records, suggesting that the relocation of Gu Gong Dan Fu (古公亶父迁岐) correlated with significant demographic shifts, with large Zhou population leaving Bin for Zhou, resulting in a population and economic decline in the mid-Jing River Valley during the late Shang period. With the rise of Western Zhou, the Zhou people returned, accompanied by populations from the East, reasserting control over its northern frontier. Excavations at Xitou in Xunyi County, Shaanxi Province, have yielded valuable insights into this historical period, revealing late Shang remains, a Western Zhou walled settlement, and extensive cemeteries, along with ceramic and bronze workshops. As the largest and most complex Shang-Zhou site along the Jing River, Xitou includes high-status residences, cemeteries, and craft production facilities, located in the historical Bin region (豳) referenced in both texts and inscriptions. This study aims to offer a comprehensive view of ancestral heritage and social transformation on the Western Zhou's northern frontier, focusing on burial complexity, material circulation, technological advances, and settlement structure to illuminate the evolving social dynamics of the region.

12:30 – 12:50. **Baoshuai ZHANG**. **Multidisciplinary analysis reveals the social inequality patterns in the Central Plains of the Eastern Zhou Dynasty in China**

The Eastern Zhou Dynasty (771 - 221 BC), characterized by political instability, unbalanced economic development and frequent vassal - state wars, played a crucial role in the development of social inequality in ancient China by intensifying class differentiation and wealth disparity. Previous studies have emphasized the dietary inequality between social classes several years prior to death. Here, we present analysis of ancient DNA, palaeoproteomics, stable isotope data of oxygen, carbon and nitrogen isotopes, and radiogenic isotope ratios of strontium for 32 skeletons (6 nobles and 26 sacrificial victims) from Songzhuang Cemetery in Qi County, Henan Province, China. Our results show that the social inequality patterns in Songzhuang society are manifested in aspects such as sex, diet, and mobility. The dominant proportion of young women as sacrificial companions implies their marginalization at that time. The dietary differences based on class are significant, with nobles consuming more socially valuable foods (high protein and millet) than the sacrificial companions, who are further divided into two groups with different status based on diet, indicating internal differences. Class - based dietary differences have been formed since childhood, reflecting the

solidification of social inequality patterns. The nobility showed a higher proportion of non-local phenomena, indicating their stronger mobility. At the same time, considering the long-distance migration of noblewoman and the kinship that only exists among the nobles, blood and marriage ties may have been important for the aristocratic class. Finally, this study found an example of class crossing between two individuals in the M18 tomb.

12:50 – 13:10. **Roderick CAMPBELL** (Center for the Study of the Ancient World, New York University). **Discussant**

SESSION 4.

Pigs in East Asia: Domestication, Ritual, and Social Change

Organizers:

Jiajing WANG (Dartmouth College)

Yue YOU (Capital Normal University)

Pigs are central to the socio-economic and cultural development of East Asian societies. As one of the earliest domesticated animals in the region, they provided a primary source of animal protein, supporting the growth of agricultural societies and population expansion. Beyond subsistence, pigs were integral to social, political, and religious life. They were featured in various ritual practices to symbolize wealth, foster social interactions, and legitimize political authority. Frequently used in burial rituals, pigs embodied the connection between the living, the dead, and ancestral spirits. This session explores the multifaceted role of pigs in East Asian history, focusing on their domestication, management, and significance in social and political contexts. We invite contributions that offer new perspectives on pigs in the past, creating a dialogue that draws on diverse approaches from archaeology, ethnography, and history. Topics may include early pig domestication and management, their ritual and symbolic roles, and their broader significance in major social transformations. Submissions that introduce innovative methodologies and comparative approaches from other areas are also encouraged to enhance our understanding of the human-pig relationship in the East Asia.

09:20 – 09:40. **Max PRICE** (Durham University). **A Tale of Two Domestications: An Attempt to Compare Pig Domestication in the Middle East and China**

Pigs were domesticated in the early Holocene in at least two places in Eurasia: southern Anatolia/northern Mesopotamia and China. These domestication processes were independent. Zooarchaeologists and other specialists have documented these two processes of domestication, pointing out wrinkles in the timing, pace, spread, and regional variation. They have sketched out the ways in which pig-human relations evolved into pig husbandry at key sites. Yet few zooarchaeologists have attempted to compare the different regions and their unique processes of pig domestication. In an effort to push in that direction, in this paper, I draw broad-scale and (admittedly) often impressionistic comparisons between pig domestication in China and the Middle East. I focus on variables relating to prey choice/environmental niches of Neolithic populations, husbandry practices, ritual significance of pigs, regional spread, and sub-regional variation — the last of which raises the strong possibility that China and the Middle East were merely ‘interaction spheres’ in which multiple processes of pig domestication took place.

09:40 – 10:00. **Hitomi HONGO** (Graduate University for Advanced Studies), **Hiroki KIKUCHI** (Lanzhou University). **Pigs, millets and rice: Early stages of domestication of pigs in northern and southern China**

The relationship between *Sus scrofa* and humans in the early stages of domestication could be diverse because of the behavioral and dietary plasticity of Sus. We have compared degree of intervention by humans over Sus, both free-ranging and in captivity, during the Neolithic period in the Yellow River Valley in the north and Yangtze River Valley in the south (Hongo, Kikuchi and Nasu 2021). It is possible to characterize the different trajectories in domestication process of Sus in northern and southern China by employing multiple analytical methods, such as morphometry, isotope analysis, and molecular biological analyses of Sus remains. While morphologically domestic pigs appeared as early as 9000 years ago in northern China, domestic or wild status of Sus remains from sites in the Yangtze River Valley was not clear. Management of pigs was more intensive in northern China, where landscape development for agricultural field was also intensive. In the south, some pig remains show high Nitrogen isotope ratio as early as 8000 years ago, indicating the presence of pigs either scavenging around human settlements or being provisioned kitchen wastes. Dramatic increase of Sus, replacing Cervid hunting also suggests that pig husbandry became a common practice by the Late Neolithic period. Morphological changes of Sus are not clearly observed at sites in lower Yangtze Valley, and hunting of wild boar also continued. In southern China, Sus were probably allowed to feed on natural vegetation and nuts on their own, and hybridization between wild and domestic pigs occurred frequently. We will examine the morphological and dietary characteristics of pigs from the southern Neolithic sites to see the degree of human control over Sus populations.

10:00 – 10:20. **Yue YOU** (Capital Normal University). **The process of pig domestication in the Central Plains, Neolithic China**

Pig domestication has traditionally been viewed as a gradual process rather than a single, rapid event, particularly in Southwestern Asia. However, the process of pig domestication in Neolithic China has remained poorly understood in recent decades. To explore this development, we will examine various aspects such as the frequencies, tooth size, age structures, sex ratios, and diets (based on carbon and nitrogen isotopes) from several Neolithic sites, primarily located in the Central Plains. In the early stages of pig domestication (7000–5000 BC), data from Jiahu and Guanjia suggest that pigs made up less than 35% of the mammalian population. The Yangshao period (5000–3000 BC), however, marked the emergence of more mature pig husbandry and stratified societies. During this period, pigs represented the largest proportion of mammals, accounting for over 80% of the total. With the introduction of cattle, sheep, and goats to the Central Plains during the late Longshan period (2500–2000 BC), the proportion of pigs in the population declined to about 60%, just before the formation of the first state of Erlitou. This paper will also discuss diachronic changes in pig body sizes, as well as other factors related to biological evolution and increasing social complexity during this period.

10:50 – 11:10. **Jiajing WANG** (Dartmouth College), **Yue YOU** (Capital Normal University). **Dental calculus analysis reveals shifting human-pig relationships in North China**

China is recognized as a centre for independent pig domestication, with early domestication originating in farming communities of the Yellow and Yangtze River Valleys. This paper presents preliminary findings from dental calculus analysis of pig remains from multiple archaeological sites in North China, spanning from the early Neolithic to the early Bronze Age. The recovery of starch granules and phytoliths from pig dental calculus reveals significant dietary shifts over time, reflecting changes in human-pig relationships. These findings suggest a transition from a loose, "extensive" husbandry style—in which pigs roamed freely and foraged for their own food—to a more "intensive" management strategy, where pigs were likely confined to sties and provisioned with scraps or fodder. This study highlights the potential of microfossil analysis of dental calculus as a complementary method to stable isotope analysis for reconstructing ancient pig diets and management practices. Furthermore, it provides a new approach for understanding animal domestication during the Neolithization in other world regions.

11:10 – 11:30. **Yongqing ZHANG** (Wuhan University), **Yunbing LUO** (Wuhan University), **Yiting LIU** (Wuhan University). **Mortality Profile of pig and the evolution of management strategies during the pre-Qin period in the Central Plains region**

Mortality profile of animals reflects the way of herd management, and is the important evidence for exploring issues such as subsistence and social complexity. This study analyses mortality profile of domestic pigs at 31 sites in the Central Plains from the Yangshao period to the Eastern Zhou period, and examines the changes in mortality profile and management strategies of pigs over time, exploring slaughtering patterns at the sites with various sizes, grades, and properties, to reveal the settlement differences and urban-rural supply behind them. This study suggests that the mortality profile in pre-Qin period have been changed three times. Since the middle Yangshao period, mortality profile mostly under 1 year old. By the late Longshan period, the slaughter age delayed, while some sites mainly aged 1 to 2 years old. After entering the Early State phase (Erlitou period), the proportion of adults generally increased, and that sites with different grades and properties showed different profiles in three patterns. The first two changes may indicate the gradual development of agriculture, the growth in human population size, and the emergence of large-scale rearing, while the last change is associated with the emergence of sites with external supply and the parallel implementation of multiple slaughtering strategies. This study enriches the understanding of the pre-Qin pig management strategies.

11:30 – 11:50. **Jishuai YANG** (Lanzhou University), **Xiaoyan YANG** (Lanzhou University). **The spread of Neolithic intensive millet-pig system from Loess Plateau to Tibetan Plateau**

Over 5500 years ago, a sustainable and intensive millet-pig system, characterized by the feeding of millet husks to pigs and the fertilization of millet fields with pig and/or human dung, had emerged in the western Chinese Loess Plateau. This system involving common millet (*Panicum miliaceum*), foxtail millet (*Setaria italica*), and pig (*Sus scrofa domesticus*) played a crucial role in supporting the development of complex societies in North China. Around 5000 years ago, the spread of these two millets to the Tibetan Plateau facilitated agriculturalization in the high-elevation river valleys of the plateau (> 2500 metres above sea level). Previous studies tended to suggest that there were no domesticated pigs at the early settlements in high-elevation river valleys of the Tibetan Plateau, where subsistence strategies primarily relied on hunting wild animals and millet cultivation. Here, we report on the earliest domestic pigs identified through ancient DNA (aDNA) analysis of pig bones excavated from the Karuo and La phob sites at high elevations on the Tibetan Plateau, dating back to approximately 4800–4100 years ago. The δ13C and δ15N values of pig and wild herbivore bone remains, as well as crop remains excavated from the La phob site demonstrate that an intensive millet-pig system, with pigs primarily consuming millets and their manure being used to fertilize fields, was in practice. Our study demonstrates that by 4800 years ago, not only domestic pig, common millet, foxtail millet, but also intensive millet-pig system had spread to the high-elevation Tibetan Plateau, contributing to the early sedentary lifestyle of humans in these regions.

11:50 – 12:10. **Yaowu HU** (Fudan University). **Managed Pigs and dogs as cultural analogue to millet farmers to settle down high-altitude Tibetan Plateau (>2500 masl) during the Late Neolithic**

It is widely accepted that the modern Tibetan originate from the contribution of millet farmers in the Middle Yellow River Valley in the prehistory. However, whether they can succeeded in settling down at high altitude (>2500 masl) is still lack of direct evidence. Considering the close relationship between humans and pigs and dogs evidenced by the similar isotope ratios between them during the Yangshao and Majiayao Culture periods, we used the isotope ratios (C, N) of Sus at the Liujiazhai site, Sichuan, with the elevation of 2630 masl, to test the hypothesis on the settlement by millet farmers around 5,300 BP. The isotopic (C, N) results of a number of animal bones at the site show that some Sus and Canis mainly consumed C4-based foods, either from human leftovers or faeces. In addition, the isotopic values (S, O) of managed animals (pigs and dogs) are quite similar to those wild animals consuming entire C3-based foods, suggesting that they were raised locally. Those managed pigs and dogs strongly indicate the presence of millet farmers even though no human bones were available for isotope analysis. Thus, our study provides the earliest direct evidence of the settlement of millet farmers at high altitude.

12:10 – 12:30. **Xiaohong LU** (Jilin university), **Lin BAN** (Jilin University), **Chunxue WANG** (Jilin University). **The Relationship Between Domestication and Dietary Shifts in Pigs in Northeast China**

With the introduction of carbon and nitrogen stable isotope analysis to archaeology, human and animal dietary patterns have been scientifically investigated. In northern China, pigs commonly exhibit a "human-like" dietary pattern. Isotopic analyses of human bones suggest that human diets were based primarily on C4 foods, such as millet, with low nitrogen levels, and the isotopic characteristics of pigs are consistent with this pattern. However, this model does not seem to apply to northeast China, a region with distinct regional characteristics. Isotopic data of pigs from the Xiaozhushan site (Late Neolithic:-18.7±1.5, 4.9±0.9, n=13), Honghe site (Late Neolithic:-20.1±1.0, 4.8±2.0, n=13; Bronze Age:-20.1±1.1, 5.1±1.4, n=10), Changshan site (Bronze Age:-19.1±2.0, 5.4±1.0, n=9; Liaojin Dynasties:-19.8±0.6, 5.1±0.7, n=15), Weizili site (Bronze Age:-15.2±4.3, 6.4±1.2, n=18) and Wanfabozi site (Bronze Age:-21.3±0.7, 4.4±0.5, n=21; Weijin Dynasties:-20.8±0.3, 4.7±0.5, n=5) in northeastern China show that from the Neolithic to the Bronze and Liaojin periods, pig diets were consistently based on C3 plants and had low nitrogen levels. Furthermore, multidisciplinary evidence, including analyses of animal skeletal morphology, pathology and ancient DNA, suggests that pig domestication and husbandry in northeastern China occurred during the Late Neolithic. These findings lead to the conclusion that the domestication of pigs in northeastern China did not coincide with dietary transitions, as dietary changes lagged significantly behind the domestication process.

12:30 – 12:50. **Lin BAN** (Jilin niversity), **Xiaohong LV** (Jilin University), **Chunxue WANG** (Jilin University). **Ritual Use of Pigs at the Hengshui Cemetery during the Western Zhou Period in China**

The Hengshui Cemetery in Jiang County, Shanxi Province, China, is a significant archaeological site from the Western Zhou period. Excavations have revealed numerous animal remains, with pigs playing a prominent role in ritual activities. This study aims to analyse the pig remains from the site to explore their functions in sacrificial ceremonies and burials, and their relationship with social hierarchy and ritual systems. The findings indicate that pigs were not only a dietary resource but also held ritual significance. Most pig remains were found in high-ranking noble tombs and were predominantly from juvenile individuals, suggesting selective breeding for ceremonial purposes. These remains were often placed in bronze or pottery vessels, with evidence of intentional placement patterns, such as symmetry and specific bone selections, reflecting strict ritual protocols. The study also highlights the symbolic role of pigs in reinforcing social status and authority. The frequent use of pigs in elite tombs as sacrificial offerings underscores their sacred role in rituals, enhancing the prestige of the aristocracy. In contrast, commoner tombs rarely contained pig remains, underscoring the association of pigs with elite status and ritual exclusivity. By examining the ritual use of pigs at the Hengshui Cemetery, this research sheds light on the complex interplay between social structure, ritual culture, and animal resource utilization in the Western Zhou period, offering new insights into ancient Chinese ceremonial practices and their socio-political implications.

12:50 – 13:10. **Kei AONO** (The Graduate University for Advanced Studies, SOKENDAI), **Chiaki KATAGIRI** (Okinawa Prefectural Board of Educaiton), **Motomasa NAMIKI** (PASCO CORPORATION), **Hitomi HONGO** (The Graduate University for Advanced Studies, SOKENDAI). **Exploitation of *Sus scrofa* specimens in prehistoric Ryukyu Islands**

Since the Late Pleistocene, wild boar (*Sus scrofa*) has been the only medium to large mammal that inhabit the Ryukyu Islands of southern Japan. Archaeological excavations have uncovered numerous Sus remains, indicating that were a significant food resource for prehistoric populations. However, the origins of wild boars in the Ryukyu Islands remain unclear, and it is uncertain when domestic pigs were introduced. This study analyses wild boar remains from archaeological sites spanning the Late Pleistocene to the early Holocene and Jomon periods in the Ryukyu Islands. I examined the morphological characteristics and kill-off patterns of wild boar remains, evaluating geographical and chronological changes. Size comparisons were made using measurements of teeth and limb bones. Previous studies noted that some wild boars from early Jomon sites were small, and our research explored the size variations of boars across different sites in Okinawa and the Yaeyama Islands. I observed a decrease in boar size from the early Holocene to the early Jomon

period. This size reduction may be attributed to factors such as the island rule, global warming, and human intervention. While previous research suggested that domestic pigs might have been kept at early Jomon sites in the Ryukyu Islands, our analysis of the age profiles of the Sus remains indicated that they were predominantly wild populations. The kill-off patterns at a Late Jomon Shimotabaru shell mound on Hateruma Island were different from those at the early Jomon site, indicating that the Sus was brought into this island from elsewhere. Based on these results, changes in the exploitation patterns of wild boars during the prehistoric period in the Ryukyu Islands are discussed.

13:10 – 13:30. **He YU** (The State Key Laboratory of Protein and Plant Gene Research, School of Life Sciences, Peking University, Beijing, China/Institute of Ecology, Peking University, Beijing, China).
Ancient genomics reveal Chinese pig domestication history associated with human migration and management

As one of the earliest domesticated animals, the history of pig domestication has remained controversial, especially in East Eurasia. Here, to trace the origin and dispersal of East Eurasian domestic pigs, we generate 21 nuclear genomes and 23 mitogenomes from ancient pig/boar remains spanning from 5,800 BCE to 1,300 CE across China. By combining published Eurasian pig genomes, we demonstrate that a continuous pig population domesticated in northern China played a major role in shaping the genetic diversity and contributing to the unique black coat colour of modern Chinese domestic pigs. The expansion of ancient pigs from northern China mirrors the spread of Yellow River millet farmers to the Yangtze River Basin and Southwest China, accompanied by genetic introgression from local wild boars. We also observe a loss of genetic diversity and an increase in inbreeding in northern pigs, potentially linked to captive breeding practices as early as 3,000 BCE. Our findings illuminate the domestication and dispersal history of pigs in China, which is closely associated with the human migration and societal development.

DAY 1, TUESDAY, AUGUST 19th, AFTERNOON

SEAA General Meeting (KCG7) 13:00-15:00

15:00 – 15:30 COFFEE BREAK. (Elphinstone Hall)

Keynote Talks (Arts Lecture Theatre). 15:30 -18:00

15:45 – 16:30 **Professor Gordon NOBLE** (University of Aberdeen) **The CITADEL Project: Rescue- and Research-led Investigations at a Pictish Elite Centre**

Burghead Fort on the Moray Coast of Scotland is the largest and most complex early medieval forts known, one of less than 20 forts of this date identified in Scotland and one of only three Pictish coastal promontory forts, with the best-preserved defences of its type in Britain and Ireland. Yet significant parts of this site have been lost to development and through coastal erosion. The Citadel project, funded by Historic Environment Scotland aims to mitigate further loss through rescue-led excavations within a wider programme of research-led excavation and scientific analysis to provide unparalleled insights into the development and demise of an early medieval centre and the economy that underpinned its success (and ultimate failure). This talk will outline the progress of the project to date.

16:30 – 17:15 **Professor emeritus Kazuo MIYAMOTO**, (University of Kyushu/Sichuan University)
The spread of Japonic and Koreanic in Prehistoric North-East Asia based on archaeological evidence

The idea that Koreanic and Japonic languages originated around Liaodong as part of the so-called Ural-Altaic language family (Traseurasian languages), and then spread to the Korean Peninsula and the Japanese archipelago, has been put forward primarily by linguists. A hypothesis suggests that the spread of agriculture, language, and human migration occurred simultaneously. I have proposed a Four-Stage Theory of Early Agriculture in Northeast Asia regarding the spread of farming. Among these, the fourth stage of early agricultural spread in Northeast Asia, which dates to the 9th–8th centuries BCE, saw rice cultivation, as well as millet and foxtail millet farming, spread from southern Korea to northern Kyushu. During this phase, various elements such as pottery, polished stone tools, paddy rice fields (irrigated agriculture), moated settlements, and burial customs from the Mumun pottery culture of southern Korea began to influence the final Jomon period's Yusu type pottery culture in northern Kyushu. This stage also acknowledges the presence of migrants from southern Korea and suggests the diffusion of Japonic from the Korean Peninsula.

The 6th–5th centuries BCE, a new pottery style of jars, pots, and bowls emerged in the Fukuoka Plain. The pottery techniques of Yayoi were entirely distinct from those of the Jomon lineage, closely resembling the techniques of Mumun pottery from Korean Peninsula. Unlike the earlier Neolithic pottery of the Korean Peninsula, the technology used in Mumun pottery traces back through the Gonggwiri style of northern Korea to the Pianpu culture of Liaodong. This archaeological continuity presents a hypothesis regarding the spread of Japonic from Liaodong to Japanese archipelago via Korean Peninsula. Thus, a vector of Japonic diffusion is proposed, distinct from that of rice agriculture. On the other hand, the spread of Koreanic is seen as linked to the southward movement of the Jeomtodae pottery (Liangquan culture and Yinjacun lower layer) from Liaodong around the 6th–5th centuries BCE, leading to the spread of early Iron Age Jeomtodae pottery in southern Korea.

17:15 – 18:00 **Professor Hilde DE WEERDT** (KU Leuven) **Modeling the Source Ecologies of Chinese Infrastructural History in the Longue-Durée**

The modern quantitative history of Chinese city wall construction and abandonment goes back one century, and has been a constitutive part of anthropological, archaeological, historical, geographic, and sociological scholarship on China's longue-durée past. In this presentation I review the work of the celebrated archaeologist Li Ji and the century- long datafication of city wall construction in order to assess both the epistemic resonances of such work with earlier practices of information gathering and structuring as well as to consider ways in which the complex relationality of a wide range of historical textual, graphic, and material sources as well as modern archaeological reports can figure into the rewriting of Chinese infrastructural history. This presentation draws on the collective multidisciplinary research project The Lives and Afterlives of Material infrastructures and discusses the project's key theoretical, methodological, and historiographical findings.

DAY 2, WEDNESDAY, AUGUST 20th MORNING

SESSION 5.

Chinese Porcelains in a Global Perspective: Trade and Cultural Exchange (9th–17th Century)

Organizers:

Wenpeng XU (Xiamen University)

Yu DING (Peking University)

The 9th to 17th centuries witnessed the remarkable rise of Chinese porcelain as a central commodity in global trade networks, bridging diverse cultures across East Asia, Southeast Asia, South Asia, West Asia, East Africa, and Europe. This session explores the multifaceted role of Chinese porcelains in shaping and responding to the economic, cultural, and artistic transformations of this era. By adopting a global perspective, we aim to explore both the profound changes within China's ceramic production systems and the integration of Chinese porcelains into global trade networks that reshaped material culture, artistic traditions, and technological practices in recipient regions worldwide. Key themes include the technological innovations at Chinese kiln sites that enabled the production of porcelains tailored for international markets, as well as the role of maritime trade routes in disseminating these goods, evidenced by discoveries in shipwrecks and urban centres. The session also examines the influence of Chinese porcelains on local cultures, the competitive and cooperative dynamics within China and abroad, and the emergence of imitative ceramics inspired by Chinese exports. Drawing on archaeological evidence, material analyses, and historical records, this session seeks to illuminate the transformative impact of Chinese porcelains on global trade and cultural exchange during a pivotal era of interconnectedness. The discussions aim to provide a deeper understanding of how material culture facilitated the flow of goods, ideas, and artistic traditions across vast geographies, underscoring the enduring legacy of Chinese porcelains in global history.

09:20 – 09:40. **Kunpeng XIANG** (The Palace Museum). **History of the Sunken: Discussion of the export of Chinese ceramics in the 9th-10th centuries from the shipwrecks of the Belitung, Intan and Cirebon**

> In the 9th and 10th centuries, China's maritime foreign trade entered the first peak period, and the large-scale export of ceramics can be regarded as the symbol of this era. The shipwrecks of the Belitung, Intan and Cirebon, located in the waters of the Southeast Asian, as well as the large quantities of Chinese ceramics that have been revealed, are the epitome of this historical phenomenon. At the beginning of the 9th century, the Belitung Shipwreck sailed from Siraf, in Persia, to China, and carried cargo from Guangzhou. This is a microcosm of the foreign ships carrying Chinese porcelain in the similar era. At the end of the 9th century and later, as reflected in the shipwrecks of Intan and Cirebon, there was a transit port for the export of Chinese ceramics in Southeast Asia, and a large number of foreign ships no longer arrived in China but loaded the Chinese ceramics from a port and returned, one of which was the "Geluo" in the west Malaysia, and the trigger for this event may have been triggered by the attack on Canton by the troops of a man named "Huangchao".

09:40 – 10:00. **Siya CHEN** (Kanazawa University). **Interaction on Ceramic Production Techniques in East Asia: A Focus on the Ceramic Industry of Northern China in the 9th Century**

The ceramic industry of northern China underwent significant transformations during the 9th century. The production of three-coloured lead-glazed pottery, famously known as Tang sancai, experienced a decline in both quantity and quality. Simultaneously, a new category of lead-glazed pottery, characterized by refined bodies, one or two-coloured glazes, and simple decorative patterns, gained popularity. Additionally, white porcelain production techniques diversified, and production areas expanded, with several new kilns dedicated to white porcelain emerging during this period. These innovations not only reshaped the ceramic industry within northern China but also influenced broader East Asian production networks. In particular, there was notable technological and stylistic interaction with Bohai, Korea, and Japan in the realm of lead-glazed pottery, as well as significant exchanges with southern China regarding white porcelain production techniques. This presentation examines products, kiln furniture, and moulds unearthed from kiln sites to analyse the categories of products, kiln structures, and kiln furniture. By comparing manufacturing traces on products and the functional use of kiln furniture, the study reconstructs certain firing methods. Beyond stylistic analysis, the research emphasizes production techniques as indicators of deeper connections, revealing multiple levels of interaction among different kilns. Furthermore, this study integrates historical context to explore the relationships within northern China and to elucidate the dynamics of regional cultural exchange in East Asia in the 9th century. By focusing on ceramic production techniques, which represent the advanced craftsmanship of the period, the study contributes to a deeper understanding of interregional interactions during this transformative period.

10:00 – 10:20. **Baihui HU** (Minjiang University, Sun Yat-sen University). **Trade and Consumption of Ceramics of Lingnan Dao during the 9th Century**

The presentation aims to explore the trade and consumption of ceramics from Lingnan Dao, including Guangdong, Guangxi and Northern Vietnam during Tang dynasty, mainly dated to the 9th century. Through the investigation of trade-related sites, the trade routes of ceramics have been revealed. These routes originated not only from Guangzhou Port but also included transfer routes along the Beibu Gulf coastal canals. From these points of departure, goods were transported either through the Strait of Malacca or the Kra Isthmus to the Indian Ocean region. Upon reaching the coast of the Persian Gulf, these ceramics might have been redistributed, with a small quantity flowing into the inland areas of the Persian Gulf or being transported to the Red Sea and the East African coast. Upon investigating the unearthed contexts of ceramics from Lingnan Dao at their final consumption destinations, it was found that these ceramics served various functions including storing liquids, fetching water, and practical commodities usage. Simultaneously, they were also utilized for spiritual and religious purposes, such as in burials and temples. The consumers ranged from the elite of the court and urban societies, monks associated with Hinduism and Buddhism, to Arabian merchants engaged in maritime trade, as well as common people in Southeast Asia and the Indian Ocean region. These ceramics played significant roles on multiple levels, satisfying practical needs while also carrying spiritual and religious significance. However, the status and value of ceramics varied between domestic and overseas markets.

10:50 – 11:10. **Jianan FAN** (School of Archaeology and Museology). **Study on the Porcelain Cargo and Related Issues of the Chau Tan Shipwreck**

The Chau Tan Shipwreck, discovered in the central region of Vietnam's Quang Tri Province, which dates back to the 9th century was built using the traditional Southeast Asian Shipbuilding Technique. The artifacts from Chau Tan Shipwreck are mostly Chinese porcelain, including Yue Ware, Changsha Ware, white porcelain of Northern China and Stoneware from Guangdong region, providing new and meaningful evidence for exploring East and Southeast Asian maritime trade network during the 9th to 10th Century A.D. By comparing the Chau Tan Shipwreck's porcelain cargo with those artifacts unearthed from several ports site on the southeast coast of China and the Batu Hitam Shipwreck in Indonesia, it can be inferred that the Chau Tan Shipwreck most likely departed from Yangzhou, China. The ink inscriptions on the Chau Tan Shipwreck's porcelain cargo and other historical records indicate that the Chau Tan shipwreck's destination port probably was Siraf on the Persian Gulf coast.

11:10 – 11:30. **Yu DING** (Assistant Professor, Peking University). **Changes and patterns of Chinese ceramic export in the 11th and 12th centuries**

The 11th to 12th centuries roughly corresponds to the early Northern Song to mid-Southern Song periods. Based on years of archaeological discoveries and research, the export of Chinese ceramics during this period does not appear to be as prominent compared to the preceding and following periods (9th-10th and 13th-15th centuries). This broad perspective provides a general view of Chinese ceramic exports during the 11th-12th centuries. However, when examined from different perspectives, some observations may slightly contradict this generalization. For instance, historical records suggest that during this period, China's foreign interactions and trade achieved significant growth. Examining the timeline more closely reveals that the situation in the 11th and 12th centuries was not entirely uniform: there were differences between the two centuries, as well as between the first and second halves of the 11th century. From a spatial perspective, focusing on different overseas market regions also yields varying conclusions. Therefore, despite the macro-level summary, it remains necessary to observe the changes in Chinese ceramic exports during this period from multiple angles. Commercial activities follow a basic "production-circulation-consumption" process, with each stage unfolding within a certain spatiotemporal scope, influenced by natural and social environments, including political and economic conditions. Thus, in examining maritime trade during the Song dynasty, it is essential to consider various factors that affected its operation. The interplay of these factors shaped the nature of Chinese export ceramics discovered overseas. This study will focus on three areas: first, an overview of Chinese export ceramics discovered from this period; second, the production conditions of related ceramic kiln sites; and third, the influence of domestic policies, local changes, and the international situation.

11:30 – 11:50. **Wenpeng XU** (Xiamen University). **The Hidden Origins: A New Perspective on Dehua-Style Qingbai Porcelain from Huaguang Reef I Shipwreck**

Identifying the origins of maritime-traded porcelain is essential for understanding ancient production and trade dynamics, but reliance on stylistic analysis alone can lead to significant misinterpretations due to the visual similarities among products from different kiln sites. This study revisits the origins of Dehua-style qingbai porcelain recovered from the Huaguang Reef I Shipwreck, challenging the long-held assumption that such wares predominantly originated from Dehua kilns. Compositional analysis using portable X-ray fluorescence (pXRF) reveals that the majority of the analysed pieces were produced at the Huajiashan Kiln, with additional contributions from other less-known kilns in Fujian. These findings illuminate the diverse production landscape of Southern Song export wares, highlighting a more complex network of manufacturing and trade than previously recognized. This research underscores the importance of precise sourcing in understanding maritime trade and demonstrates the limitations of traditional stylistic attributions. By offering new insights into the production and export practices of Southern Song porcelain, this study advances our knowledge of the maritime porcelain trade and its broader implications.

11:50 – 12:10. **Zhitao CHEN** (Xiamen University). **An Analysis of the Phase Changes in Black-Glazed Porcelain from the Min River Basin, Fujian, through Shipwreck Evidence.**

Since the late 10th century, China's maritime trade has seen a significant boom, with porcelain emerging as a pivotal commodity in global exports. Prior research has predominantly concentrated on the substantial quantities of celadon and white porcelain, examining their decorative motifs, artifact types, assemblages, and origins. However, there has been a conspicuous absence of scholarly attention towards black-glazed porcelain. With the emergence of tea culture in the 11th century, black-glazed porcelain became the preferred vessel for tea consumption, and the Min River basin in Fujian emerged as a key production hub for this type of ware. As a product embodying the distinctive characteristics of its era, black-glazed porcelain has yet to receive the scholarly scrutiny it deserves. The production and trade of black-glazed porcelain not only mirror the economic vibrancy of China during this epoch but also symbolize the cultural interactions with foreign lands, facilitating the dissemination of tea-drinking customs abroad through maritime trade in ceramics. This paper, utilizing shipwreck data discovered in China, aims to systematically investigate the black-glazed porcelain retrieved from these shipwrecks, endeavouring to elucidate the phased characteristics of black-glazed porcelain production and trade in the Min River basin of Fujian during this period.

12:10 – 12:30. **Hui WU** (Fudan University). **Research on the Production and Trade Exchange of Celadon in Fujian Province during the Song and Yuan Dynasties**

Celadon is the main product and representative product of the kiln industry in Fujian province, and the Song and Yuan Dynasties were also the heyday of the development of celadon kiln industry, which is an important part of the study on the remains of the ancient porcelain handicraft industry in Fujian province. This research, based on the materials from the porcelain kiln sites, clarifies the spatial distribution and development sequence of the celadon kiln industry during this period, and to explore the technological origins in different historical periods by analysing the glaze, shape, decoration and firing techniques of celadon products. According to Fujian's coastal advantages, and with the combination of the Fujian celadon unearthed from shipwrecks, ports and sites around the world, this research summarizes the dissemination and distribution of Fujian celadon products and further discusses the intrinsic connection between its export-oriented production mode and the development of celadon kiln industry.

12:30 – 12:50. **Qinzhe AI** (Durham University). **Quality, Trade, and Global Ceramic Products: A Quality Analysis of Chinese Longquan Celadon Trade in the Persian Gulf from 1200 to 1500 AD**

Since the 9th century, Chinese ceramics have been a significant commodity in Indian Ocean maritime trade, offering insights into the global movement of commodities and commercial networks. These ceramics, of which diversity and varying quantities have been well studied, have seldom been studied from the perspective of 'quality'. This study attempts to establish a practical and systematic method for evaluating the quality of Chinese trade Longquan celadon, the most widely distributed Chinese ceramic product from the 13th to the 15th century around the Indian Ocean. In this study, 955 Longquan celadon sherds from the Williamson Collection provide ideal evidence for developing method for Quality evaluation. The evaluation of Quality involves visual examination based on six criteria. And 97 samples were selected for chemical analysis using pXRF, aiming to reveal differences in elemental profiles between different Quality groups and to establish an objective measurement method of ceramic Qualities. The Quality patterns of Longquan ceramics shed light on the shift of market demands for Chinese ceramics over time in Iran, as well as the flexible strategies taken by merchants and dynamically organized trade networks.

SESSION 6

From Forest and Fields: Investigating Food, Fuel and Plant Use in Ancient China

Organizers:

Rita DAL MARTELLO (Ca'Foscari University of Venice)

Marvin DEMICOLI (Moesgaard Museum)

Yu-Chun KAN (University College London)

Plants provide humans with essential resources including food, shelter, raw materials, and fuel for cooking, heating, lighting, among other things. This makes studying plant remains from archaeological sites (archaeobotany) crucial in understanding past human societies and the extent of the anthropogenic environmental impact. In the last decade, archaeobotany has gained popularity in China, with studies expanding in scope of research topics, geographical and chronological ranges. Archaeobotanical studies now incorporate, for example, the study of wood-charcoal (anthracology) and of charred food remains. Anthracology focuses on fuelwood procurement, use, woodland vegetation reconstruction and its management in the past, and the impact this had on local ecosystems. The study of food remains allows the reconstruction of past dietary habits, cuisines and food processing. These new research directions shed light on how ancient societies adapted to and transformed their local and wider environments.This session explores people-plant interactions in ancient China from the

perspective of plant resource use in the widest sense and the subsequent transformation of the ancient natural landscape with a chronological focus on prehistoric to early historic China. Bringing together contributions from archaeobotany, anthracology, and experimental archaeology, this session will showcase some of the newest research methodologies for studying ancient plant use, discuss trends in archaeobotanical studies in China, and highlight lesser-known aspects of the discipline. The session will offer a nuanced understanding of the complex relationships between people and plants in ancient China, highlighting the importance of all archaeobotanical research as an integral part of archaeology for reconstructing past societies and cultures.

09:20 – 09:40. **Rita DAL MARTELLO** (Ca'Foscari University of Venice), **Liya TANG** (Northwest University), **Marvin DEMICOLI** (Moesgaard Museum), **Jade D'ALPOIM GUEDES** (University of Washington). **Archaeobotany in China: Past, Present and Future**

Although the earliest analyses of ancient plant remains in China took place in the 1960s, the field of archaeobotany did not fully develop as a discipline until after the turn of the 21st century. Within the last ten to five years, there has been a significant expansion in archaeobotanical research in China. This presentation will provide a brief overview of the evolution of archaeobotany in China, from its formal establishment to the institutionalization of teaching and practice. Initially, archaeobotany primarily focused on the origins of agriculture and the domestication of key plant species, especially cereals. Today, research in archaeobotany has broadened to encompass historical periods, dietary evolution, culinary practices, woodland management, fuelwood usage, plant cultivation, animal husbandry interactions, and anthropogenic environmental impacts, among other topics. I will examine how advancements in archaeological methodologies have influenced archaeobotanical studies and shifted the research focus of archaeobotanists. Furthermore, I will analyse the role of Chinese archaeobotany within global trends and speculate on potential future research trajectories.

09:40 – 10:00. **Sheahan BESTEL** (University of Glasgow). **Investigating food including plant and animal usage from flotation samples at Zhaoguo Cave in southern China**

Zhaoguo Cave was listed as one of the top ten archaeological discoveries in China in 2020, based partly on multiple exhaustive scholarly analyses. The cave is located in a karst mountain cave in Guizhou Province, southern China, and dates between 57,000 cal BP to modern times. The cave is located in a biodiversity hotspot and was likely a refugia during the last glacial maximum, as it is rare to find evidence of human occupation at this time. Hearths in the cave were analysed by flotation in a bucket to preserve fragmentary and scarce remains and the heavy fraction and light fraction were analysed. Whilst plant remains were scarce in the flotation samples nuts and charcoal were still preserved. Animal bones were also common around or in the hearths and were highly fragmented, typical of trampling in the cave. Lithics were also preserved and were evident in the flotation samples as was a small bone needle. Both archaeobotanical and zooarchaeological samples from the flotation samples were analysed to compare the vegetative portion of the diet to the meat portion of the diet and this little-used methodology will be discussed, along with the remain of plants and animals in the flotation samples.

10:00 – 10:20. **Ling QIN** (Peking University). **Entering Agriculture: alternative strategies of early villagers in Northern and Southern China**

East Asia is often regarded as a representative region of the Neolithization model, characterized by the invention of pottery preceding the establishment of sedentary agricultural societies. The domestication of foxtail millet and broomcorn millet in the north and the beginning of rice cultivation in the south are typically viewed as two independent agricultural origins. While the environmental and climatic differences between the north and south, as well as the biological characteristics of domesticated species, have been extensively discussed, comparisons of cultural traditions and other economic strategies between these regions remain relatively underexplored. This study focuses on two distinct ecological niches: the southeastern edge of the Mongolian Plateau (Bashang 坝上region) in the north and the mountainous basins of southern Zhejiang in the south. Drawing on recent research on the Sitao/Yumin culture, and Shangshan cultures, this paper offers a comparative analysis of the diverse strategies and pathways entering agriculture between 10,000 and 8,000 BP. Key elements such as the management of wild plant and animal resources, the continuity and

transformation of lithic technologies, and the similarities and differences in food processing methods, as indicated by pottery assemblage, are examined alongside crop remains to elucidate the various agricultural origins. Furthermore, new data on crop domestication rates (by proportion of non-shattering trait) suggest that the protracted “process” spanning millennia, commonly observed in Southwest Asian wheat/barley domestication, might be less discernible in East Asia. This raises the possibility of different developmental rhythms in East Asian agricultural origins compared to those in the Southwest Asia.

10:50 – 11:10. **Shuzhi WANG** (Laboratory of Archeological Sciences and Cultural Heritage Conservation), **Haiyan WANG** (Laboratory of Archeological Sciences and Cultural Heritage Conservation). **Research on Carbonized Plants at the Sitai Early Neolithic Sites in Northern China**

The Sitai Site in northern China contains culture remains of Epipaleolithic and early Neolithic Age, as well as ones of the early and middle Neolithic Age. It is a key site for the study of the origin of arid agriculture in northern China. From 2022 to 2023, soil samples were collected during the excavation process of the site, and 2043 samples were obtained through flotation. There were various types of plant remains unearthed from the Sitai Site, including seeds, fruits, broken fruit nuclei, and unknown seeds of plants such as *Panicum miliaceum*, Poaceae, Chenopodiaceae, Labiatae, Compositae, Polygonaceae, Cyperaceae, Fabaceae, Vitis sp, Bangiaceae, Urticaceae, Violaceae, Rosaceae, etc. which provided important archaeological material and information for exploring the domestication of common millet, broomcorn millet and the origin of arid agriculture in northern China. There were 664 charcoal fragments, which were identified as the genus of Ulmus, Prunus, Salix, Phellodendron, Euphorbia, Populus, and Pyrus. The results of spore pollen analysis had indicated that there were other tree species distributing around the site, but at that time, the ancestors mainly chosed the elm and plum trees to use, which might indicate that they had consciously begun to prioritize edible fruit trees such as ones of elm and plum. Based on research results at the vicinity of sites, it was believed that early ancient populations might manage elm and plum trees as fuel and food sources.

11:10 – 11:30. **Zhenhua DENG** (Peking University). **The Rise and Fall of Grinding Traditions: Tracing Early Food Processing Practices in Prehistoric China**

The contrasting food processing traditions of West Asia and East Asia, and the cultural distinctions they engendered, have long been a focus of scholarly research. In this context, East Asia is typically characterized by its emphasis on grain-based diets and techniques such as boiling and steaming, in contrast to the flour-based baking traditions that have dominated in West Asia. However, archaeological evidence indicates that during the early to middle Neolithic period, grinding tools—such as querns and pestles—were widely used across large parts of China, suggesting the existence of an early flour-based food tradition. With the rise of agriculture as the dominant economic system, these grinding tools largely disappeared from most regions, signalling the decline of this tradition. This study systematically reviews relevant archaeological findings, analysing the distribution and frequency of grinding tools across different phases of prehistoric China. By exploring the emergence and decline of the early flour-based tradition, this paper provides new insights into the evolution of food processing practices in East Asia, shedding light on a pivotal shift in the region's culinary history.

11:30 – 11:50. **Shinji KUBOTA** (Kumamoto University), **Guoping SUN** (Zhejiang Provincial Institute of Cultural Relics and Archaeology), **Leping JIANG** (Zhejiang Provincial Institute of Cultural Relics and Archaeology). **Rice cultivation and rice cooking seen from pottery : A comparison of Kuahuqiao and Hemudu**

In this presentation, through the use-wear analysis of pottery excavated from the Kuahuqiao and Hemudu cultures, known as early rice farming cultures in the lower Yangtze River basin, it will be pointed out the possibility that the methods of rice cooking in these two cultures were different. In particular, the rice cooking method in the Kuahuqiao culture may be the oldest example of rice boiling method.On the other hand, in the Hemudu culture, rice boiling and rice porridge may have been carried out. Given the amount of pottery excavated, it is believed that rice porridge was the main method of rice cooking. In addition, through a comparison of plant use in the Kuahuqiao and Hemudu cultures, it will be pointed out that differences in rice yields may have influenced the rice cooking

methods. Finally, it will be shown that rice boiling method, which emerged in the lower Yangtze River basin during the Neolithic period, was later adopted over a wide area of East Asia.

11:50 – 12:10. **Marvin DEMICOLI** (Moesgaard Museum). **Fuelling the Neolithic: Examining the ecological footprint of the Northern Chinese Neolithic through anthracology**

The transition from forested environments to agricultural landscapes during the Chinese Neolithic period in north-central China marks a significant change in land use practices, especially with the emergence of the first large urban centres in the Late Neolithic. Anthracology, the analysis of wood-charcoal, is a valuable tool for reconstructing past climate conditions, woodland vegetation, and human impact on the environment. By examining charcoal remains from archaeological Late Neolithic sites in Shanxi, insights into long-term effects of human impact on the landscapes are explored. Anthracological analyses conducted in north central China, particularly in the Shanxi Province regions of Bicun, the Jinxi-Yufenhe area, and at Zhoujiazhuang, provide a view into the past woodland vegetation, paleoecology, and wood uses during the Late Longshan Neolithic period. The results suggest a wetter and warmer climate than the present, with differences in arboreal vegetation across regions and time periods pointing to the complex interactions between humans and the environment. On the other hand, the observed changes in woodland vegetation composition within the anthracological assemblages cannot be solely attributed to climate change but point to an ecological impact of early urbanization. Deforestation and secondary forest regeneration may have played a role in shaping vegetation composition, highlighting the need to consider long-term human impacts on landscapes. By understanding these impacts as they accumulate and compound through time, valuable insights into the transition from forested areas to agro-pastoral landscapes and the implications for ecosystem sustainability can be gained. This presentation underscores the importance of anthracology as a tool for reconstructing past environments and understanding the impact of human activities on landscapes. By exploring forest succession and land use practices, the study sheds light on the ecological footprint of Neolithic urbanization and provides valuable insights into the interactions between humans and their surroundings.

12:10 – 12:30. **Dorian FULLER** (University College London). **Increasing agricultural production, alternative strategies of intensification and diversification in northern and southern China.**

After the establishment of agriculture populations grew requiring either expansion through farmer migration or population packing into denser sites, requiring increased productivity. In the rice culture of the Yangtze basin strategies tended towards intensification and population densification, with more limited evidence for the diversification of agriculture during the Neolithic or Bronze Age. By contrast, in the millet cultures of the Yellow river basin tendencies for geographical expansion, underpinned by migration, and diversification both took place. While some diversification took place through adopting new crops, including rice from the South, Wheat and livestock from the distant west, new domestications also took place, notably soybean—which had the dual effect of increasing land productivity and decreasing demands for animal protein. Morphological change indicative of soybean domestication between the late Yangshao and Longshan period is focused on Henan and Shaanxi. These regions with a more diversified agriculture see the development of urbanisation. It will be argued that three alternative modes of agricultural productivity and settlement trajectory can be contrasted: productive densification, extensive dispersalism and diversified intensification.

12:30 – 12:50. **Yu-Chun KAN** (University College London), **Long MA** (Henan Provincial Institute of Cultural Heritage and Archaeology). **Cooking in 'the centre of the world': Micro-structural archaeobotanical analysis on charred food remains from Wangchenggang (Henan, China)**

Among the emerging urban landscapes across the late Neolithic Central Plains, Wangchenggang (王城岗) is one of the most renowned sites in the Longshan Horizon. The large settlement (50 hectares), located at the foot of Mt. Song and enclosed by rammed earthen walls, has been a major prehistoric centre in the Ying River Valley. Years of excavation have uncovered a rich material culture that spans from Longshan to the Warring State period. In later classical literature and social memory, the Dengfeng area where Wangchenggang is situated, has been regarded as the 'centre of the world (天地之中)' (or the so-called 'axis Mundi') in Zhou imaginary geography and often linked to legendary Xia political leaders. While the importance of Wangchenggang in the state formation process and its ideological discourses has been recognized, local daily routines such as cooking

and eating have not been as thoroughly understood. This research presents the first tissue-based microstructural analysis of charred food remains encrusted on various cooking wares such as ding, li, yan, and guan at Wangchenggang. Relying upon SEM high-power microscopy and utilizing histological knowledge of plant or animal tissues, this approach sheds light on ancient foodways and the nuances of the culinary Chaîne opératoire associated with each food crust. Focusing on the late Longshan to the Erligang period, a pivotal time for the development of social complexity in northern China, we observe both changes and consistencies in everyday food practices.

12:50 – 13:10. **Yuchao JIANG** (Zhengzhou University), **Jingjing CUI** (Zhengzhou University), **Yuanting SU** (Zhengzhou University), **Wei TIAN** (Zhengzhou University). **Tree Utilization of Early Bronze Age in Central China: Based on charcoal analysis in Xiwubi copper metallurgy site.**

A large number of copper smelting relics from Erlitou to Erligang Period were discovered at the Xiwubi Site and large pieces of charcoal and fragments mingled with copper smelting slags were unearthed, which provided important research materials to restore the production and utilization of charcoals and copper metallurgy in Southern Shanxi during Xia and Shang Dynasties. Through analyzing 2519 charcoals excavated from the Xiwubi Site which was mainly focused on copper metallurgy, it was found that coniferous trees occupied most. Hardwood pine accounted over 60% of the total charcoals in the Erlitou Period and up to almost 90% in the Erligang Period. The diversity of coniferous trees utilization was quite low with only 4 kinds. Meanwhile, a small amount of woods from elm family, quercus family and acer family were used. There were sporadic uses of other common trees such as pear tree and jujube tree, all of which were native to this region. Through analyzing 47 charcoals mingled with copper slags from this site, it was found that pine wood was used as the main fuel for copper smelting and few quercus woods were also used in the Erligang Period. Studies on the hardwood pine tree ring curvature showed that most the charcoal production in the Xiwubi Site should be using the stone axes to cut and trim the hardwood pine with large diameter. There was no significant change in the utilization of tree resources from the Erlitou to the Erligang Period which indicated that the copper metallurgy industry was in a stable stage in the Xiwubi Site during the Xia and Shang Dynasties.

13:10 – 13:30. **Ying YANG** (UCL Institute of Archaeology), **Yin XIA** (Emperor Qinshihuang's Mausoleum Site Museum), **Wenbin SHAO** (Emperor Qinshihuang's Mausoleum Site Museum). **The Use of Wood in the Terracotta Army Pits and Mausoleum of China's First Emperor**

Wood has been a fundamental material throughout human history, serving a wide array of functions. It also played a crucial role in constructing one of the most iconic ancient monuments: the Terracotta Army Pits and the Mausoleum of China's First Emperor. However, it has not got as much attention as the other elements of the complex. This site is crucial for understanding China's first unified, centralised, and multi-ethnic dynasty and broader discussion about early empires. Although most of the associated pits within the mausoleum have not been excavated yet, archaeological augur surveys have shown that many large-scale pits are mixed earth-wood construction with extensive wooden components, and many of them were burnt deliberately, which provide us with the invaluable opportunity to investigate the utilisation of wood resources in the complex and the Qin Empire. This presentation will report on the use of wood at this site based on data from 806 charred and desiccated wood remains from the Terracotta Army pits 1 and 2, the Stone Armour Pit, the Pit of the Acrobats and an ancillary tomb M1. The results indicate that although most wood came from subalpine conifers, there was a transition of taxa composition across the building course of investigated pits. Different wood taxa were used for varied purposes, but no evidence suggests differentiated preferences towards particular species among building elements. Although there is more work to do to trace these timbers' geographical provenance, current evidence suggests the source of the wood should be relatively concentrated, at least for the investigated facilities so far. The source should be somewhere with a relatively high elevation and favourable climate, but it had been clearly affected by anthropogenic activities.

SESSION 7.

Reporting back on The Wall: People and Ecology in Medieval Mongolia and China

Organizers:

Gideon SHELACH-LAVI (Hebrew University of Jerusalem)

Lance PURSEY (Hebrew University of Jerusalem)

Amartuvshin CHUNAG (National University of Mongolia)

Starting from 2019, the ERC funded project, The Wall: People and Ecology in Medieval Mongolia and China (project N°: 882894) has been investigating a large system of walls dated to the 11-13 centuries CE. This Medieval Wall System is made up of at least three main wall lines that together stretch over 4500km across the eastern and southern provinces of Mongolia, Inner Mongolia and Heilongjiang in the PRC, and Zabaykalsk in the Russian Federation. These lines are made up of long trenches and earthwork fortifications. The project considers competing theories for the construction of the Medieval Wall System, be it for military and defense purposes, or for the surveillance and restriction of the movement of nomadic peoples and their herds. The aims of the project have been to understand not only the context of long-walls and trench construction but also the people and life along the wall system in medieval East Eurasia.This panel brings together a multidisciplinary perspective of the Medieval Wall System drawing on the process and findings of five field seasons. In addition, it presents ongoing historical research and remote-sensing mapping of the different lines of the Medieval Wall System. With two theoretical overviews (Shelach-Lavi; Honeychurch), two papers on the process of excavation and survey (Heimberg; Rogovski); two on engaging with historical sources (Pursey; Lotze), and four on scientific analysis of findings, including zooarchaeology (Steiner), archaeobotany (Gonzalez Carretero), residue analysis (Chen), and osteology (Munkhtur).

09:20 – 09:40. **Gideon SHELACH-LAVI** (Hebrew University), **Chunag AMARTUVSHIN** (National University of Mongolia), **Dan GOLAN** (Hebrew University). **The Wall(s) – Comparative Perspectives on the Different Medieval Wall Systems in Mongolia and China**

Our project, The Wall: People and Ecology in Medieval Mongolia and China, investigates at least four distinct lines of walls and trenches. While all these monuments were constructed between the 10th and 13th centuries CE, new data from our field research suggest that each line exhibits a slightly different chronological span and was likely built by different political entities. In this paper, we compare the features of these four lines, including construction techniques, associated structures, and artifacts found within these features. Geographic Information Systems (GIS) and statistical methods are employed to analyse and compare the design of the different lines, as well as the geographic and ecological rationale underlying their construction. This analysis not only supports the proposed chronology of wall construction during the medieval period but also offers significant insights into the motivations for building such extensive and costly monuments. Our comparison enhances the understanding of the functionality of these wall and trench systems across different historical periods, particularly under the rule of the Kitan/Liao, Jurchen/Jin, and Tangut/Western Xia dynasties.

09:40 – 10:00. **Tal ROGOVSKI** (Hebrew University of Jerusalem), **Or FENIGSTEIN** (Hebrew University of Jerusalem). **Technologies as aide for the Archaeological Research of The Wall Project**

The Wall Project, extensive use was made of technological and digital tools to create as comprehensive a database as possible. This data enabled us to thoroughly understand the site we are researching, identify potential excavation locations, and document our work in the best possible way. Before each excavation season we conducted an extensive study using high-resolution satellite

images to map out and record the various wall lines and accompanied structures. We used a GIS software (ArcMap) to georeferenced those maps which were then, during the field season, helped us to locate our excavation unites and finds. In the field we employed a range of remote sensing techniques, including geophysical methods (gradiometry, ground penetrating radar, multi-depth electromagnetic conductivity, and surface magnetic susceptibility), RTK measurement devices, drone and digital camera photography, 3D modelling (photogrammetry), soil augers for stratigraphic understanding, ground surveys, and metal detector surveys. Due to time constraints, this lecture will focus on two main aspects of our work: the use of drones and digital cameras for documentation and model creation (photogrammetry), and the metal detector survey conducted during our most recent seasons. The lecture will present the results of those methods and reflect on their potential for future work in Mongolia.

10:00 – 10:20. **Dor HEIMBERG** (Hebrew University of Jerusalem). **Building the Frontier: Construction Materials and Building Practices Along the Walls of Medieval Mongolia**

The Mongolian steppe is often associated with nomadic pastoralism and lightweight, portable structures. However, recent field research of "The Wall: People and Ecology in Medieval Mongolia and China" project has revealed a diverse range of permanent architectural features, associated with the Medieval Wall System in eastern Mongolia. This paper focuses on two newly discovered structures located inside fortified enclosures in eastern Mongolia. Analysis of these structures sheds light on the techniques, materials, and social implications of steppe construction. The first structure, dating to the Kitan-Liao period (916-1125 CE), consists of a large, impressive gate and rectangular building constructed with wooden posts and rammed earth. The second, dated to the Jurchen-Jin period (1115-1234 CE), is a semi-subterranean structure with a sophisticated stone slab heating system (*khanzan khaalalt* in Mongolian or *kang* in Chinese).These discoveries challenge traditional notions of steppe architecture and call for the exploration of multiple social and methodological issues. Variations in construction methods between and within sites suggest potential differences in labour, resources, and cultural influences. The use of diverse building materials, both local and imported, highlights the interplay between local and foreign traditions. Moreover, the extraction of materials and their reuse as spolia indicate the enduring significance of these structures beyond their initial function, shaping the landscape and memory of subsequent generations.

10:50 – 11:10. **Johannes LOTZE** (Hebrew University of Jerusalem). **"The Benefits Are Everlasting": Court Debates over Frontier Fortifications in the Jin and Ming Empires Compared**

One of the most monumental architectural feats in global premodern history is the successive accumulation of long-walls (*changcheng*) and border fortifications often collectively referred to as "the Great Wall of China". Notably, design, location, and function of fortifications differed considerably across empires and their construction was often contested. This is true for both the Jurchen Jin (1115–1234) and Ming (1368–1644) periods, to name two key examples. While in previous research the Jin case was often overshadowed by the much better known Ming wall, archaeological and historical explorations have now progressed far enough to attempt a systematic cross-dynastic comparison led by specific research questions. What individuals made the suggestions and decisions about such construction works? What were their rationales to build or not to build? To what extent are the historically changing purposes and materialities of walls/trenches reflected in the debates? And what, if any, role does the difference between "Jurchen" Jin and "Chinese" Ming (as "hybrid" versus "Sinitic" regimes) play for long-wall building in the longue durée?

11:10 – 11:30. **Lance PURSEY** (Hebrew University of Jerusalem). **Dispatches and projections: Liao frontiers and the historiography of pre-Chingisid Mongolia**

The northwest frontier of the Liao empire (907-1125CE) in the Mongolian Plateau is a great case study with which to consider the relationship between the disciplines of history and archaeology. Textual information on the happenings of this vast area during three centuries (10-12th century) is limited to a few fragmentary passages. And yet, such passages are frequently deployed to identify Liao period sites by archaeologists. But just as archaeology is so much more than merely generating material evidence to fill in historical lacunae, the discipline of history is so much more than a repository of "facts" to corroborate archaeological finds. In this paper I apply critical approaches to the historical passages, both by close textual analysis of their contents, and a wider consideration

of the processes by which such passages came to be compiled and transmitted over the centuries into the historical editions that we now possess. By exploring the material and social circumstances behind these passages about the Liao northwest frontier we can articulate how removed the information we have about the frontiers are from the realities on the ground. My presentation serves as a caution to future invocations of the historical record in archaeological interpretations and also provides a glimpse of the relationship between the imperial centre and the frontier of the Liao empire.

11:30 – 11:50. **Jingchao CHEN** (Hebrew University of Jerusalem). **A Peek into the Pots of the "Wall People": Dietary Traces of Frontier Garrisons in Medieval Mongolia**

This research presents the first comprehensive study of pottery from the Medieval period in Mongolia and China, with a specific focus on ceramics unearthed from the Medieval Wall System. The research introduces novel methodologies to the region, particularly the application of organic residue analysis, which is yet to be applied in Mongolia. This analysis identifies domesticated plants, particularly various types of millet, as a key food source on the steppe, suggesting that millet was a primary staple in the diet of these populations, alongside domesticated animals, and wild resources (hunted and fished). The findings also indicate the potential for millet cultivation in Mongolian steppe. It offers valuable insights into the food habits and economic base of the garrison communities at both local and regional levels, while enhancing our understanding of ceramic technology, vessel usage, distribution or trade during the medieval period. It contributes to a broader understanding of the archaeology and history of Mongolia and Northeast China during this time.

11:50 – 12:10. **Lara GONZALEZ CARRETERO** (University of York), **Jingchao CHEN** (Hebrew University). **Feeding The Wall: first insights into medieval plant production and consumption in Eastern Mongolia**

This paper presents the results from the first archaeobotanical analysis carried out on a series of archaeological sites (i.e. enclosures and structures) excavated along the medieval wall system (11th to early 12th centuries AD) in Northeastern Mongolia and in the Gobi Desert area. Through the application of a combined archaeobotanical methodology for the identification of both plant macrofossils present in the soil and high-resolution microscopy (DM/SEM) of food residues preserved in pottery vessels, we were able to identify the presence of both domesticated and wild plants at these sites, revealing insights into plant production, medieval agricultural practices and plant use and consumption by the wall system' inhabitants. This has added to the interpretation and understanding of patterns of use for these sites and relationship with the wall system during this time period in Mongolia.

12:10 – 12:30. **Tikvah STEINER** (Hebrew University of Jerusalem), **Gideon SHELACH-LAVI** (Hebrew University of Jerusalem), **Rivka RABINOVICH** (Hebrew University of Jerusalem). **Provisioning and pastoralism along the Mongolian medieval long wall system: analysis of Liao and Jin era faunal assemblages**

The medieval long wall system in Mongolia consists of multiple wall lines in both the northern and southern parts of modern-day Mongolia. The northern section was constructed during the Liao period (915-1125), while the southern sections are dated to the later Jin empire (1115-1234). Archaeological excavations from 2022-2024 at Site 23 on the northern wall and Site MA03 on the southern wall uncovered unique and well-preserved faunal assemblages. Fauna from non-ritualistic or burial contexts in Mongolia has not been systematically excavated or studied, especially during the medieval period and later. Therefore, the excavation of two faunal assemblages provides the rare opportunity for detailed analysis of economic practices, subsistence, diet and pastoral activities. The Site 23 assemblage comes from a compact midden and represents the flexible economic habits of the site's inhabitants, combining pastoralism, provisioning, hunting and fishing. Sheep and horses were raised locally, based on skeletal element presence and age profiles, while cattle were likely provisioned. Domestic dogs were also present, as well as small numbers of wild fauna such as gazelle, badger and catfish. The smaller assemblage from Site MA03 contains fauna from a feature with a stone kang, mainly of domestic species. A broken plow suggests that farming was practiced, in combination with pastoralism and hunting. Comparison between the faunal assemblages and their respective contexts reveals the varied subsistence practices utilized in two distinct ecological zones, united by the construction of the long wall system.

12:30 – 12:50. **Uuriintuya MUNKHTUR** (National University of Mongolia), **Daniela WOLIN** (Skidmore College), **Chunag AMARTUVSHIN** (National University of Mongolia). **Bioarchaeological Analysis of Two Individuals Buried in the Medieval Wall System of Mongolia**

The Medieval Wall System is comprised of several wall-ditch features and structures built during the pre-Mongol Medieval Period (11-13th centuries CE) in what is now Mongolia, northern China, and southeastern Russia. Between 2018 and 2024, The Wall Project: People and Ecology in Medieval Mongolia and China discovered two intrusive burials interred within collapsed structures while carrying out survey and excavation along the Medieval Wall System. In this presentation, we will use bioarchaeological analyses to examine the identities of these two individuals. Then we will explore the possible reasons why they were interred within the structures, instead of being placed in discrete burial features. This research contributes to our understanding of the lived experience of pastoral nomadic groups and provides more information about the varied ways that people interacted with built structures on the steppe long after they were abandoned. Please note that this presentation will include images of human remains.

12:50 – 13:10. **William HONEYCHURCH** (Yale University), **Chunag AMARTUVSHIN** (National University of Mongolia), **Batdalai BYAMBATSEREN** (National University of Mongolia). **Mortuary Practices and Landscapes of the Mongol Empire's Eastern Flank**

The northeastern grasslands of Mongolia are the putative homeland of the Mongols and so it is curious that archaeologists still know so little about the medieval communities that inhabited eastern Mongolia. The Wall Project's latest field season in Dornod aimag, Mongolia, was designed to study Kitan period (916-1125 CE) long walls and fortified settlements, but also encountered a cemetery in the study area dating to the period of the Mongol Empire. This cemetery, located on a peak known as Tsagaan chuluut, had been documented and studied in 2009-10 by researchers from the National University of Mongolia. We present results from our continuation of their initial study with the intent of learning more about the relationship between the Kitan frontier and the beginnings of the Mongol state and empire. To the previous results we add a detailed survey and mapping of the cemetery site, excavation data from several Mongol period burials, new AMS dates, and regional context for understanding the Tsagaan chuluut cemetery as one small part of the rise and fall of empires in this eastern region.

SESSION 8.

Archaeological discoveries and research viewpoints of the Huai River Valley during the Shang (ca. 1400-1200BC)

Organizers:

Xiaolin HE (Wuhan University)

Siran LIU (University of Science and Technology Beijing)

The Huai River is a large east-west flowing river in east-central China, with its north and south tributaries connecting the Yellow River and the Yangtze River. From 2012 to 2020, a joint archaeological team composed of the Anhui Provincial Institute of Archaeology and Wuhan University excavated a series of important sites, such as the Taijiasi site, Guduiqiao site, Yingshuisi site and Sanjiangba site. These field archaeological works have clarified the political situation, archaeological cultural, settlement pattern, and even the internal layout of specific sites, as well as the division of labour and production of various types of handicrafts in the Huai River Valley, especially in the upper and middle reaches of the area, during the Shang Dynasty (specifically around 1400-1200BC). This session is dedicated to reporting the latest research on these sites in recent years, mainly covering the settlement hierarchy, the scope and pattern of Shang cultural expansion, the internal structure and layout of the settlements, the copper-

casting industry and the main sources of metal materials, the problems related to stone tools and the results of stable isotope research. The multifaceted study of these sites in the region is benefit to ascertain the political and social organization of the Shang dynasty from a regional perspective, and to recognizing the relationship between the central capital and its surrounding areas; thus, it is also benefit to partially clarifying the complex and critical issues of the Bronze Age in China, such as the mobility of people and the circulation of resources, which are not easy to be solved easily by archaeological excavations in the field.

09:20 – 09:40. **He YULING** (Chinese Academy of Social Sciences). **Changes in Settlement Patterns During the Shang Dynasty: An Archaeological Perspective**

From an archaeological perspective, the trajectory of settlement pattern changes during the Shang Dynasty—spanning the Pre-Shang, Early Shang, Middle Shang, and Late Shang periods—is clear and closely tied to the political dynamics of each stage.During the pre-Shang period, settlements associated with Shang culture generally displayed low levels of hierarchy. In terms of features, artifacts, and the cultural content of sites of various scales, these settlements were incomparable to those of the contemporaneous Erlitou culture. Their low settlement hierarchy was similar to that of the Yueshi culture.However, fundamental changes occurred in settlement patterns with the advent of the Early Shang period. This shift was marked by the establishment of the massive urban center of Zhengzhou Shang City, the strategic takeover of core settlements of the Xia Dynasty, and the adoption of Xia governance models. These included the creation of military strongholds and a step-by-step approach to consolidating power, leading to the remarkable uniformity of Early Shang culture. The technique of building cities with moats and walls appears to have been directly inherited from the Xia Dynasty.The Middle Shang period saw drastic transformations in settlement patterns, characterized by the abandonment of regional urban centers established during the Early Shang period, an increase in cultural divergence, and the diffusion of core bronze-casting technologies. During this time, significant urban sites such as Xiaoshuangqiao and Huanbei Shang City abandoned the tradition of constructing city walls.In the Late Shang period, the colossal urban center of Yinxu emerged as the focal point, with governance reinforced through a feudal-style system. Key transportation hubs became central regional settlements, while the ritual system, based on bronze ritual vessels, matured and was effectively implemented.

09:40 – 10:00. **Xiaolin HE** (Wuhan University). **The Hierarchical structure of settlements of the Huai River Valley during the Shang**

There is a more obvious hierarchical gap between Shang Dynasty sites in the Huai River Valley, which is most obvious in the Taijisi site, Guduiqiao site, and Yingshuisi site, which have been fully archaeologically excavated. The main age of the three sites is the period of Huanbei city, the pottery appearance is dominated by the typical Shang culture, and the sites are built on higher mounds. There are several points that show the hierarchical difference. The first is the number of mounds, there are no less than four mounds used for living in Taijiasi site, while Guduiqiao and Yingshuisi sites have only one. The second is the nature and scale of the building, Taijiasi site has a larger than the other for the residence, as well as other sites, such as the government library building high-level buildings do not see. The third is handicraft production, all three sites have copper casting and bone making handicrafts and basically belong to the same technology system as the capital city. The differences are reflected in the types of products. Cast copper production products in Taijisi site are mainly copper containers, the other two sites are mainly arrowheads and adze chisels and other tools. The bone production of Taijiasi site covers arrowheads, bone buns, bone daggers, divining armour, and divining bones, while the other two sites only produce arrowheads.To summarize, the Taijiasi site is the highest-grade Shang Dynasty site in the Huai River Valley known to date. The Guduqiao site belongs to a lower grade of settlement than Taijiasi site. The Yingshuisi site is more special, it is only 15 kilometres away from the central settlement of Taijiashi and is located along the same river, which is most likely to be a "satellite city" of the central settlement.

10:00 – 10:20. **Nan CUI** (Wuhan University). **Archaeological observations of buildings in the Huai River Valley during the Shang**

Architectural remains are the most common type of remains in field archaeology. Architecture is an artificial space created by people in order to satisfy the needs of daily life, handicraft production, ceremonial activities, etc., utilizing various material and technological means and following certain laws of natural science and aesthetic needs. Understanding architecture is an important part of understanding ancient society. In recent years, the discovery of a number of architectural remains at the Huai River Valley provides a good opportunity to discuss such topics. This presentation researches the Shang Dynasty architecture in the Huai River Valley from the perspective of archaeology. It systematically compiles the discovery of Shang Dynasty architectural relics in the Huai River Valley and then analyses the basic appearance of Shang Dynasty architecture in the Huai River Valley from the aspects of architectural form, architectural structure, construction techniques and processes, and building materials. The functions of Shang Dynasty architecture in the Huai River Valley are discussed through the analysis of the morphology of the settlements, the position of the buildings in the settlements, the relationship between the buildings and other buildings, and the scale of the buildings. This presentation will further improve our understanding of Shang Dynasty architecture in the Huai River Valley and serve as a supplement to our construction of the social landscape of the Huai River Valley during the Shang.

10:50 – 11:10. **Quan ZHANG** (Institute of Cultural Heritage, Shandong University), **Xiaolin HE** (Wuhan University). **Animal husbandry and exploitation strategies of the Bronze Age mound site of Taijiasi: evidence from stable isotopes**

Mound sites are found in both the western and eastern regions of Asia. In East China, a series of mound sites have been surveyed and excavated in the lower Yellow River and Huai River plains. From 2014 to 2017, excavations on the mound of the Taijiasi site uncovered a central settlement of the Shang Dynasty in the Huai River Basin. The plant remains include rice, foxtail millet, and broomcorn millet, etc. Faunal remains primarily consisted of pigs and deer, with substantial quantities of river mussels, spiral shells, and fish remains also identified. To investigate animal husbandry practices and exploitation strategies, we conducted stable carbon and nitrogen isotope analyses on animal remains. The results suggest that domestic animals were raised in different ways in the mosaic landscape around the site. Meanwhile, hunting, fishing, collecting freshwater molluscs still played significant roles in the subsistence of the Taijiasi people, together forming a diversified animal economy.

11:10 – 11:30. **Xin SU** (The University of Hong Kong). **Utilization of Stone Materials in the Huai River Valley during the Middle Shang Dynasty: A Case Study of the Taijiasi, Guduiqiao, and Yingshuisi Sites**

In recent years, there has been a gradual increase in the number of archaeological discoveries concerning the Shang Dynasty in the Huai River Valley. A large amount of archaeological evidence suggests that at least two levels of settlement systems were formed here during the Middle Shang Dynasty. At the same time, archaeometallurgical evidence shows that although technology was shared under the same social system, there were still some differences in craft production and resource utilization among the settlements of different levels. However, the analysis of metal resources and related technologies, as the exclusive property of the upper social class, often provides a top-down perspective to observe society. For the general groups in the community, though, we need some bottom-up perspectives to observe. Therefore, in this study, we plan to analyse the stone tools excavated from three Middle Shang period sites in the Huai River Valley, including the central settlement of Taijiasi, as well as two small and medium-sized settlements, Yingshuisi and Guduiqiao, in an attempt to provide a bottom-up perspective on the social situation of the time by looking at the general category in craft production.

11:30 – 11:50. **Zhenfei SUN** (University of Science and Technology Beijing), **Siran LIU** (University of Science and Technology Beijing), **Xiaolin HE** (Wuhan University). **The varied innovations of mould-making techniques of the Middle-Shang period in the Huaihe region**

The utilization of ceramic moulds and sophisticated piece moulds casting technology is taken as the unique characteristics of the bronze ritual vessels production of Bronze Age China. It is worth noting

that the developments of mould-making techniques were simultaneous with the changes in the bronze production industry and the style of bronze vessels in the Shang period. Recent archaeological excavations revealed a significant amount of bronze casting moulds and cores dated to the Middle-Shang period and demonstrated it as a vital stage in the development of casting technology in Bronze Age China. The current research focused on the mould-making techniques of this period in the Huaihe River Valley. Hundreds of mould and core fragments from the Taijiasi, Yingshuisi, and Guduiqiao sites were subjected to micro-CT scanning, SEM-EDS, and p-XRD analysis. Several types of materials, including sand, grog, plant, or plant-ash tempering, and distinct ways of combining materials were revealed, which uncovered a nuanced material selection strategy for mould manufacturing at the sites of the Huaihe region. By contextualizing the mould-making techniques into the settlement hierarchy and entanglement, this research also highlighted the adaptation or innovation of mould-making techniques in this region and manifested the decentralization of the bronze production industry in the Middle Shang period.

11:50 – 12:10. **Xuemei SONG** (Wuhan University). **A study on the layout and grading of the copper casting handicraft industry in the Huanbei City period**

In recent years, a large number of discoveries of bronze casting workshops in the Huanbei City period have made us realize that the local centres outside the capital city in this period could also independently complete the bronze casting activities, and these bronze casting workshops in Huanbei City period have more obvious internal layout and differences in the grade of these workshops. The copper casting industry has formed a "pyramid type" multi-level hierarchical layout during this period. Copper casting workshops are in the same casting technology system, and can independently undertake copper casting production activities, but the productivity level is different in different region, which is reflected in the production scale and product variety. There are also some differences between the different levels of management mode. Casting technology is not self-taught and need a certain development process. The casting technology has reached a very high technical level in Huanbei City period, but it is difficult for the local centres outside the capital city to develop a mature bronze casting system by itself quickly. It is more likely that the first-level workshop, that is the Huanbei City bronze casting workshop, sets out the core casting technology to develop the second-level workshops. The second-level workshops in turn transferred simple casting techniques to the third-level workshops as they continued to develop, realizing control over the third-level workshops through the distribution of production functions and the mastery of core technologies.

12:10 – 12:30. **Siran LIU** (University of Science and Technology Beijing). **The crossing the boundaries-moving metals in the Middle Shang period**

The middle Shang period is characterized by a decentralized bronze production system, involving numerous newly discovered bronze ritual vessel casting foundries, as well as copper mining and smelting sites spread across a wide geographical region. Despite this decentralization, the flow of metals integrated these sites into a complex network that largely mirrored the political landscape of the middle Shang period. Recent methodological innovations and new archaeological discoveries in the Huai River valley have enabled us to move beyond the challenges posed by the highly radiogenic lead often found in Shang bronzes. This has allowed for the reconstruction of a multi-linear structure of regional interaction during this period. The findings reveal that the middle Huai River valley, acting as a nodal point between the Yellow River, the Yangtze River, the eastern coast, and the Qinling Mountains, sourced metals from a variety of locations, suggesting its essential role in long-distance metal transport. Moreover, settlements in the region, differentiated by level, appear to have participated in distinct metal flow networks, implying that the regional organization of Shang settlements was more complex than the strictly hierarchical model suggested by previous research.

12:30 – 12:50. **Ji ZHANG** (University of Science and Technology Beijing). **The prevalence of high radiogenic lead during the Sui Dynasty and its impact on frontier regions**

By analyzing the lead isotope ratios of bronze artifacts unearthed from tombs such as Tengzhou Qiantai, Xiangyang Wangzhai, and Xianyang Konggang, as well as the gold and copper Buddha statues from the Northern, Sui, and Tang dynasties in the Frier Collection, it can be concluded that a type of highly radiogenic lead with a high 208Pb/204Pb ratio was extensively used in the bronze casting industry from the late Northern Dynasties to the Sui Dynasty. This kind of lead was used in various handicrafts such as bronze currency, statues and pigments in central-northern China from

the late Eastern Wei Dynasty to the Northern Qi Dynasty. It was popular in Guanzhong, Jianghan and other regions after the unification of the north in the Northern Zhou Dynasty and the elimination of Chen during the Sui Dynasty. It is a kind of metal resource that is easy to identify from the late Northern Dynasty to the Sui Dynasty. Its origin may be Mount Taishan Mountain in Shandong Province. In the early Tang Dynasty, this type of lead was still used in the bronze casting and lead glazed pottery industry in the Central Plains but gradually replaced by several emerging lead materials. At the same time, it played different roles in the complex social changes of the seventh century in the western part of Lingnan, the Korean Peninsula, and the Japanese archipelago on the edge of the Sui Tang Empire.

DAY 2, WEDNESDAY, AUGUST 20th AFTERNOON

SESSION 9.

New Insights into East Asian Metallurgical Archaeology

Organizers:

Takafumi NIWA (Nara National Research Institute for Cultural Properties)

Rongyu SU (Institute for the History of Natural Sciences, Chinese Academy of Sciences)

Metallurgical archaeology examines the history of metallurgy from the perspectives of both archaeology and archaeological science. It has been established as a major research field in China, particularly in recent years. Notably, in Japan, research on metallurgical materials such as melting furnace, whetstones, and tuyeres has been gaining attention, and new research methods are being applied to the study of clay molds. Additionally, in Korea, research on iron technology has shown new developments. This session examines the existing research on archaeology, archaeological science, and experimental methods, aiming to establish the field of "East Asian metallurgical archaeology."

14:00 – 14:10. **Opening remarks.** Takafumi NIWA

14:10 – 14:30. **Wen Yin (Elaine) CHENG** (Wilfrid Laurier). **Identifying firing and casting processes of the Late Shang and Western Zhou bronze vessel casting moulds**

Casting is often viewed as the forming method of the bronze artifact but seldom viewed as the interaction between heating the moulds while poring the molten bronze. The bronze casting moulds were first subjected to firing during its production method, but to cast the intricate bronze vessels, the moulds must be heated a second time to ensure the complete permeation of the moulds' cavity. This study aims to differentiate between the firing and casting processes of the Late Shang and Western Zhou bronze vessel casting moulds. While previous research has primarily focused on the moulds' firing temperature and heat resistance, this study delves deeper into the distinct stages of firing and casting. By analyzing the three mould types housed at the Royal Ontario Museum (ROM) using petrography and scanning electron microscope (SEM), this research introduces a new method to distinguish between moulds intended for further casting and those deemed unsuccessful. The study also highlights the variations in firing atmosphere and technological preferences of the artisans, shedding light on the complex processes involved in bronze casting mould production. The

findings provide valuable insights into the organization of bronze casting and the technological advancements of the Late Shang and Western Zhou dynasties.

14:30 – 14:50. **Yiyan DONG** (IHNS, CAS). **Scientific Analysis on Casting Materials from Yaoheyuan, Ningxia: The approach of understanding technological choices in a remote workshop**

Ancient Chinese bronze casting industry primarily relied on piece-mould casting technology. Stone moulds and lost wax method were rarely used. This tradition is different from other ancient bronze using cultures. The newly discovered site Yaoheyuan 姚河塬, located in Pengyang, Ningxia province, represents the westernmost territory of the Western Zhou (1046-771 BCE) dominion. This site was identified by scholars as the capital of state Huo 获, and was active throughout the Western Zhou period. Over 1000 casting relics were found at the site, mainly tool, horse ware, and weapon moulds. This study combined petrography, X-CT, SEM, and XRD analysis, conducted a preliminary discussion on 25 casting samples, 2 ceramics, 7 processed raw materials, and 55 soil samples from the workshop unearthed in this site. Firstly, some moulds were made directly with unprocessed soil, this is different from former research. Secondly, some dried or heated raw materials were mixed with wet ones for making moulds. Thirdly, the technology of layering and coating was selectively applied, this step was omitted for moulds that didn't require a smooth surface. Lastly, traces of using core box or moulds for moulds were found, similar to sites from the Central Plain. Yaoheyuan site cast bronzes techniques come from central plain of China (Anyang probably). Zhou dynasty's controlling power might be shown with controlling the types of bronzes they could make. The craftsmen might adjust the mould-making technology with soil sources.

14:50 – 15:10. **Yu LIU** (Key Laboratory of Archaeological Sciences and Cultural Heritage，CASS), **Jiangtao GAO** (Institute of Social Sciences), **Kunlong CHEN** (Institute for Cultural Heritage and History of Science & Technology, USTB). **Introduction and Imitation: Scientific Analysis of the Seima - Turbino style Inverted Hook Copper Spear Excavated in China**

The Saima - Turbino culture is one of the earliest bronze cultures in the eastern Eurasian steppe. Although the materials are scattered, they are widely distributed and have a profound impact, known as the "Saima-Turbino phenomenon". One of its representative artifacts is the copper spear with a hooked side in the shape of a willow leaf. So far, a total of 17 Saima-Turbino style copper spears have been unearthed in China. Among these copper spears, only 6 from the Shenna site, Xiawanggang in Xichuan, and M33 in the north of Liujiazhuang, Anyang were scientifically excavated. Among them, the copper spear unearthed from the Shenna site is the largest in size. Except for the Anyang copper spear, which is made of tin bronze, the other 5 are made of copper. The Saima-Turbino style barbed copper spear in China seems to no longer have much weapon function and is likely a ceremonial or ceremonial object, which is a modified and imitated artifact. A systematic analysis of these copper spears is of great significance for studying the dissemination of the Saima-Turbino culture and the exchange of early metallurgical techniques.

15:30 – 15:50. **Takafumi NIWA** (Nara National Research Institute for Cultural Properties), **Taisuke MURATA** (Nara National Research Institute for Cultural Properties). **Basic structure of casting molds in ancient China as seen from archaeological and scientific research**

Many clay molds have been excavated in China, and several variations in materials, techniques, and structure are known. Among them, the structure of the mold is recognized as having a single layer structure or a double layer structure. The transition of clay molds in East Asia has also not been clarified. To clarify the structure of such molds, in this study, we conducted non-destructive investigations such as observation, XCT, 3D measurement, X-ray analysis, microscopic observation, and so on. Through this investigation, some single-layer molds were found to have heterogeneous particle size composition and irregular air gap distribution. The results of the research are used as a basis for discussion about the characteristics of the internal structure of the mold. And we consider the position of ancient Chinese molds in East Asia based on the research of archaeological materials that the author has conducted.(This work was supported by JSPS KAKENHI Grant Number JP16H05946, JP17H01646, JP20H01365.)

15:50 – 16:10. **Tamino SONO** (Kyoto University). **The Iron Production System in the Kinki Region during the Kofun Period: Insights from Smithing-Related Artifacts**

During the Kofun period in Japan, a significant quantity of ironware has been confirmed as grave goods in tombs located in the Kinki region. The amount of these iron grave goods reached its peak during the middle Kofun period, suggesting that the amount of ironware production occurred in the Kinki region at that time. Conversely, the amount of ironware unearthed from settlement sites remains low. Consequently, many aspects regarding where and how the large quantities of iron grave goods were produced remain unresolved. This study investigates the iron production system and its transformations in the Kinki region during the Kofun period, focusing on the analysis of smithing-related artifacts unearthed from settlement sites, particularly tuyeres (haguchi) and iron slag. First, the typology and chronological changes of tuyeres used in furnaces in the Kinki region were clarified by this study. The analysis revealed that tuyeres with a semicircular cross-section appeared in the early first half of the Early Kofun period. Subsequently, during the late Early to early Middle Kofun period, a gradual transition to tuyeres with a circular cross-section was observed, and by the late Middle Kofun period, the forms of tuyeres became increasingly diverse. Moreover, the shapes and assemblages of tuyeres from settlement sites in the late Middle Kofun period displayed significant variation between sites. Similarly, the shapes of smithing furnaces also diversified, and differences in operational content were identified based on the analysis of iron slag. These findings suggest the presence of multiple iron production groups with distinct technologies in the late Middle Kofun period. In contrast, during the Late Kofun period, the diversity of tuyere forms decreased, and the number of sites yielding smithing-related artifacts also declined. These observations indicate a centralization of the iron production system from the Middle to the Late Kofun period.

16:10 – 16:30. **Kuan-Wen WANG** (Institute of History and Philology, Academia Sinica), **Chu-Ya YANG** (Institute of History and Philology, Academia Sinica), **Thilo REHREN** (The Science and Technology in Archaeology and Culture Research Center, the Cyprus Institute), **Melissa CADET** (Institute of History and Philology, Academia Sinica), **Yoshiyuki IIZUKA** (Institute of Earth Sciences, Academia Sinica), **Laur DUSSUBIEUX** (Field Museum of Natural History), **Cheng-Yi CHU** (Archaeo Cultures Co. Ltd). **Recycling Cupellation Waste in Glass Production: Evidence from Blihun Hanben and neighbouring sites in Taiwan**

This study investigates cross-craft interactions between glass production and cupellation, a process where lead-rich metal is refined into silver using a bone ash cupel. Materials from the Blihun Hanben site in northeastern Taiwan are analysed, with comparisons to other sites along the northern and eastern coasts of Taiwan. The focus is on two types of glass beads: yellow beads containing lead-rich bone ash and cylindrical orange beads with bone ash-containing fritty cores. SEM-EDS analysis reveals that the yellow beads are South Asian m-Na-Al glass, with bone ash high in CaO, P2O5, and PbO, often associated with lead stannate (Pb(Sn,Si)O3) colourant crystals. One yellow bead showed silver-rich areas, suggesting the use of discarded cupels in silver refining. The orange beads' fritty cores contain lead stannate and have a composition similar to West Asian plant ash glass, while the outer glass is South Asian m-Na-Al. A sample containing anglesite (PbSO4) in the inner core further supports the recycling of cupellation waste. The presence of bone ash suggests that used cupels, soaked with lead oxide, may have been repurposed as raw materials for producing yellow lead stannate for glass colouring. These findings point to a connection between cupellation metallurgy and glass production. The South Asian m-Na-Al glass recipe in both the yellow and orange glass suggests that these practices may have taken place in India. This research raises significant questions for understanding ancient craft interactions and materials circulation.

16:30 – 16:50. **Sangmin KIM** (Mokpo National University). **Recent Discussions on Early Iron Production Technology on the Korean Peninsula: A Comparison of Iron Production Technology in the Southern Coast of Korea Peninsula and Northern Kyushu, Japan**

The southern region of the Korean Peninsula began adopting iron artifacts around the 3rd century BCE, with an independent iron culture distinct from that of the Chinese mainland emerging by the 1st century BCE. Numerous iron artifacts unearthed from the 1st century BCE onward display unique forms and characteristics, suggesting regional distinctions consistent with the descriptions of the

Samhan in historical record. However, despite the abundance of high-quality iron artifacts from archaeological sites, research on contemporary iron production sites remains limited. While the distinctive nature of Samhan iron culture is emphasized through the artifacts, the very existence of iron production sites essential for such independent development has yet to be fully confirmed. To address this issue, recent studies have focused on examining and analysing newly excavated iron artifacts to test hypotheses about production techniques. Some researchers are also re-evaluating previously neglected iron production sites with fresh perspectives. Furthermore, comparisons are being made with iron production sites in northern Kyushu, Japan, a region that, despite being separated by the sea, appears to have shared iron production technology with the Korean Peninsula. By examining these Japanese sites, researchers attempt to infer the technological practices involved. This presentation introduces recent discussions on early iron production technology on the Korean Peninsula and seeks to identify the characteristics of iron production technology in the southern coast of the Korean Peninsula through a comparative analysis with northern Kyushu.

16:50 – 17:10. **Dongyi YANG** (The Chinese University of Hong Kong), **Xiaotong WU** (Renmin University of China), **Herong ZHANG** (Guizhou Institute of Cultural Relics and Archaeology), **Xingxiang ZHANG** (University of Science and Technology of China). **From Exotic to Borderland: A Perspective of Yelang Metallurgy onto Han Dynasty's Strategizing of Southwestern Barbarians**

During the Warring States to Han Dynasty, multiple distinctive bronze cultures were formed on the Yunnan-Guizhou Plateau, home to the ancient Yelang State. Indigenous bronzes displayed strong local traits while integrating influences from Yunnan, Ba, Shu, Dian, Han, and other cultures. In this study, alloy composition analysis and lead isotope analysis were carried out on the bronzes of the Warring States to Western Han Dynasties unearthed from Kele Cemetery and Fuchu Cemetery in Hezhang, Northwest Guizhou, and combined with the existing database, to explore the development and evolution of alloys and production techniques of the bronze objects in the Yelang culture area, and trace the provenance of their ores and technologies, in order to reflect the cultural exchanges as well as the economic and political modes behind them. Results indicate that Yelang alloy technology transitioned from copper to tin bronze to leaded tin bronze, with production techniques evolving from hot forging to stone-mold casting. By the late Warring States, Kele artisans had mastered lead addition technology. Lead isotope analysis classifies materials into Kele Types A, B, and C. Comparison with regional mines suggests that most lead and copper originated from eastern Yunnan and western Guizhou, and Type A lead was also used in Central Plains bronzes during the middle and late Western Han, and were introduced to the east Yunnan and west Guizhou areas under the influence of the Han culture. The Central Plains' influence arrived in eastern Yunnan and western Guizhou area earlier than the middle of the Western Han Dynasty, and the objects, alloy technology and minerals of the Central Plains may have been introduced into this area. The integration of Han and regional forces accelerated Yelang’s transformation and eventual assimilation into the Han, highlighting complex interactions between local and external cultures.

17:10 – 17:30. **Mengyi ZHANG** (Northwest University). **The iron technology and tradition in Xinjiang during the Han and Jin dynasties**

As a crossroads between different cultures along the Silk Road, ancient Xinjiang played a crucial role in the exchange of technological knowledge, including iron production methods between the East and West. Archaeometallurgical studies of ancient iron artifacts from Xinjiang have identified the use of meteorite iron dated to 3000 BC, and smelted iron appeared no later than 1000 BC. Additionally, it is widely accepted that bloomery iron was dominant in ancient Xinjiang during the early Iron Age, and cast iron and steel decarburized from cast iron in the solid state were adopted during the 4th to the 3rd century BC. Despite these findings, iron production in the region, especially during the Han dynasty, is still unclear. To gain a better understanding of iron production in Xinjiang, we studied iron artifacts from Xinjiang during the Han and Jin dynasties. Based on the typology and iron-making techniques of studied samples, it is suggested that while cast iron was used, bloomery iron remained the predominant metallurgical tradition in ancient Xinjiang. The technological profile in the region was different from inland China of the same period, highlighting regional characteristics. The observation provides a chance to understand the technical choice in Xinjiang which shows that the environmental, lifestyle, and cultural factors have been contributed to the continual use of bloomery iron in Xinjiang from the early Iron Age to the Han and Jin dynasties.

17:30 – 17:50. **Hongyan XIAO** (Peking University). Xinshen YUE (Nanyue King Museum), Jianfeng CUI (Peking University). **Indigenous brass production in Medieval South China**

Recent years witness an increasing number of brass objects discovered in ancient China from the 2nd -13th centuries. However, crucibles and slags, served as the most direct and solid evidence for localization of brass production in medieval China, remains absent. It is a long-lasting problem for achieve a better comprehension of Chinese brass technology, including time and space, raw materials, alloy strategy and so on. This paper presents a group of brass-production crucibles along with alloying crucibles, unearthed from the Royal Palace and Government Offices Site of the Nanyue Kingdom in Guangzhou City, for the first and only time. A serial of portable XRF, SEM-EDS and lead isotopic analysis have revealed high content of zinc in crucible fragments, numerous zinc oxide residues, metal pills of copper and brass and native ore signature, providing evidence for the localization of brass technology in South China during the 9th -10th centuries. An furth attempt is also made to reconstruct the brass production process in the official workshop on the basis of crucible remains and their scientific examination.

17:50 – 18:10. Discussion

SESSION 10.

Materiality of Human/Non-human Animal Relationships in East Asia

Organizers:

Rowan FLAD (Harvard University)

Jie SHEN (Stanford University)

As elsewhere in the world, the relationship between humans and non-human animals has been integral to East Asian history, deeply influencing political, economic, social, and cultural structures over thousands of years. These relationships were not rigid or one-sided, with animals passively subjected to human intentions. Rather, they were dynamic, diverse, and mutually influential, shaped by changing contexts. Archaeological studies have revealed the material manifestations of these relationships, including not only animal remains left in diverse cultural contexts, but also images, residues, use-wears, isotopic evidence, and textual references reflecting different aspects of interactions. This session aims to explore the materiality of human /non-human animal relationships in ancient East Asia. Presenters are encouraged to examine material reflections of these relationships from various contexts to highlight the multifaceted roles that non-human animal played in human societies. Topics may include not only the dietary and craft-related uses of animals and animal products, but also their roles in symbolic, religious, and ritual contexts, in shaping landscapes and living spaces, and more. Comparative studies across different periods or regions are also welcomed to broaden our understanding of interspecies interactions over time.

14:00 – 14:20. **Ying Tung FUNG** (University of Hong Kong). **The Distribution of Indigenous and Exotic Bovines in Ancient China (8000–771 BC)**

The introduction of domesticated grassland animals, including *Ovis Aries*, *Capra Hircus*, *Bos Taurus*, and *Equus Caballus*, occurred in ancient China from 3500 BC onwards, alongside the utilisation of indigenous wild Caprinae sp., Bos sp. and Equidae sp. that were used even before then. However, the widespread adoption of domesticated species did not seem to happen until around 2000 BC, marking a shift from hunting indigenous wild species to adopting and rearing domesticated species. While the complete picture of this transition is not yet fully understood, this study examines extensive data on grassland animals in ancient China obtained from published sources. This study aims to identify the changing patterns and explore the taxonomic abundance data of wild and domesticated species across China over space and time. The findings of this study also provide insights into whether the changing patterns align with the development of large settlement centres and early states.

14:20 – 14:40. **Xiaochen PEI** (Peking University). **Human-Bovini relationship on the Central Plains of China from the Middle Neolithic to the Bronze Age**

Cattle were introduced to the Central Plains of China during the late Neolithic (4300–3900 BP). They quickly adapted to local subsistence and made significant contribution to the formation of Chinese civilization during and after the Bronze Age. They provided important subsistence resources, bone raw material, traction for agriculture and transportation, and served important ritual functions, including divination and sacrifice. However, some issues about the Human-Bovini relationship remain unclear. It is not well understood how existing local Bovini resources influenced cattle adoption, whether cattle adoption was a uniform phenomenon, and whether there were changes in the exploitation strategies of other Bovini species. We reviewed published zooarchaeological data from the Central Plains, spanning from the Middle Neolithic to the Bronze Age, to discuss the diversity and dynamics of Bovini exploitation strategies before, during, and after the introduction of cattle. Our findings indicate that aurochs and water buffalo were exploited for meat and bone before the introduction of cattle, which may have promoted the rapid spread and adoption of cattle when they were introduced to the Central Plains of China during the End Neolithic. During this period, cattle became predominant Bovini species at most sites, and their exploitation strategies were more diverse than aurochs and water buffalo, especially in ritual practices. However, the adoption of cattle was not uniformly consistent across all sites. Moreover, the exploitation strategies of different Bovini species were not static, water buffaloes had evolved into privilege goods by the Bronze Age, especially during the late Shang.

14:40 – 15:00. **Ningning DONG** (Institute of Archaeological Science, Fudan University). **In the wilderness: animal exploitation in the periphery of Liangzhu society (3300-2300 BC)**

The Lower Yangtze Valley provides a rich context for studying the interplay between the origins and intensification of agriculture and socio-political complexity. While the adoption of agriculture was closely associated with the developing societal complexity in major core centres during the Liangzhu period (3300-2300 BC), smaller and peripheral sites, which were also integral parts of the regional social fabric, exhibited contrasting subsistence choices and varying societal development. By examining these locations, a better understanding of the core-hinterland relationships within the region's complex social structure and agricultural background would be clarified. In this presentation, we present zooarchaeological studies of two peripheral sites: Jiangzhuang and Daxie. While the peripheral communities might have been articulated with the Liangzhu centre through the circulation of ritual jades, the subsistence economy there remained largely self-sufficient. The economic independence in the peripheral region might have contributed to the increasing decentralisation in the late Liangzhu period, providing a plausible explanation for the collapse of Liangzhu society.

15:30 – 15:50. **Junko UCHIDA** (Institue of History and Philology, Academia Sinica). **Symbols of Birds and dragons in Shang Dynasty Anyang Yinxu**

As Professor Hayashi Minao pointed out, bird patterns have symbolized followers of the divine since the Neolithic period. Bird and dragon patterns have also appeared on bronzes since the Erligang period. Many objects featuring bird and dragon patterns have been found at Anyang Yinxu. While this may seem simplistic, the bird and dragon motifs hold symbolic significance as loyal servants of the divine. Examples include: A ge dagger with bird and dragon patterns on its mount. A bronze vessel shaped like an eagle. A ferrule designed like a bird's foot, a bone hairpin featuring a bird and dragon pattern. These items can be sorted chronologically, with their symbolic meanings reflecting a gradual evolution from the early Yinxu period. As the dynastic system of governance expanded, we see how the symbolism of these animals evolved—from being associated with the king, who served as God's loyal subject, to items used by the lower classes.

15:50 – 16:10. **Rowan FLAD** (Harvard University), **Yiting LIU** (Wuhan University), **Xiaoge HE** (Harvard University). **Elephants in Bronze Age Central China – Megafauna / Human relationships as seen through material culture**

Elephant ivory in the form of unmodified tusks, partial tusks and ivory carvings as well as elephant iconography in bronze artifact forms and decorations reflect a set of engagements with this charismatic megafauna taxon during the Bronze Age in China. Examples of these material remains include the large numbers of complete elephant tusks buried in ritual contexts at Sanxingdui, in

Sichuan, complete and fragmentary tusk remains from the Sichuan site of Jinsha, other isolated tusk remains from sites in other parts of China, ivory artifacts, including elaborated inlaid ivory cups from the site of Yinxu in Anyang, Henan, and bronzes in the forms of elephants and with elephant iconography from both northern and southern China from the second half of the second millennium BCE. This paper presents various examples of elephant ivory and elephant iconography and suggests that the materiality and materialization of megafauna provides an important window on human – non-human animal relations throughout human history.

16:10 – 16:30. **Kuei-Chen LIN** (Institute of History and Philology, Academia Sinica), **Zhiqing ZHOU** (Chengdu Institute of Cultural Relics and Archaeology). **A comparative analysis of elephant teeth unearthed from the Yinxu and Jinsha sites, with implications for human-animal relationships and habitats**

This study examines the environments and the relationships between humans and animals through the analysis of elephant remains discovered at two archaeological sites, Yinxu and Jinsha, in East Asia, dating to the second millennium BCE. The unique material properties and symbolic value of elephant remains contributed to their use in intricate artifacts and rituals, even in regions where elephants are not naturally present nowadays. Notable examples include elephant-shaped jade ornaments and bronze vessels from sites like Yinxu, as well as decorative elements featuring elephant motifs. These detailed representations suggest that artisans had firsthand experience observing elephants. However, complete skeletal remains are rare in northern China, raising questions about whether elephants were luxury items reserved for the elite or kept in royal enclosures. The presence of related artifacts in ritual contexts, often associated with elite objects, underscores the high value placed on these materials. This pattern contrasts with sites like Sanxingdui and Jinsha, where large quantities of unprocessed ivory were discovered, hinting at differing social or ritual practices.The paper also explores potential sources of these materials, addressing debates on whether elephants were native to the area or imported from other regions. Additionally, isotopic analysis of human, animal, and plant remains from these and nearby sites offers new insights into how communities managed animal resources in ritual practices. The study aims to uncover patterns of environmental adaptation and cultural exchange in early complex societies, as revealed by the movement and utilization of animal resources.

16:30 – 16:50. **Katherine BRUNSON** (Wesleyan University), **Zhipeng LI** (Laboratory of Archaeological Sciences and Cultural Heritage, Chinese Academy of History (University of Chinese Academy of Social Sciences), CASS), **Songmei HU** (Institute of Cultural Heritage, Shandong University), **Tong YANG** (Shaanxi Academy of Archaeology), **Zhouyong SUN** (Shaanxi Academy of Archaeology). **Oracle Bone Divination at Shimao, Shanxi Province, China**

This paper presents a zooarchaeological analysis of over three hundred oracle bones that have been excavated from the Huanchengtai 皇城台 locality at Shimao 石峁, Shaanxi Province, China. The Shimao oracle bones provide an opportunity to investigate the varied uses of animals in ritual practices ca. 4000 years ago when oracle bone divination became widespread across northern East Asia. We find that the oracle bones at Shimao are primarily made from scapulae of cattle, caprines, and pigs. We also observe two consistent patterns in the number and location of burn marks on the larger oracle bones. The first pattern has twelve burn marks, and the second pattern has eight burn marks. These patterns hint at increasing standardization in the divination process. The growing evidence for ties between cattle, oracle bone divination, and elite authority at Shimao and other contemporary sites shows the important roles that cattle played in early East Asian political centres.

16:50 – 17:10. **Jie SHEN** (Stanford University). **Oracle Bone Divination in Ancient Japan and Korea**

Oracle bone divination has a rich history in East Asia, originating in China and spreading to Korea and Japan by around 500 B.C. This transmission marked significant cross-regional interactions within East Asia, while the subsequent adaptations in divination practices reflected evolving human-animal relationships across different times and places. In these divination practices, nonhuman animals were instrumental not only as objects but also as active participants, influencing the belief systems and practices that emerged. This research examines archaeological oracle bone findings from Korea and Japan to explore which nonhuman animals participated in oracle bone divination and how they contributed to shaping the divination systems, both materially and symbolically. I will

discuss various aspects, including raw material acquisition and preparation, the sequence of divinatory acts, tools used, the identity of practitioners, and temporal and spatial variations in divination techniques within Korea and Japan. These technological choices, shaped by interactions between humans and animals, reveal how oracle bone divination was transmitted across regions and localized.

17:10 – 17:30. **Hiroki KIKUCHI** (the school of history and culture, Lanzhou University). **Crossing Qin (秦) and Rong (戎): Interaction in the Agro-Pastoral Contact Zone from the Perspective of Ancient Chinese Horse Culture**

Horses have been a fundamental element of social and economic systems for millennia, serving a multitude of roles including military, ritual, political, and trade. In China, the use of domestic horses is believed to have originated during the Shang Dynasty in the 14th century B.C. Subsequently, the horse culture proliferated extensively throughout the Chinese dynasties, as evidenced by large-scale development of burial system for horses and chariots. Large numbers of horses were managed on multiple pastures by groups with expertise in horse production. During the Warring States period of the Qin Dynasty, a rule was established and selected horses used as war horses. However, the nomads of the Great Wall steppe region, who were in constant contact with the Qin Dynasty, did not adopt such horse production techniques. Instead, they raised their horses on free pasture, and no standards for selecting horses were established. Nevertheless, investigations on their ritual activities reveals that in addition to their nomadic culture, they also incorporated elements of the Qin culture, as evidenced by animal sacrifices and archaeological artifacts. This presentation focuses on the Qin Dynasty during the Warring States period, a period in which the Qin had active exchanges with nomadic peoples. This talk primarily focus on zooarchaeology and isotope analysis. along with the archaeological data and historical studies. Moreover, it addresses the role of horses in the interaction between the Qin and nomadic peoples from the perspective of social stratification.

17:30 – 17:50. **Juan WANG** (University of Science and Technology of China). **A study of marine shells from Tomb M1 of the Cao Wei State (AD 220–265) in Xizhu Village, Luoyang, China**

Between 2015 and 2016, Luoyang Municipal Institute of Cultural Relics and Archaeology conducted a rescue excavation of a high-ranking tomb attributed to the Cao Wei State (AD 220–265) of the Three Kingdoms Period. This tomb, located in Xizhu Village, Luoyang City, Henan Province—an inland region of central China—yielded over four hundred artifacts of significant research value, including a small collection of marine shells. This study focuses on 12 marine shells recovered from Tomb M1, identifying the taxa and observing the analysing traces of human processing. By integrating evidence from malacology, archaeology, and ancient texts, the provenance of these shells was investigated. Results indicate that the shells belong to two classes and nine species, and were likely sourced from the coast of Shandong Province, China. Furthermore, connections between these shells and inscriptions, such as “hai qian” (sea money) and “hai da ban luo” (large spotted sea snail), found on inscribed stone labels from the same tomb, were explored. This research offers new perspectives on the social dynamics and material cultural exchanges of the Three Kingdoms Period.

17:50 – 18:10. **Yongqing ZHANG** (Wuhan University). **A Study on the Utilization of Animal Resources in Handicraft Workshops during the Western Han Dynasty: Focusing on the Xi'an Ducheng Site**

The study of handicraft workshops has always been the focus of archaeological research. In the past, many studies have focused on the production process and flow of handicrafts, but little attention has been paid to the living remains in the workshops. How did the ancient people in the workshop maintain their daily life? How did they utilize animal resources? These issues lack systematic research, which directly affects our comprehensive understanding of the handicraft workshop. The Ducheng site is the largest governmental iron casting workshop in the Western Han Dynasty, and it is also the most abundant workshop with animal remains in the Qin and Han Dynasties, with more than 9,000 pieces of animal bones unearthed, which provides valuable materials for exploring the above questions. This study will start from several aspects, such as animal species and number, ubiquity, recovery rates of elements, mortality profiles, and marks and anomalies on bone surfaces, in order to reveal the way of utilizing the animal resources of Ducheng

Iron Castings Workshop, its sources, and other issues. The study will also compare other handicraft workshops of the same period to investigate the similarities and differences in the utilization of animal resources among different handicraft workshops and the management patterns of the workshops behind them.

SESSION 11.

Exploring Social Complexity in Early Chinese Societies

Organizers:

Wenjing WANG (Xiamen University)

Yahui HE (Stanford University)

Dongdong TU (Shanghai Tech University)

The rapid expansion of archaeological research in China over the past decade has presented an unprecedented opportunity to investigate the intricate processes of social complexity in early Chinese societies. This panel seeks to bring together scholars who examine these developments from diverse regional and methodological perspectives. Key topics include, but are not limited to, craft production and technology, settlement patterns, state formation, plant and animal resource utilization, trade and exchange networks, burial practices, and religious rituals. Participants are encouraged to present research that not only focuses on specific regional trajectories within China but also engages in comparative analyses with early complex societies in other parts of the world. Such comparative studies can illuminate both the unique and shared pathways of social change, contributing to broader theoretical discussions on the development of early complex societies. By bringing together scholars from multiple disciplines, we aim to foster a dialogue that uncovers new perspectives on societal development.

14:00 – 14:20. **Zihao FAN** (Institute of Archaeology, China Academy of Social Science). **The Path to Inequality: A Case Study of the Construction of Chengtoushan Ancient City**

Chengtoushan ancient city was established around 4300 BCE and is currently the earliest known city site in East Asia. During its initial construction phase (Phase I of the Daxi Culture), there were no obvious signs of social stratification or inequality, yet large-scale public works, such as city walls and moats, were built. The organizers behind these efforts remain a mystery. By reconstructing the rituals conducted on the top and around the altar's surface, it is hypothesized that the ritual performers on the altar monopolized sacrificial practices involving human offerings and the worship of large stone ancestral figures(Zu). This monopoly may have allowed them to control access through the city gates. In the post-construction phase (Phase II of the Daxi Culture), a number of burials were placed above the original altar surface, displaying clear evidence of social stratification. The placement of graves, the presence of special grave goods, and the human sacrifices observed in Grave M678 all suggest a connection between these deceased and the ritual performers on the altar during Phase I. This leads to the hypothesis that social inequality in Chengtoushan originated from the control of ritual practices, a phenomenon referred to as "jue di tian tong" (severance of heaven-earth communication).

14:20 – 14:40. **Lin FU** (Xiamen University). **Noble Tombs and Social Complexity: Insights from the Longtoushan Site in Southeastern China**

The degree of social complexity reflected by the prehistoric archaeological remains in the southeastern areas of China is relatively limited. In 2018-2020, noble tombs were found in a Neolithic cemetery at the Longtoushan site in Pucheng County Fujian Province on the upper reaches of the Minjiang River, suggesting that the process of local social complexity had significantly intensified between 4600 and 4100 years ago. Nearly twenty Neolithic tombs are continuously distributed from the top of the mountain to the southern mountainside. The layout of tombs at the top of the mountain

has a certain regularity, with the M15, M61, and M64 rows of tombs having the highest specifications. The tombs at the top of Longtoushan Site were buried with objects that clearly express power, such as jade axes, and ornaments representing identity and status, such as grouped jade cones. The combination of burial objects included pottery wine vessels such as Gui (鬶), He (盉), and Zun (尊), as well as food vessels such as Dou (豆) and Gui (簋). The use of grouped stone arrowheads for burial implies the intensification of competitive activities. The new discovery of noble tombs in the Longtoushan Site in northern Fujian, along with the noble tombs of the Haochuan Culture in southern Zhejiang and the Shixia Culture in northern Guangdong, highlight the significant increase in social complexity during this period, based on full interaction with prehistoric civilizations in the middle and lower reaches of the Yangtze River and other northern regions.

14:40 – 15:00. **Yahui HE** (Stanford University). **Exploring Plant Exploitation and Food Practices in the Loess Plateau, China: A Comparative Microbotanical Analysis in Urban and Rural Settings during the Late Neolithic Period**

During the late Neolithic period in the Yellow River region (ca. 5,000-4,000 cal. BP), a significant wave of urbanization unfolded, marked by the rapid development of settlement hierarchies, social stratification, and interregional interactions, which laid the foundation for the emergence of early state-level political structures. This period also witnessed the proliferation of sophisticated pottery types, notably vessels used for alcohol consumption and serving purposes, including pitchers and cups, in north China. However, the role of pottery assemblages, plant exploitation, and related food practices in mediating and shaping socio-political dynamics within both the urban and rural contexts in the north Loess Plateau region remains largely unexplored. This study presents a comparative microbotanical analysis of plants from elite and non-elite settlements and elite mortuary contexts, shedding light on the plant composition and food practices that shaped the social relationships, political structures, and urbanization processes in the region during the 5th millennium BP.

15:30 – 15:50. **Jingbo LI** (Stanford University). **Alcohol and Social Complexity: Residue Analysis of Fermented Beverages in Bronze Age China**

The production and consumption of alcohol played a significant role in shaping social complexity in Bronze Age China. This study applies residue analysis to explore fermented beverages from two key archaeological sites, Yinxu and Zhouyuan, revealing new insights into the ingredients, brewing methods, and sociocultural contexts of alcohol use. The identification of microfossils from millet, rice, and wheat/barley, as well as evidence of fermentation processes involving malts and qu starters, highlights the specialization and technology of alcohol crafting during the Shang and Zhou periods. Beyond brewing, alcohol along with related vessels, functioned as a medium for ritual feasting, power, and identity. By comparing evidence from the two periods, this research demonstrates both continuity and changes in the production and use of alcohol. This research situates these findings within broader discussions on the role of alcohol in urbanism and dynastic transitions. By integrating multiple lines of evidence, this study deepens our understanding of the relationships between foodways, identity, and social complexity in Bronze Age China.

15:50 – 16:10. **Siyu LIN** (Durham University), **Karen MILEK** (Durham University). **Beyond Pottery: Human-Clay Interactions in Prehistoric Northwest China at Macro and Micro Scales**

Tertiary red clay has been proven to be a critical raw material for pottery production in prehistoric Northwest China, epitomised by the renowned Majiayao culture. However, its broader applications beyond pottery production remain understudied. This study integrates macro-scale spatial analysis and micro-scale soil micromorphology to explore the persistent and complex interactions between humans and red clay. Archaeological reports provide insights into the temporal and spatial patterns of red clay use in construction and storage facilities. Meanwhile, soil micromorphological analysis from the Majiayao and the Siwa sites in Lintao, Gansu demonstrates the prevalence of red clay in archaeological sediments, highlighting its role in daily life. Thin section analysis identifies red clay-based construction materials, shedding light on ancient building techniques. This paper argues for a holistic approach, combining material and ecological perspectives, to deepen our understanding of long-term human-clay interactions, contributing to broader discussions on resource exploitation and environmental adaptation in early societies.

16:10 – 16:30. **Li LIU** (Dept of East Asian Languages and Cultures, Stanford University). **Feasting activities, the built environment, and social complexity in early China**

Feasting, the built environment, and social complexity are deeply interwoven in prehistoric archaeology. Feasting activities often catalysed changes in the built environment, which, in turn, both reflected and reinforced evolving social structures. Studying these dynamics provides valuable insights into the development of human societies. In this talk, I focus on Neolithic and early Bronze Age China to examine the interplay among ritual drinking, settlement patterns, and social organization. During the middle Neolithic period, settlements typical of the Yangshao culture exhibited a centripetal arrangement. These sites were characterized by a central open plaza surrounded by residential structures and a protective moat encircling the community. Feasting activities, often involving communal drinking from large amphorae, likely took place in the central plaza or in large public buildings. Within this built environment, ritual feasting appeared to be inclusive, involving all community members, which suggests a relatively egalitarian social structure. By the Late Neolithic and early Bronze Age, settlement patterns had shifted to a more hierarchical and segregated design. Palatial structures within walled enclosures occupied central locations, physically and symbolically separated from surrounding lower-status residential areas. Concurrently, feasting practices became more exclusive, emphasizing social status through the use of elaborate vessels and individualized drinking sequences. These changes reflect a shift toward elite-driven practices and social stratification. This transformation in feasting and settlement organization parallels changes in mortuary practices, which evolved from egalitarian traditions to increasingly stratified and complex systems, further underscoring the deep connections between ritual, architecture, and social hierarchy.

16:30 – 16:50. **Xueyan LYU** (Department of East Asian Languages and Civilizations, University of Chicago). **State Control over Labors and Pottery Production in Early Complex Societies: From the Perspective of Cross-Cultural Comparison**

This paper investigates the uniformity in pottery styles and assemblages between central and peripheral sites during the Early Shang period in China (mainly Erligang culture, ca. 1600-1400 BCE), examining whether this is indicative of state management of pottery production and labour. By comparing relevant case studies from the Erligang culture, Uruk period and Ur III period in the Near East, and Old Kingdom period in Egypt, this study explores the reasons behind the uniformity of pottery vessels and the role of early states in organizing and controlling the labour and pottery production. The research will first discuss the morphology and standardization of pottery li (tripods) during the Early Shang period from both perspectives of product and organizations of production, then compare the case of Erligang culture with cases from the Near East and Egypt, investigate the similarities and differences between them, and analyse the social, political and economic factors behind the uniformity, especially how state policies influenced craftsmanship, particularly through the allocation of resources, labor, and the organization of workshops. This study will examine the socio-economic impacts of such production systems, investigating whether they were instrumental in the consolidation of state power and how the negotiation between superior powers and lower classes was reflected in pottery styles. The outcomes are to assess how state intervention helped to establish material uniformity across different regions and the broader organization of early complex societies, contributing to a deeper understanding of the mechanisms behind the production and dissemination of standardized pottery in China.

16:50 – 17:10. **Xuekai QI** (Northwest University), **Rui WEN** (Northwest University). **Animal Sacrifices and Sacrificial Pits: Ritual Practices and Cultural Interactions at Sanxingdui**

This study investigates the Sanxingdui Sacrificial Pits through two intertwined perspectives: animal sacrifices and sacrificial pit structure. From the perspective of animal sacrifices, the research analyses faunal remains such as pig, cattle, and ivory, revealing a unique combination of Shang-style offerings and local ritual adaptations. This approach explores the formation process of the sacrificial pits and the nuanced role of animal remains as both tangible offerings and symbolic artefacts, reflecting Sanxingdui's selective integration of external cultural influences. From the perspective of sacrificial pits, the study examines their structural design, spatial organisation, and burial process. The analysis identifies a synthesis of Central Plains "sacrificial pit" traditions and Southern “burial pit” customs, mediated through regions like the Hanzhong Basin. This framework

situates the pits as not just artefact repositories but as ceremonial sites integral to the ritual and political systems of the ancient Shu state. By combining these two perspectives, the research highlights the dynamic interplay between local development and regional cultural interaction. This dual-layered approach offers a comprehensive understanding of the Sanxingdui sacrificial pits, positioning them as key to the broader study of early complex societies in Southwest China. Keywords: Sanxingdui Site, Sacrificial Pits, Animal Sacrifices, Cultural Interaction, Early Complex Societies

17:10 – 17:30. **Dongdong TU** (Shanghai Tech University). **Population aggregation, sharing strategy and community organization: the formation of early village in North China**

The change from mobile hunting-gathering societies to sedentary food producing villages is a departure from resource sharing based on reciprocity and the emergence of restricted network for sharing production and consumption activities. This social system also promotes innovation and the intensification of production. More competition for resources, the incipient development of private property, and the growing autonomy of smaller production and consumption units such as households, inevitably result in internal conflicts within the community. Regulatory mechanisms are required to resolve conflicts and keep the community cohesive. These mechanisms may play an important role in community-level decision making, resolving disputes, reiterating egalitarian ethos among community members. As early as 8500 BP, well-planned villages appeared in North China. While researchers have explored some of the technological, subsistence, and economic dimensions of the early Neolithic in North China, far less attention has been paid to understanding the nature of sharing strategies and social organization for this period. Why did people come together and what mechanism could keep the community together? How did people share resources within the community? Did inequality and social differentiation emerge? In this paper I will examine the archaeological evidence dating to early Neolithic in North China and attempt to answer these questions. In addition, I also compare the sharing strategies, the mechanisms integrating the communities as a whole and the nature of community organization among Xinglongwa, Jiahu-Peiligang and Houli cultures, and demonstrate how the characteristics of early Neolithic societies affected the following social complexity.

17:30 – 17:50. **Wenjing WANG** (Xiamen University). **Comparative Insights into Social Complexity: Lingjiatan and Hongshan Societies in Neolithic China**

Understanding the varied factors and their interrelationships in the development of early complex societies is essential, as the elements commonly associated with social complexity do not always co-occur, play the same roles, or appear in the same sequence across different societies. The Neolithic Lingjiatan period (c. 5700–5300 BP) in the Yuxi Valley of the lower Yangzi River and the Neolithic Hongshan period (c. 6500–5000 BP) in the West Liao River Valley of Northeastern China have both gained significant attention due to their elaborate jade artifacts and ceremonial architecture. While previous studies have predominantly focused on the symbolic and ritual meanings of these exquisite jades, as well as the nature of their burials, other dimensions of social complexity have been underexplored. This study examines the Lingjiatan society through three dimensions of social complexity: settlement patterns and population size, regional pottery production and distribution, and quantitative analysis of the goods and architectural structures associated with burial and ritual practices. By comparing these aspects with those of the Hongshan society, the research reveals both similarities and differences in their developmental trajectories. This comparative analysis highlights that early complex societies did not merely develop differently but exhibited varying degrees of inequality across multiple dimensions.

17:50 – 18:10. **Feng XU** (Nanjing Normal University), **Dongdong TU** (Institute of Humanities, Shanghai Tech University), **Chuenyan NG** (Institute of Humanities, ShanghaiTech University). **Discovery of the first clamshell mosaic depicting a dragon in southern China: A multidisciplinary archaeological project at the Xuecheng site**

The development of prehistoric societies in the Lower Yangtze Valley represents an important trajectory of socio-economic change and the advent of social complexity (Renfrew & Liu 2018; Wang & Wu 2021). Unlike other well-known sites in the core area of this region, such as Liangzhu and Lingjiatan, the development of sites in the peripheral regions is poorly understood. To address this lacuna in the research, we initiated systematic excavations in 2021 at the Xuecheng site. The

discoveries of a clamshell mosaic in the shape of a “dragon” as well as the cemetery of the site provide valuable information about the distinct characteristics of this community, their way of life, economy, and belief system. The data we collected so far provides important insights about the mechanism of interactions among humans, culture, and the environment. We believe this was a critical factor in the emergence of social complexity in marginal regions of the Lower Yangtze Valley.

18:10 – 18:30. **Chao ZHAO** (Shaanxi Normal University), **Dongfeng HUO** (Shaanxi Normal University), Shuyun LI (The Archaeology Institute of Datong City), **Yujia LIU** (Shaanxi Normal University), **Yina SHI** (Shaanxi Normal University). **Mega-site Without Hierarchy: An Exploration of the Settlement Pattern and Social Organization at the Jijiazhuang Site in the Late Neolithic Northern Loess Plateau**

The Northern Loess Plateau saw an increase in archaeological sites since the mid-Yangshao period, despite the relative scarcity of sites from the earlier Neolithic. This rise reflects large-scale expansion of sedentary farming communities. The Datong Basin, located in the northern part of the Loess Plateau, offers an ideal setting to study how these expanded farming communities adapted to their new environment through the ongoing development and adjustment organization. The Jijiazhuang site, the largest known settlement in the Datong Basin during both the Late Yangshao and Longshan periods, provides insights into this process. A site-based systematic survey was conducted to examine the spatial distribution of archaeological remains across Jijiazhuang. The findings show that the site spanned 87 hectares during the Late Yangshao period and expanded to 103 hectares by the Late Longshan period. The core areas of the Yangshao and Longshan phases at the site largely overlapped. The site shows few signs of social hierarchy or craft specialization, even during the Longshan period. This stands in contrast to the contemporaneous Shimo site, which exhibits clear social stratification but shares similar daily material culture with Jijiazhuang. These differences suggest that large-scale farming communities in late prehistoric North China, despite their geographical proximity, were organized in diverse ways. The linear model of social evolution from egalitarian to stratified systems may therefore obscure the complex and varied trajectories of social development in the region.

SESSION 12.

Critical Examination of Korean Archaeology: New Voices, Alternative Perspectives

Organizer:

Ilhong KO (Seoul National University Asia Center)

Korean archaeology has grown exponentially in the decades since the turn of the millennium, with the average number of annual excavations increasing from approximately 760 for the period of 2000-2005 to an estimated 1,770 for the period of 2020-2025. This rapid increase in the number of excavations has been accompanied by an increase in the number of archaeologists in all professional roles, which in turn has resulted in the application of diverse perspectives and methodologies to the study of Korean archaeological data. This session aims to showcase this diversity of archaeological research and to demonstrate how it has led to critical re-evaluations of some of the long-standing interpretations in Korean archaeology. The papers presented in this session challenge current views on the role of human agency in the construction of Bronze Age dolmens, on the nature of Baekje's local governance, and on the concept of 'Later Baekje.' They also provide new insights into topics such as public archaeology, iron production, and the identification of crafts production.

15:30 – 15:50. **Ilhong KO** (Seoul National University Asia Center). **Human and Nonhuman Agency and the Dolmens of the Korean Bronze Age**

Central to the discourse on Korean dolmens is the capstone. This is due to reasons such as (1) the absence of human remains in dolmen burials due to the region's acidic soil; (2) the relative paucity of grave goods in dolmen burials; (3) the fact that it is the capstone which allows unexcavated dolmens to be identified as such; (4) the use of the capstone's weight to infer and compare the amount of human labour invested into dolmen construction. The image often associated with this fourth and final reason is that of a 'leader' overseeing the quarrying and movement of the capstone. The nature of coercion excreted by this 'leader' during in the event of dolmen construction has often been used as the basis for establishing the nature of Bronze Age society at the time. As such, the identification of stone quarries or movement paths has been a key topic in dolmen research. However, recent surveys of a detailed nature were undertaken on the stone quarries located near the peak of hill where the Jukrim-ri dolmen cluster, designated as World Heritage, lies at the footslope; the preliminary results indicate that evidence of the deliberate detachment of stones cannot be identified apart from one definite example. This has led researchers to consider the possibility that the capstones of the Jukrim-ri dolmens may not have been deliberately quarried; rather, large stones that had naturally fallen off due to weathering and rolled down the hill due to gravity may have been opportunistically used as capstones. The fact that, along with human agency, nonhuman agency may have structured the form, size, and location of the Jukrim-ri dolmens may generate a more critical perspective on the use of dolmens to make inferences on Bronze Age society.

15:50 – 16:10. **Youngseok YU** (Cultural Anthropology and Archaeology, Chonnam National University). **Changes in the Production and Distribution of Household Storage Jars in Mahan and Baekje, Southwestern Korea**

In ancient civilizations, the production and distribution of goods and services were not confined to the immediate household; rather, they were integrated with the economic systems of the wider community. From this perspective, the objective of this study is to enhance our comprehension of the socioeconomic system of the southwestern Korean peninsula in ancient times by analysing the production and distribution of everyday storage earthenware. In particular, the analysis examines the transformations in the production and distribution of household storage jars in Mahan and Baekje societies subsequent to the advent of large-scale, specialized production organizations around the 4th century CE. The findings indicate that, with the exception of some highly urbanized areas such as Gwangju, the production of jars continued at the household (or village) level even after the annexation of Baekje. While there is an increase in standardization and an expansion of distribution beyond the immediate neighbourhood compared to the previous period, the economic organization remains fundamentally similar to that of Mahan society. This indicates that the regional economy was not subject to central political control, and provides a new perspective on Baekje's local governance, including the development of local markets.

16:10 – 16:30. **Soobin CHO** (Chonnam National University), **Jina HEO** (Chonnam National University). **The Socioeconomic Significance of Household Craft Production in Mahan and Baekje, Southwestern Korea**

The aim of this study is to examine the socioeconomic implications of household craft production in Mahan and Baekje societies. This will be achieved through an analysis of the changes in the wealth and social status of households engaged in the production of earthenware and textiles. In particular, Gini coefficient analyses of the size of production and non-production dwellings, and the composition and quantity of artefacts are conducted in order to determine whether and how economic inequality existed and changed at the regional (agricultural core vs. peripheral) and household levels. The findings suggest that following Baekje's incorporation, the pre-existing economic organization remained largely unaltered in the agricultural core areas, such as the middle and lower Yeongsan River regions. However, in areas situated outside the agricultural core, such as the upper Yeongsan River region, the wealth of households engaged in craft production increased significantly, reaching levels that were higher than those observed in Mahan society. This was driven by population growth and concentration in urban centres, such as Gwangju. With the expansion of Baekje's power from the fourth century onwards, there was an influx of external groups into the region, which was

accompanied by an increase in demand for staple goods. Concurrently, local markets were undergoing development. Consequently, craft production, which had previously been a pervasive practice within Mahan society, appears to have been concentrated in specific areas conducive to exchange (trade). This indicates that the production of craft goods was not merely an ancillary activity to agricultural production, serving to augment household income; rather, it constituted a vital foundation for the economic integration of local communities.

16:30 – 16:50. **Chaean LEE** (Jeonbuk national university), **Nakjung KIM** (Jeonbuk national university), **Yejin JO** (Jeonbuk national university). **The Relationship between Central and Local Authorities in Ancient East Asian Society: Focusing on the Baekje Tombs**

The ancient societies of East Asia can provide crucial insights into understanding the fundamental structure of state governance in the past. The process by which central power extended into the provinces can be traced through various forms of archaeological evidence, with burial mounds serving as a particularly prominent indicator of change. By comparing and analysing the unique tomb cultures of the different regions, it becomes possible to infer how local powers were integrated into the central governance system. Baekje's tomb culture stands out as a representative example of the changing nature of governance systems in East Asia. It demonstrates how local powers, while maintaining their unique cultural identity and traditions, were transformed under the influence of central rule. Furthermore, diverse regional variations in Baekje's tomb structures and excavated artifacts provide critical clues for interpreting the dynamics of this centre-province relationship. This paper presents a detailed analysis of Baekje's tomb culture, focusing on its funerary and burial practices. By doing so, it seeks to enhance the current understanding of tomb culture and to provide a more refined interpretation of the interactions between central and provincial powers in ancient East Asia.

16:50 – 17:10. **Lauren GLOVER** (The University of Wisconsin-Madison, Madison College). **Steatite Ornaments in Korea and Japan 250-700CE**

Steatite (soapstone) is a soft stone that was often used in Japan and Korea for stone ornaments and ritual effigies and deposits. It was the primary material for ritual deposits in the Kofun period/Three Kingdoms Period. Notably, there was a trend from 450-550CE of depositing thousands of roughly carved steatite ornaments in sacred spaces in Japan and in the far south of the Korean Peninsula. This paper looked at stone drilling of these ornaments through scanning electron microscope (SEM) analysis of silicone impressions of the inside of steatite stone ornaments across several different regions in Japan and South Korea from 250-700CE. Scanning electron microscopy was used to determine drill type, manufacturing style and wear. All of the steatite ornaments showed heavy use wear, with some of them not being deposited until they were broken or worn through. When manufacturing indicators had not been worn away, they were drilled with metal drills and abrasive. The large amount of steatite ornaments produced at Soga workshop, in the vicinity of one of the palaces, suggests that the Kofun elites were controlling the production and distribution of steatite while the heavy use wear indicates that these ornaments were valued by regional elites who only discarded them when absolutely necessary.

17:10 – 17:30. **Jihu LEE** (Jeonbuk National University), **Daeyoun CHO** (Jeonbuk National University), **Siyun LEE** (Jeonbuk National University). **Critical Examination of the 'Later Baekje' Discourse in Korean Archaeology**

Recently, research on 'Later Baekje' has been active in Korean archaeology. In particular, archaeological research related to Later Baekje has been actively conducted in Jeonju, Jeollabuk-do, where Later Baekje established its capital. 'Later Baekje' was a political entity that existed briefly in the southwestern region of the Korean Peninsula from 900 to 936 against the backdrop of the decline of the Unified Silla Kingdom and the division of its territory. This paper examines the sociopolitical demands of Korean society that formed the basis for this activation of Later Baekje research. Later Baekje research goes beyond simply revealing the past and is intertwined with various political and social demands such as strengthening regional identity, promoting the tourism industry, and resolving the existing academic gap. Therefore, Later Baekje research can be seen as reflecting not only academic development but also efforts to meet the modern demands and demands of Korean society today.

17:30 – 17:50. **Namkyu LEE** (Hanshin University). **New Perspectives on the Use of Iron Sand in the Metallurgy of the Korean Medieval Period**

Archaeological research in Korea has mainly focused on the prehistoric and early historic periods, with the medieval period being overlooked, and this has particularly been the case for metallurgical studies. Discussions on the issue of raw materials in Korean traditional iron smelting has tended to be centered around iron ore. However, recent analyses on slags from various sites dating to the Joseon period have revealed high compositions of TiO_2, which suggests that the use of iron sand may have been widespread in the metallurgy of the medieval period. In association with this, the increased discovery of sites featuring Joseon period box-shaped iron furnaces is of interest. Iron sand consists of three types: river iron sand, coastal iron sand, mountain iron sand. The sources for river and coastal iron sand can be found in historical sources dating to the Joseon period, but the locations where mountain sand was quarried remain unknown. This paper addresses the above issues adopting an interdisciplinary and convergent perspective, utilizing insights gained from archaeology, material science, and historical sources.

DAY 4, FRIDAY, AUGUST 22nd MORNING

SESSION 13.

Social Complexity and Early State Development in the Middle and Lower Yellow River Valley: New Discoveries and Interdisciplinary Approaches

Organizers:

Xuexiang CHEN (Shandong University)

Qingzhu WANG (Shandong University)

The middle and lower Yellow River valley is one of the core regions where Chinese civilization originated, and understanding the process of social complexity and the formation of early states in this region is fundamental to our broader understanding of early state formation in East Asia. Recent advancements in Chinese archaeology and an increasing number of exciting new discoveries are reshaping our knowledge of this area, revealing more about the social, economic, and political transformations from the Paleolithic to the Qin and Han periods. This session invites scholars to explore the latest findings from the key sites, focusing on the intersection of archaeological discoveries and interdisciplinary approaches, such as archaeobotany, zooarchaeology, bioarchaeology, archaeometallurgy, technological analysis of ceramics, and ancient environmental reconstruction. By integrating these diverse methods, we aim to advance our understanding of the processes that led to early social complexity and state formation in the Yellow River valley. We particularly welcome papers that showcase new archaeological evidence from the middle and lower Yellow River valley and its implications for understanding early social and political development. We also invite research that bridges the fields of archaeology, bioarchaeology, and environmental science to explore how environmental changes, resource management, and technological innovations influenced early state formation. This session aims to foster an open discussion space for scholars from diverse fields to engage with new discoveries and collaboratively develop more integrated theoretical frameworks for understanding early state formation in East Asia.

09:20 – 09:40. **Qianqian SUN** (Shandong Provincial Institute of Cultural Relics and Archaeology).
New Discoveries and Insights from the Paleolithic to Neolithic Transition at the Zhaojia Xuyiao Site, Shandong Province

The Eastern Linzi District of Zibo City, Shandong Province, lies at the transitional zone between the Taiyi mountainous area in central Shandong and the northern Shandong alluvial plain, in the heart of the Haidai region. In November 2021, Dr. Zhao Yichao, Vice Research Curator at the Shandong Institute of Cultural Relics and Archaeology, and his team made significant discoveries during the excavation of tombs dating from the Warring States to Han Dynasty periods. Their attention was drawn to red-baked soil layers 4 to 6 meters below the surface. Through careful excavation, dissection, and dating, the team confirmed that these red-baked soil remains date back to the transitional phase between the Paleolithic and Neolithic periods.The main archaeological findings include several transitional sites dating from 11,000 to 15,000 years ago, found within interbedded layers of silt and clay, known as the Linzi rhythmic layers. Notable discoveries include extensive, red-baked soil remains and multiple ancient human activity sites, such as the Zhaojia Xuyang site and the Chenjia Xibei site. These discoveries represent a major breakthrough in understanding the shift from the Paleolithic to the Neolithic period, providing new insights into the origins of pottery, agriculture, human evolution, and stone tool production. After nearly four years of continuous excavation and interdisciplinary research, the team has made significant academic contributions to the field.

09:40 – 10:00. **Shen XU** (Shandong Provincial Institution of Cultural Relics and Archaeology), **Zongyue RAO** ((Shandong Provincial Institution of Cultural Relics and Archaeology), **Zhenzhen ZHAO** ((Shandong Provincial Institution of Cultural Relics and Archaeology), **Bo SUN** ((Shandong Provincial Institution of Cultural Relics and Archaeology). **Social Changes around 2500 BCE in A Medium-Sized Settlement: Evidence from the Zhongnangong Site**

The Zhongnangong site is located at the junction of the North China Plain and the Shandong Peninsula, at the foothills of the Taiyi Mountain Range. This medium-sized settlement, dating back to around 2600 to 2400 BCE exhibits features of the Dawenkou culture. Preliminary geological and archaeological studies suggest that the site lies on the boundary of an ancient alluvial fan plain at the northwest foot of the Yishan Mountain Range. Excavations have revealed a well preserved ancient village, consisting of grouped residential foundations, plazas with compressed surfaces, storage pits, graves from different periods, and large-scale soil-beddings constructed for public use. These remains provide valuable insights into the production activities probably about food and stonework, lifestyles, spatial relationships between different households, and social organization during the transitional period from the Dawenkou culture to the forthcoming Longshan culture. Notably, the dispersed and independent individual dwellings in the Dawenkou culture settlements appear to have changed into a more interconnected community with frequent internal interactions during this period. If we consider a basic residential unit as a core family, we propose that the Zhongnangong site reflects a form of spontaneous aggregation between households, possibly indicating a grouped, decentralized, and distributed social organization.

10:00 – 10:20. **Xiping HUI** (Zhengzhou University). **Different Models of Early State Development: A Case Study of the Liangchengzhen and Yao Wangcheng Sites in the Lower Yellow River Region during the Longshan Period**

Recent archaeological discoveries and advancing research have led to the identification of a growing number of specialized sites, such as Shizhuang and Haojiatai in the Central Plains, and Ximengzhuang in southern Shandong. These findings suggest that, during the transition toward early state formation, certain settlements began to take on specialized functions, marking a significant shift in social organization. This specialization of functions within settlements became a key characteristic of social development during the Longshan period. The Liangchengzhen and Yao Wangcheng sites, both located in the southeastern coastal region of Shandong, are particularly important examples from this period. These sites offer valuable insights into the complex processes of settlement development and the emergence of early state-like structures. This paper aims to explore the development patterns of these settlements during this transitional phase, focusing on how social, economic, and political functions became increasingly specialized. By drawing on archaeological excavation data and regional survey findings, the study provides a comprehensive analysis of settlement organization in the Longshan period.

10:50 – 11:10. **Yuan ZHENG** (Shanxi Provincial Institute of Archaeology). **Recent archaeological discoveries and research on the Yangshao Cultural in Shanxi of China**

The discovery of the Yangshao Village site in Mianchi County, Henan Province, by the Swede Andersson in 1921 and the excavation of the Xiyin site in Xia County, Shanxi Province, led by the Chinese scholar Li Ji in 1926, set off the prelude to modern Chinese archaeology and gave the world a preliminary understanding of the prehistoric Yangshao Culture in China. After a hundred years, Chinese archaeology has developed rapidly, theories and methods are constantly being updated, scientific and technological means are constantly advancing, the field of research is expanding, and our understanding of Yangshao culture has expanded from the small relics of the first year to a systematic understanding of its settlements, society, people and livelihoods. Shanxi, as one of the core areas of the distribution of the Yangshao culture, has always held the attention of scholars, and in recent years there are some new archaeological discoveries. This paper outlines how through these archaeological discoveries, we have a richer understanding of the prehistoric society in the middle reaches of the Yellow River basin five thousand years ago. For example, at the Shicun and Qiujiazhuang sites, stone figurines of silkworm pupae enable us to think about prehistoric human sericulture and the problem of reeling, whereas other sites such as Lishidegang and Yuaneun sites

add to our understanding of construction technologies and scales of the Yangshao period settlements.

11:10 – 11:30. **Hui ZHAO** (Shanxi Provincial Institute of Archaeology), **Xuexiang CHEN** (Shandong University), **Hua WANG** (Shandong University), **Shaodong ZHAI** (Institute of Archaeology, Chinese Academy of Social Sciences), **Yanyan YANG** (Henan Provincial Institute of Cultural Relics and Archaeology). **The Discovery and Understanding of the Bailiping Site in Qinshi, Shanxi: A Cultural Hub of East-West Interaction and North-South Exchange in the Early State Period**

The Baliping site, covering an area of about 1 million square meters, is located on the terrace near to the Qinhe River in the east of Bali Village, Zhengzhuang Town, Qinshui County, Jincheng City, Shanxi Province. Its duration is probably from late period of the second phase of Miaodigou culture to the first phase of Erlitou culture. There were triple moated trenches arranged at its most prosperous period about 4300 years ago. Only 460,000 square meters area remained within the outer trenches and some rammed earthen foundations of a triple connected building with an area of 504 square meters were revealed in the north of the inner trench in 2022. The Baliping site is 90 kilometres to the west from Taosi site and Zhoujiazhuang site, and their cultural features reflected by potteries varied but related to. The jade rings with collar reflected their different ethnic identities. Therefore, such cultural interaction among Baliping site, Taosi and Zhoujiazhuang in southwest Shanxi had proved the evolution of cultural pattern in the south Shanxi during the formation of ancient states.

11:30 – 11:50. **Guanghui ZHANG** (Shanxi Provincial Institute of Archaeology). **The Rise and Fall of Early Stone-Walled Enclosures in Northern China and the Impact of Ancient Climatic Marginality**

In northern China, after 5000 BCE, the practice of quarrying and constructing fortified sites became increasingly widespread, leading to the emergence of a series of stone-walled enclosures. By around 4000 BCE, these sites reached their peak, often strategically positioned on mountain ridges or peaks to take advantage of natural defensive features. The construction of these sites included intricate, winding defensive gates and densely arranged horse-faced walls, all of which displayed strong defensive characteristics. These stone-walled enclosures, which appeared no later than around 4000 BCE, extended from the Hetao region to the vicinity of the Yan Mountains, forming a crescent-shaped distribution belt of such sites across northern China. This belt roughly coincides with the boundary between China's semi-arid and semi-humid regions. Climatic fluctuations at the margins of this zone influenced the movement and defensive strategies of the human populations, which is reflected in the settlement patterns, characterized by distinctly significant defensive features.

11:50 – 12:10. **Qingzhu WANG** (Shandong University), **Xuexiang CHEN** (Shandong University), **Jianfeng LANG** (Shandong University), **Anne UNDERHILL** (Yale University), **Hui FANG** (Shandong University). **Networks of metal circulation during the Early Bronze Age of China (ca. 1800-1000 BC)**

This paper investigates the circulation of metal resources during the early Bronze Age in China through a thorough analysis of lead isotopes. It integrates multiple lines of evidence, ranging from bronze styles to archaeological context, to provide a comprehensive analysis. Introducing a novel grouping method based on lead isotope ratios, this study unveils intricate networks of metal circulation during the Erlitou and Shang periods. Combining multiple lines of evidence, our analysis reveals dynamic patterns in the bronze production and distribution system, and the existence of horizontal exchange activities. This research emphasizes a dynamic perspective in the bronze production system and underscores the necessity of incorporating multiple lines of evidence for a more nuanced understanding. By reassessing lead isotope data alongside examinations of bronze styles and their archaeological contexts, our study provides new insights into the political economy of the Bronze Age in China, shedding light on the complexities of ancient metal exchanges.

12:10 – 12:30. **Bo XU** (Shandong Provincial Institute of Cultural Relics and Archaeology). **The Large Knife-shaped Coins of the Qi State and Their Role in Resource Control and Economic Circulation**

The Eastern Zhou period in China marked the initial and rapid development of a market economy, with the emergence of metal currency being a significant indicator of this economic transformation. This study explores the role of the large knife-shaped coins from the State of Qi, arguing that their creation and circulation were closely tied to Qi's control over vital resources. While the inscriptions and forms of these coins evolved over time, their weight remained relatively stable, in contrast to the decreasing weight of the smaller knife-shaped coins. We suggest that the reduction in the weight of the smaller coins aligns with broader economic trends, while the stable weight of the large coins may indicate deliberate state intervention. Further analysis reveals that the distribution of the large knife-shaped coins is closely linked to Qi's control over essential resources such as salt, marine products, and timber. We propose that these large coins functioned as the official currency of Qi, while the smaller coins likely circulated in private economic activities. By establishing standardized systems for currency, weights, and measures, the Qi state strengthened its control over local markets and strategic trade points, facilitating the efficient circulation and management of resources. These practices would later be adopted by the Qin and Han dynasties, becoming key strategies for consolidating the economic power of a unified China.

12:30 – 12:50. **Xuexuang CHEN** (School of Archaeology, Shandong University), **Jiajing YU** (School of History, Capital Normal University), **Shen XU** (Shandong Provincial Institute of Cultural Relics and Archaeology), **Fei ZHANG** (Joint International Research Laboratory of Environmental and Social Archaeology, Shandong University), **Qingzhu WANG** (Joint International Research Laboratory of Environmental and Social Archaeology, Shandong University). **Wheat for Food Security in the Bronze Age: Archaeobotanical Evidence from the Xichen Site, Eastern China**

Food security is a global concern for nations and populations alike. The broader application of archaeobotanical techniques to understanding past plant utilization has fuelled scholarly discussions on the strategies used by different ancient civilizations worldwide to cope with food crises. However, food security strategies in the context of the Chinese Bronze Age are not well understood. In this paper, we utilize archaeobotanical remains and radiocarbon dates to examine a key site—Xichen in the suburb of the Lu City in the Qufu region during the Western Zhou period. The results indicate that wheat plantation increasingly contributed to the agriculture at the Xichen site, with wheat becoming the second most important crop after foxtail millet by the Western Zhou period. Also, whether at the Xichen site or in central China, the Haidai region of eastern China, and the Guanzhong region of western China, the increasing emphasis on wheat was a common phenomenon during this Period. We suggest that the expansion of wheat production in Xichen was closely connected to social and political instability, an influx of new immigrants, and climate deterioration. Consequently, the Lu leaders adopted proactive measures to alleviate the pressures on food supplies and enhance political stability. The Zhou royal court used its strong political influence to promote intensive wheat cultivation, secure food supplies, consolidate its regime, and maintain social stability. Our findings highlight the necessity of regional studies within the context of archaeological culture, particularly in understanding how nations ensure food security and develop strategies under corresponding conditions.

12:50 – 13:10. **Bo SUN** (Shandong Provincial Institute of Cultural Relics and Archaeology). **Discussant**

SESSION 14.

Ritual and functional: Weapons in ancient Chinese society

Organizers:

Xiuzhen LI (University College London/University of Oxford)

Yanli GUO (Shaanxi Normal University)

Weapons and weapons production were perceived as implements associated with military conflict and warfare in ancient Chinese society. However, the weapons discovered from archaeological excavation were mostly from tombs or other burials related to ritual practice and religious concept. It provides opportunity to discuss about ancient weapons from different perspectives to address their function and roles beyond military warfare within social and historical context. In this session, we attempt to employ variety of approaches and explore the multi-functions of weapons, lethal or symbolic weapons, in ancient Chinese society from the Neolithic period to Qin-Han (221 BC – 220 AD) dynasties. It also aims to investigate complicated thoughts, ideas, and behaviours from the people who engaged with weapons, including craftspeople in the process of production, warriors in battle field, and elites in their tombs with weapons, and further investigate ideology and social philosophy underlying the deliberate destruction of weapons as burial customs in ancient Chinese society.

09:20 – 09:40. **Xiuzhen LI** (University College London and University of Oxford). **Bronze vs Iron: Weapons of the Qin Terracotta Warriors**

The weapons of the Qin First Emperor's terracotta warriors were primarily made of bronze and included a variety of types such as swords, lances, spears, dagger-axes, hooks, arrows, and crossbow triggers. However, only one iron spear and four arrow tangs have been discovered. Interestingly, most contemporary tools and agricultural implements from that period were made of iron, and some iron weapons have also been found in tombs of the same era. During this transitional period from the Bronze Age to the Iron Age, the bronze blades and trigger mechanisms—remarkably well-preserved in the "frozen" Terracotta Army—have raised questions about their purpose within archaeological and social contexts. Were these weapons created specifically for the emperor's afterlife? Or had they been used on the battlefield during his lifetime, aiding him in his quest for power and land, before being buried for his afterlife? This study examined the bronze weapons, focusing on their surface traces, inscriptions, metallurgy, and spatial distribution, to address these research questions. The findings suggest that while some of the weapons were specifically produced for the burial pits—despite being lethal and fully functional—others had been used on the battlefield or stored in armouries prior to their burial.

09:40 – 10:00. **Xiaojuan TIAN** (Shaanxi History Musuem), **Shuti ZHAO** (Georgetown University). **Rituals Enshrined in Artifacts: The Halberd as Discovered in Chinese Tombs**

The halberds of China are different from those of other regions. Halberds in China are primarily found within burial contexts. During the Shang dynasty, halberds were in an experimental stage, discovered mainly in high-status tombs. By the Western Zhou period, halberds had a thinner form, and paired halberds appeared, although a strict hierarchical use was not yet established. After further development through the Eastern Zhou and Qin periods, halberds of the Western Han period exhibited a dual system, with ceremonial bronze "Xiong" halberds and practical iron halberds shaped like the character "卜" coexisting. From the Northern Dynasties onward, steel halberds gradually disappeared from practical use, evolving into "display halberds" erected at entrances to signify rank, with a formalized system of display halberds emerging in the Sui and Tang periods. The evolution of the display halberd system reflects cultural continuity and also reveals a high level of respect among different ethnic groups for dynastic culture.

10:00 – 10:20. **Yanli GUO** (Shaanxi Normal University). **The Concept of "Ceasing War and Pursuing Virtue" Reflected in Chinese Weaponry**

In tombs from the Qujialing and Taosi cultures, dating back nearly 5000 to 4000 years, jade battle-axes and the tusks of castrated boars already served as symbols of peace. The notion of "prosperity without the need for use" evolved during the Xia, Shang, and Zhou periods, where the deliberate destruction of weapons became a widespread burial custom within royal tombs and their cultural spheres, reflecting the dominant ideology of restraining violence and laying down arms. This practice was later inherited and continued by the Ba and Chu regions during the Warring States and Han periods. After the Qin Empire, weapons were rarely found in tombs across the nation, or they appeared in symbolic, ceremonial forms, embodying the social ethos of "ending war to establish military authority" and the pursuit of peace. The five-thousand-year tradition of ceasing warfare, as reflected in Chinese weaponry, and the underlying social philosophy have persisted through the ages, continually evolving while remaining relevant today.

10:20 – 10:40. **Congcang ZHAO** (Northwest University). **Research on Pre-Qin Armor in China**

The forms of pre-Qin Chinese armour can be categorized into two main types: solid-plate armour and lamellar armour. These were crafted from materials including leather, bone, and bronze. Current findings indicate that solid-plate armour was typically made of bronze, with a few leather examples, while lamellar armour utilized various materials. From a geographical perspective, Chinese bronze solid-plate armour has primarily been discovered at sites in Baoji, Shaanxi, and Jiaoxian, Shandong, but most abundantly in the Yunnan region. The bronze armour found in Yunnan is similar in form and craftsmanship to Western armour, and it is likely influenced by the forms of Western armor. Chinese lamellar armour dates back to the Shang dynasty, and continued through to the Ming and Qing dynasties, becoming the predominant type of Chinese Armor. It is worth discussing whether there is any connection between ancient Roman armour and traditional Chinese armour. Studying armour provides valuable insights into the cultural exchanges between East and West.

SESSION 15.

Architecture and Social Spaces

Organizer:

Francesca MONTEITH (Northwest University)

10:50 – 11:10. **Meng LYU** (Kinjo University). **Flat tegulae or Curved tegulae: Two roof-tile systems in early China**

The history of roof tiles in China is incredibly long and can be dated back to the late Neolithic period, approximately 4,000 years ago. This study on Neolithic roof tiles in China began at the end of 2021. Roof tiles from three main sites (Qiaocun, Lushanmao, and Shimao, located in the middle reaches of the Yellow River), as well as from other related sites, were arranged systematically. The study found that roof tiles from the Neolithic period in China could be divided into two systems. One system included flat roof tiles (tegulae) with raised edges and semi-cylindrical roof tiles (imbrices), similar to the tegulae and imbrices used in ancient Greek and Roman architecture. Referred to as System A in this study, they were found at many Neolithic sites in the eastern part of Gansu Province and the southern part of Shaanxi Province. The other system, System B, consisted of slightly curved roof tiles (tegulae) and semi-cylindrical roof tiles (imbrices). System B roof tiles were mostly found at the Shimao site in the northern part of Shaanxi Province. After the Neolithic period, System A with “flat” tegulae declined gradually; nearly all roof tiles found in China after the Qin Dynasty developed into System B with slightly “curved” tegulae. This presentation introduces the study’s findings on the styles of these prehistoric roof tiles and the related production techniques. It also analyses the development of the two roof-tile systems, providing details about regional interaction and cultural transformation in early China.

11:10 – 11:30. **James COBURN** (University of Illinois at Urbana-Champaign). **Continental Connections: The biological connection between Korea and Japan during the late Yayoi and early Kofun periods**

The connection between the Korean peninsula and the Japanese archipelago throughout the prehistoric period has been well documented. These include early trade interactions between the islands of Tsushima and Iki, acting as a mediary between the Korean peninsula and the Japanese archipelago. These interactions, particularly during the Yayoi and Kofun periods, are typically seen through the lens of the well-studied agriculture development on the archipelago and various trade goods, including bronze and ironware. One aspect that has been more recently developed is bioarchaeology, specifically strontium isotopic analysis. For my paper, I will analyse the development of Eastern Japanese late Yayoi and early Kofun culture, specifically the development of tomb structures and their relation to the external influences of the immigrants coming into the archipelago. While these impacts can be seen through trade goods, I will analyse the development of tomb structure and ceramic distribution in connection to biological tracers found within strontium isotopes found in individuals surrounding regions with various stages of tomb development.

11:30 – 11:50. **Glenda CHAO** (Ursinus College). **Negotiated afterlives: Emulation, Display, and Localized Decision-Making in Eastern Zhou Tomb Construction in the Xiang-Yi Plain**

This paper focuses on the interpretation of mortuary architecture from several Eastern Zhou period cemeteries in the Xiang-Yi plain region of northern Hubei, which is located along the banks of the Han River. It demonstrates that identifying patterns in tomb construction and mortuary space usage across several large cemeteries in a single locality has the potential to yield nuanced interpretations of this important region's experience of social and political changes during the Spring and Autumn into the Warring States periods and especially leading up to the and through imperial unification under the Qin. Especially highlighted in this paper are the decision-making processes and desires for emulation, display, and cultural negotiation involved in the construction of the tomb shafts and coffins and in the placement of grave goods within burials. More broadly, this paper engages with regional history in early China studies, quantitative methods in Chinese archaeology, and chaîne-opératoire approaches to archaeological interpretation.

11:50 – 12:10. **Kenri SATO** (Kanagawa Prefectural Museum of Cultural History). **Cave Use in Agricultural Society**

Cave and rock-shelter sites have been understood as the places where humans used to live before the onset of sedentarization. However, caves were also used in agricultural societies. In order to elucidate this, it is not enough to simply view caves as residences; it is necessary to clarify the relationship between caves and general settlements, as well as the use of caves not only inside but also in the surrounding areas. Based on this perspective, this study examines the background of cave use in agricultural societies based on the latest research results. The caves that were actively used with the start of rice farming were the sea-eroded caves in the Miura Peninsula, Kanagawa Prefecture, located in the southeastern part of the Japanese archipelago. The Makuchi cave site, the subject of our research, was used from around the 1st century, and ritual artifacts such as burnt bones (Bokkotsu) and a layer of charcoal ash soil were found inside, suggesting that rituals or production activities were carried out and fire were used there. Based on the analysis of the carbonized material attached to the pottery, the the site was a place of rituals using animal bones, and points out the possibility that such activities were conducted not only in the interior but also in the vestibule area. To test this hypothesis, an excavation of the vestibule is scheduled for February 2025. Based on the results of this excavation, we report on the state of cave use in agricultural society.

12:10 – 12:30. **Yu SHI** (University of Durham). **The Archaeological Discoveries and Research History of Front-Cave Structures in Chinese Buddhist Grotto Temples**

The grotto temples serve as significant vehicles for cultural exchange and mutual learning between China and other civilizations. In recent years, archaeological research on China's grotto temples has achieved notable progress, with multidisciplinary approaches significantly expanding the scope of

studies. Increasing attention has been devoted not only to the interiors of grottoes but also to the front-cave structures and associated monastic remains. The proliferation of archaeological discoveries and research on front-cave structures has illuminated the intricate relationships between these remains and the grotto chambers. Reviewing the century-long history of archaeological exploration and the development of related studies is crucial. This paper is organized into three main sections: the archaeological discoveries and excavation history of front-cave architectural remains, the trajectory of related research, and conclusions that outline the developmental and evolutionary patterns of front-cave studies. Furthermore, a comparative research method contextualizes the discoveries and research on front-cave structures within the broader history of China's grotto temple archaeology. By comparing the academic history of front-cave studies with those of Chinese grotto temples the study examines three dimensions: the history of field archaeology, research contributions by specific institutions, and the evolution of theoretical perspectives guiding these efforts, finally offering recommendations for future research directions.

12:30 – 12:50. **Francesca MONTEITH** (School of Cultural Heritage, Northwest University). **Social and semiotic transitions in the carved spaces of religious sites across Asia during the first Millenium CE**

The construction of sacred spaces within man-made caves is a significant, though peripheral, element of religious practice across Asia during in the first millennium CE. This paper focuses the transitions in the semiotics of carved space within rock carved religious sites over time and space. Since the majority of rock carved religious sites in Asia are Buddhist, this paper focuses on Buddhist rock carved architecture, but also refers to Jain, Hindu, Christian and Daoist sites. By focusing on the transitioning semiotics of carved and constructed spaces this paper approaches rock carved religious sites as locales of human activity in the past. Through analysing the semiotic balance between icons and devotees within rock carved religious sites this paper highlights the underlying web of exchange, regionalisation and localisation which, alongside changes to religious praxis, led to the gradual transition in the semiotics of space within religious rock carved sites across South, Central and East Asia during the first millennium CE.

SESSION 16.

Public and Community Archaeology and Museums in East Asia

Organizers:

Lisa RANDISI (Institute of Archaeology, University College London)

Yu ZHANG (University of Science and Technology of China)

09:20 – 09:40. **Clayton BROWN** (Utah State University). **Preserving China's Patrimony: Early Sino-American Collaboration in Cultural Heritage Management**

As China's imperial authority crumbled in the modern era, millennia of cultural heritage fell prey to collectors and vandals, both domestic and foreign. Following establishment of the Republic of China and its intellectual arm known as the Academia Sinica, the US government, through the Smithsonian Institution, sponsored a series of expeditions to China to pioneer with the Chinese government and academic community both archaeological research and systematic monument and artifact preservation. This collaborative venture resulted in joint Sino-American excavations and exhibitions, including discovery of the ancient capital at Anyang, the establishment of China’s first national museum, and an Antiquities Protection Law, all of which became the foundation for China’s cultural heritage management regime today. But when the Chinese nationalized their cultural heritage in 1930, all foreigners were shut out of the enterprise. The American party dismissed the cooperative venture as a failure, while the Chinese were happy to ignore any contributions from an erstwhile imperialist nation and later cold war enemy. Revisiting this episode in our shared history, this short

documentary reflects on the lessons and legacy of a moment when the US and China worked together to preserve China's patrimony.

09:40 – 10:00. **Yu ZHUANG** (Institute of Archaeology, University College London). **Social networks in Johan Gunnar Andersson's archaeological fieldwork in China (1921–1924)**

This paper explores the social network of Johan Gunnar Andersson (1874–1960), a geologist who became a pioneer of Chinese archaeology, during his archaeological fieldwork in Henan and Gansu from 1921 to 1924. While Andersson's activities in China have been examined in various scholarly works, these studies largely offer chronological, descriptive accounts of his career. This paper aims to go beyond these surface-level narratives to investigate the underlying social structures that supported Andersson's work, asking the following questions: Who were the individuals Andersson interacted with directly and indirectly? Moreover, what were the power dynamics between Andersson and all the other participants? Through an examination of Andersson's personal archival materials housed at the Museum of Far Eastern Antiquities, including business cards, letters, and official documents such as passports, I argue that Andersson's archaeological fieldwork was not merely an individual endeavour but a multifaceted social activity. There were primarily three circles of participants: the national circle, consisting of Swedish and Chinese central officials and top scholars; the provincial circle, which included Chinese provincial officials; and the local level, comprising Chinese local officials, Western missionaries and Chinese local labourers. Notably, skilled Chinese collectors–mentioned frequently by Andersson–were the only group of participants who collaborated with him across all three circles. These archives offer a glimpse into Andersson's fieldwork, revealing it to be more collective and comprehensive than the archaeological reports suggest, thus providing a more nuanced understanding of the early development of Chinese field archaeology.

10:00 – 10:20. **Tullia FRASER** (University of Glasgow), **Agnes Py SUNG** (Department of Anthropology, The Chinese University of Hong Kong). **The Early History of Archaeology in Hong Kong: Fragments, Connections, Potentials**

Renewed perspectives to the early history of Hong Kong's archaeology are offered through this paper, which accounts for a collections review conducted into a previously unreported collection of archaeological finds in the University Museum and Art Gallery of the University of Hong Kong. The review first identifies the collection as one of the earliest archaeological collections in Hong Kong. The reconstructed biography of the collection is used to highlight the key actors in the formation of archaeological knowledge in Hong Kong between the 1920s and 1960s, revealing trans-institutional, transnational, and transdisciplinary connections. The successes of this review has shown the potentials of resuming curatorial encounters with so-called 'orphaned' archaeological collections, in which important information and research potential can be recovered and reported in post-excavation contexts. By critically examining the methodological approach adopted, this paper seeks to advocate for this method and the potentials brought forth from this form of cross-disciplinary research, while situating the review's contribution to the growing interest in archaeology in Hong Kong.

10:50 – 11:10. **Benedetta VITALE** (Department of Chemistry, University of Turin), **Eliano DIANA** (Department of Chemistry, University of Turin), **Angelo AGOSTINO** (Department of Chemistry, University of Turin, **Marta BOSCOLO MARCHI** (Museo di Arte Orientale di Venezia), **Anna Maria Carmen ANTONINI** (Museo delle Culture (MUDEC)). **"Is my pretty horse authentic?" Scientific investigation of Chinese Tang-style pottery figurines for authentication purposes**

Tang pottery is one of the most remarkable examples of the ancient Chinese cultural heritage. It flourished during the cosmopolitan Tang dynasty (618-907), a period characterized by unprecedented production levels and extensive trade along the Silk Roads. Despite its widespread distribution, Tang pottery was produced in a limited number of Chinese kilns. During the 20th century, Tang figurines became highly sought by art collectors, leading to a proliferation of modern reproductions on the art market. However, they have not been systematically studied, highlighting the need for reliable physico-chemical authentication markers. In this context, the present study examines 40 Tang-style figurines from major Chinese collections in Italy, including both genuine finds and declared modern reproductions. The main aim is to identify markers of authenticity through an in-depth investigation of their materials and manufacturing process. Micro-ceramic fragments from the inner cavities of each figurine were analysed and classified based on colourimetry,

elemental compositions, paste morphology, characteristics of inclusions, mineralogical assemblages, and estimated maximum firing temperature. The technological features of these artefacts were compared with those of archaeological Tang pottery reported in the literature, providing first insights into similarities and differences in raw materials and manufacturing techniques. The results of this pilot study lay the first framework for further investigations of Tang-style artefacts found outside the archaeological context and with uncertain authenticity.

11:10 – 11:30. **Tian TIAN** (University of Cambridge). **Scraping Imaginary Moss off the Hieroglyph: Chinese Public Reception of Egyptian Archaeology, 1890s–1930s**

Modern Egyptian archaeology, which laid the foundation for modern archaeology today, was introduced to China in the 1940s when Xia Nai finished his study in the UK. This study shows that China never fell behind in the reception of the latest developments in Egyptian archaeology. Chinese readers of local newspapers were informed about the excavations of de Morgan and Petrie and continued to be updated with news from Thebes and Giza in the 1920s. Moreover, previous studies have shown the impacts of traditional antiquarianism on Chinese reception of Egyptian archaeology in terms of chronology and terminology. This study extends that investigation into the public sphere. It reveals the influence of travel writings by antiquarians, fang gu ji (records of visiting ancient sites), on Chinese narratives of excavations. Other traditional genres in popular literature, such as *zhiguai* (records of anomalies) and *biji* (informal notes), also contributed vocabulary and tropes to these narratives. This study will analyse two case studies. First, a comparison between a Chinese translation of British news on Petrie's excavation in Denderah (1898) and a Chinese narrative of de Morgan's excavation at Naqada (1897). The second case unravels a fabricated archaeological account from the 1930s that combined finds from multiple recent excavations at Saqqara and Thebes. While retaining traditional *zhiguai* tropes, the narrative also reflects influences from the sexualization of female bodies prevalent in Shanghai's urban culture and the imported story of Cleopatra through the movie industry.

11:30 – 11:50. **Lisa RANDISI** (University College London). **"Not important but not useless" – Public attitudes to archaeology in urban and rural Mongolia**

In the post-Socialist era, Mongolia has forged a national identity grounded in narratives of nomadism, empire, and historic ties with Asia and the wider world. There is a tension within Mongolian archaeology: while recent investments in heritage have delivered a new National Museum, UNESCO World Heritage Sites nominations, and a growing media focus on archaeology, that same heritage has come under threat from the climate crisis, rapid urbanisation and the growth of extractive industries. This tension is rooted in part in enduring and incorrect assumption amongst heritage professionals that Mongolian audiences "do not care about their heritage". To establish a frame of reference for understanding these audiences, this paper presents the results of a comparative study of public attitudes to the many, occasionally conflicting narratives of the past encountered across the Mongolian urban/rural divide. It argues that urban and rural communities make up two, very different audiences: while people in the cities are after a symbol of communal identity, rural communities do not identify with the national discourse presented by archaeologists and museums, instead looking to connect with heritage on a personal or practical level. This paper reflects on how learnings from this study can inform future public engagement practices, for a more impactful, locally relevant public archaeology in Mongolia.

11:50 – 12:10. **Erin NOXON** (Sagano High School), **Corey NOXON** (Ritsumeikan University). **Bringing Archaeology to Young Learners Through AR and VR Technologies**

Two researchers and educators, an archaeologist and a high school teacher based in Japan, are collaborating to make archaeology accessible and engaging for young students. Since 2019, Corey Noxon, an assistant professor in the archaeology department at Ritsumeikan University, and Erin Noxon, a high school teacher at Sagano High School in Kyoto, have worked together on a program to connect young learners with archaeology. Corey's research on Jomon period culture and history uses photogrammetry and other technologies to create 3D models of pottery and artifacts. These models, hosted online and freely accessible, allow students to explore and connect with the ancient past in tangible ways. Sagano High School, a designated Super Science High School (SSH) by the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT), provides a unique platform for this program. The 80 students in the school's Science English curriculum engage

directly with Corey's AR and VR models, learning not only about archaeology but also how to create their own models. To evaluate the program's impact, survey data is collected before and after each event, measuring changes in students' attitudes toward archaeology and technology. These data demonstrate the program's success and informs its ongoing development, ensuring it remains engaging and relevant. The collaboration exemplifies how cross-disciplinary efforts can make archaeology accessible and meaningful for young learners, inspiring the next generation to connect with history through innovative methods and technologies.

SESSION 17.

The Relationality of Plants, Environments, and Humans

Organizers:

Melody LI (The University of Oxford)

Aspen GREAVES (University of Pittsburgh)

09:20 – 09:40. **Christina CAROLUS** (Yale University), **Asa CAMERON** (Yale University), **Bukhchuluun DASHZEVEG** (National University of Mongolia). **The Origins of Agriculture on the Mongolian Steppe: New Data and New Perspectives**

Research into agricultural adoptions and dispersals of major domesticated plant taxa across the Eurasian steppe has gained momentum in the past decade. Archaeobotanical data have clarified the antiquity and breadth of these processes throughout the Bronze and Iron Ages and linked them to a broader trans-Eurasian system of dynamic long-term social, economic, and biogeographic interactions. The prehistory of agriculture in the Mongolian steppe nevertheless remains an open question. This paper addresses considers a range of new interdisciplinary data as well as macroremain evidence from a newly discovered prehistoric agricultural site in northeastern Mongolia. We focus particularly on recent finds at Khairt Suuryn (c. 250 BC-200 AD), an extensive pithouse settlement. Khairt Suuryn has yielded evidence for production of broomcorn millet (*Panicum miliacium*) and large cereal grains (cf. Triticum aestivum), as well as the first documented recovery of foxtail millet (*Setaria italica*) prior to the medieval period. Rather than isolation from the changing subsistence economies surrounding it, new macrobotanical and biomolecular data across Mongolia suggest mosaic patterns of early agricultural participation that cohere with better documented areas of the Eurasian steppe and Inner Asia. We posit that Mongolia's longstanding perception as an outlier to supraregional prehistoric agricultural developments reflects long-term research trends rather than prehistoric realities. Finally, we advocate strongly for standardized inclusion of archaeobotanical research design and sampling on excavations in the Mongolian steppe region in order to resolve ongoing research disparities.

09:40 – 10:00. **Yufeng SUN** (Institute of Archaeology, Chinese Academy of Social Sciences), **Xin JIA** (Nanjing Normal University), **Yonggang SUN** (Chifeng University), **Rachel REID** (Virginia Polytechnic Institute and State University), **Xinyi LIU** (Washington University of St. Louis). **Agricultural Extensification Corresponding to the Increase of Pastoral Activities in Prehistoric Chifeng, Northeast China**

Production and consumption of food has been one of the central themes in modern-day archaeology, yet few studies have examined cultivation practices concerning labour organization in the field. This study explores the diachronic changes in labour organizations in the Chifeng region in the context of changing subsistence strategies between 4000 and 2000 BP. We use nitrogen isotope values ($\delta^{15}N$) of archaeologically recovered grains to inform soil preparations such as manuring or farmyard middening. Our results show a decrease in plant $\delta^{15}N$ values from the Early Bronze Age to the Late Bronze Age/Early Iron Age, suggesting a decrease in manuring activities. Such changes correspond

to the cultural transition between Lower and Upper Xiajiadian periods, with communities increasingly relying on pastoral activities during the Upper Xiajiadian period. We argue that these isotopic data lend support to a trend of agricultural extensification across this cultural transition. Our results resonate with previous observations made in Ordos and Eastern Tianshan, also showing a similar trend in agricultural extensification over time.

10:00 – 10:20. **Yawei YOU** (Institute of Archaeology, University College London). **Modeling climatic suitability and millet cultivation dispersal on the Tibetan Plateau and surrounding region: Insights from ecological niche and pollen-based reconstruction**

The Tibetan Plateau and its surrounding regions exhibit significant climatic and topographic diversity, shaping human subsistence and agricultural strategies over millennia. Understanding the role of climate in millet-based agricultural expansion is critical, yet previous research has primarily focused on temperature constraints, overlooking the role of precipitation. This study integrates pollen-based climate reconstructions and ecological niche modelling (MaxEnt) to assess the climatic suitability of green foxtail millet (*Setaria viridis)*, the wild progenitor of foxtail millet (*Setaria italica)*, across the Tibetan Plateau and adjacent regions from 8,000 to 2,000 BP. The results reveal that precipitation, particularly summer precipitation, has played a more significant role than temperature in determining the spatial distribution of green foxtail millet. Climatic suitability had remained relatively stable throughout the Holocene, but a drying trend during the mid-to-late Holocene had expanded suitable regions in the South, particularly along key dispersal corridors, including the Western Sichuan Valley, Hengduan Mountains, and pathways linking Longnan to the Sichuan Basin. Temporal trends in millet presence, derived from archobotanical records, indicate an early reliance on highly suitable environments, followed by a transition toward human-mediated dispersal as millet cultivation expanded into less suitable regions during the mid-late Holocene. Human intervention, including selective breeding, trade, and cultural exchange, likely facilitated millet's adaptation to increasingly diverse environments. Simulated climate scenarios also suggest that changes in precipitation significantly influenced dispersal direction, with reduced rainfall potentially allowing expansion southward, even further into the Himalayas. These findings challenge previous assumptions that cooling and drying events, such as the 4.2 ka event, inhibited millet cultivation. Instead, they highlight the complex interplay between climate variability and human adaptation, emphasizing the role of both environmental constraints and cultural processes in shaping millet agriculture across the Tibetan Plateau and surrounding regions.

10:50 – 11:10. **Tetsuya SHIROISHI** (Yamagata University), **Saburo FUJITA** (Tawaramoto Town Archaeological Center), **Masashi MORI** (Paleo Labo Co., Ltd.). **Environmental Changes over 1000 Years at the Karako-Kagi Site in Japan**

In this presentation, we will report on the environmental changes that have taken place over the past 1000 years at the Karako-Kagi Site in Nara Prefecture, Japan. The Karako-Kagi site in Nara Prefecture, Japan, is famous as one of the largest moated settlements in Japan, which was inhabited for almost the entire Yayoi period (10th century BC - 3rd century AD). In recent years, the accuracy of climate change in prehistoric times has been dramatically improving in Japan due to the results of oxygen isotope ratio analysis. However, the current situation is that climate change is being studied in broad terms, and diachronic changes at the site level have not been investigated. Therefore, the presenters will clarify environmental changes at the site level by conducting a diachronic analysis of the fossil pollen contained in approximately 30 sediment samples excavated from the Karako-Kagi Site to date. In addition, the researchers plan to conduct excavation surveys in March 2025, and by analysing about 10 new samples in addition to the existing samples, they will clarify more detailed environmental changes. The researchers intend to use the results of this research as a basis for clarifying how the people of the Karako-Kagi Site responded to climate change.

11:10 – 11:30. **Aspen GREAVES** (University of Pittsburgh), **Jargalan BURENTOGTOKH** (National University of Mongolia), **William GARDNER** (Yale University). **Agropastoralist Subsistence Strategies in a Mongol Empire (1206-1500 CE) Household**

As the second largest empire of all time, the Mongols had immense impact on the political, social, and material trajectories of most of the Eurasian continent, but little is known about the lives and choices of the core pastoralist subjects of the empire. Important research on Mongol-era subsistence has come from large urban or palatial sites like Karakorum, Avagra, or Khar Khul Khaany Balgas, as well as from historical records; less is known about the strategies employed by small-scale actors. Ongoing research at a Mongol habitation in Tsagaan Ereg, a multi-period occupation in Tarvagatai Valley, north-central Mongolia, has included systematic sampling for floatation and archaeobotanical materials. In addition to the characterization of the abundant faunal remains, this represents one of the most comprehensive datasets on the subsistence choices of this previously overlooked category. Interestingly, this includes evidence for agropastoralism, adding to the current argument against a "pure pastoralist" view of historic Mongolian subsistence.

11:30 – 11:50. **Melody LI** (The University of Oxford). **The Archaeology of Tea: Taste, Smell and Sensory Approaches to Plant Use in Ancient China**

Tea (*Camellia Sinensis*) is one of the most popular beverages in the world. Poems and writings from the Tang Dynasty onwards celebrate the sensory experience of consuming tea, and the links between taste, tea connoisseurship, and ceramics have also been noted in literature. However, the early history of tea is shrouded in mystery. Archaeological discoveries within the past decade have pushed the use of tea leaves in China far earlier than current written records, and my paper seeks to understand early tea culture from the Warring States Period to the Western Han Dynasty using archaeobotanical, chemical, and ceramic analysis. Furthermore, archaeological discussions of plants in the past rarely touch on the taste and smell of food and drink. Hence, using tea as a case study, I hope to develop theories and methods to consider the role of taste within wider archaeobotanical discussions hope to answer the following questions: 1) why should we study taste in archaeology? 2) how should we study taste in archaeology? 3) what was the 'taste' of tea in archaeological sites discovered around China? 4) How does the role of taste fit into wider archaeobotanical debates or interpretative models?

SESSION 18.

Exploring the West: New Scientific Approaches to the Archaeology of Xinjiang and Qinghai

Organizers:

Marcella FESTA (Northwest University)

Ruiliang LIU (British Museum)

Communities in the northwesternmost corner of China played a key role in ancient East-West interactions. Yet, despite its importance, archaeological research in this region, particularly in the areas of present-day Xinjiang and Qinghai, remains limited to cultural mapping and chronology, with even these studies largely unknown internationally. Understanding the complex socio-economic, biogeographical, ecological, and historical dynamics that shaped Northwest China's archaeological record requires ongoing theoretical and practical advancements, along with integrating local perspectives. This session presents recent archaeometric and anthropological studies utilizing advanced methods in archaeometallurgy, zooarchaeology, landscape and environmental archaeology, and cultural conservation, providing fresh perspectives on the evolving understanding of the regional rich archaeological heritage.

09:20 – 09:40. **Yuzhu ZHANG** (Northwest University). **Uncovering Prehistoric Catastrophes at Lajia (Qinghai)**

Despite its profound implications for understanding societal resilience, adaptation, and vulnerability, the interplay between natural disasters and human societies in prehistory remains an often-overlooked topic in archaeology. The Lajia Ruins, a Neolithic Qijia Culture settlement (4200–3950 BP) in the Guanting Basin (present-day Qinghai Province), provide compelling evidence of catastrophic events that devastated the site and caused significant loss of life. Field investigations revealed earthquake fissures cutting through the settlement's palaeo-ground, subsequently filled and sealed by a layer of conglomerated red clay. Macro- and microscale analyses identify this clay as dense mudflow deposits, distinguished by rolling surfaces, wavy structures, and a high density of complex pores. The clay also entrapped human remains, pottery shards, burnt earth, and charcoal, underscoring its destructive nature. These findings suggest that massive mudflows, triggered by a major earthquake, buried the settlement. This case provides valuable insights into the dynamics of prehistoric disasters and their significant impacts on human communities, highlighting the importance of further research to understand the adaptive strategies and vulnerabilities of ancient societies in response to environmental challenges.

09:40 – 10:00. **Jian MA** (Northwest University). **From Lowlands to Highlands: Settlements Patterns in the Qaidam Basin during the Bronze Age**

The Qaidam Basin on the Tibetan Plateau offers a unique window into prehistoric settlement dynamics at high-altitudes, yet its Bronze Age history remains underexplored due to limited chronological and archaeological data. To address this gap, this study presents 24 new radiocarbon dates from eight sites across the region, combined with existing data and spatial analysis, to reconstruct patterns of occupation and landscape use. The findings reveal continuous settlement in the basin between 3600 and 2500 cal BP, with a critical transition occurring around 3350 cal BP. During this period, large lowland settlements gave way to smaller, transient high-altitude structures, a shift likely driven by environmental changes associated with climate degradation. These adaptations reflect strategic adjustments in subsistence practices and resource management as communities navigated shifting ecological conditions. By refining the chronology of the Qaidam Basin’s Bronze Age and contextualizing these changes within broader environmental dynamics, this research provides fresh insights into human resilience and adaptation in high-altitude environments.

10:00 – 10:20. **Ray LIU** (British Museum). **Metallurgy in the Arc: resource management strategy in frontier of China during the First and Second Millennium BCE**

A myriad of social, technological, and cultural exchanges occurred between the East and West during the second millennium BCE, encompassing a range of factors such as agricultural practices (e.g., millet versus wheat), domesticated animals (e.g., cattle, sheep, goats, and horses), and the development of copper metallurgy. These exchanges laid a crucial foundation for the first millennium BCE, ultimately contributing to the economic transformation often referred to as the "Warring States economic miracle." This paper focuses on the rise of metallurgy in the Arc, a frontier region situated between the agricultural societies to the south and the pastoralist communities to the north. These northern ones have traditionally been regarded as a 'shadow empire,' heavily reliant on their southern neighbours. While it remains questionable that to what extent this view could be correct for the second millennium BCE, the first millennium BCE certainly presents a markedly different narrative. With the increasing wealth derived from livestock and expanded trade networks, the northern frontier populations were able to exploit local mineral resources and develop a distinctive metallurgical tradition. This is evident not only in the exceptional artistic styles they produced but also in their advanced craftsmanship and high-quality metalwork.

10:50 – 11:10. **Yu SHI** (Durham University), **Peng WANG** (Institute of Archaeology, Chinese Academy of Social Sciences). **A Landscape Analysis of the Husta Site in Xinjiang's Bortala River Basin**

The Bronze Age in the Eurasian Steppe, particularly the Andronovo Culture or Andronovo Cultural Complex, has become a central focus in Eurasian archaeology. Originally named in 1929 by Soviet archaeologist S. A. Teploukhov after the Andronovo cemetery in the Minusinsk Basin, this culture has since been identified at numerous sites across an expansive area. While international scholars

have extensively studied Andronovo-related sites, especially in steppe regions beyond Russia, limited access to archaeological materials from Xinjiang, China, has often resulted in its marginalization in broader discussions. Recent archaeological research in Xinjiang has revealed its importance as a distribution area for the Andronovo Cultural Complex, with distinct local characteristics. However, early Chinese studies largely focused on typological analyses, offering limited engagement with international scholarship or novel methodologies. This has led to a gap in dialogue between Chinese and global researchers. In the Bortala River Basin of Xinjiang, new excavations at sites such as Adunqiaolu, Husta, and Hulunuo have uncovered a dense cultural zone linked to the Andronovo Cultural Complex. These sites, likely associated with early forms of nomadic pastoralism, demonstrate seasonal transhumance and shared cultural features. This study centres on the Husta site, applying soil micromorphology and GIS-based landscape analysis to investigate land use, landscape transformation, and the evolution of nomadic societies in the western Tianshan region, aiming to deepen the understanding of the cultural characteristics of the Andronovo cultural community and provide a foundation for future studies in the field.

11:10 – 11:30. **Marcella FESTA** (Northwest University). **Horns and hooves: Burial Practices and Human-Animal Relationships in the Late Prehistory of the Eastern Tianshan Mountains**

The interpretation of burial contexts as reflections of the societies that created them remains a debated topic. While some argue that the ritual nature of such contexts—shaped by ideology and "ritual demands"—makes animal use in burials purely symbolic and devoid of functional or economic significance, others highlight the inseparable link between rituals and broader societal structures. The Bronze Age Quan'ergou cemetery, situated in the Eastern Tianshan mountains of present-day Xinjiang, China, provides a compelling case to examine the relationship between ritual practices and socio-economic behaviours in late prehistoric agro-pastoral communities. The analysis of the faunal remains, primarily adult goats and horses, reveals a balance between meeting the practical demands of nomadic life—ensuring herd productivity remains unaffected—and fulfilling essential funerary rites. Moreover, while animals at Quan'ergou do not appear to symbolize distinctions of social status, gender, or age, the specific selection of body parts, lower hind-limbs and mandibles, suggests possible feast practices, likely aimed at strengthening communal bonds.

11:30 – 11:50. **Yuchen TAN** (Northwest University, China). **The Study on Early Bronze Metallurgy within the Regions of East Tianshan Mountains in Xinjiang during the 2nd ~ 1st millennium BC**

The regions of East Tianshan Mountains in Xinjiang link to Hexi Corridor, so archaeological culture like Siba and Shanma impacted greatly on the regions. Until now, amounts of early bronzes have been found from Tianshanbeilu site, Shirenzigou Site, Liushugou Site and other sites in this region. These bronzes all belong to the 2nd ~ 1st millennium BC period. It's a research project to figure out that where the bronzes and minerals came from and what the relationship between bronzes and local economy was. In this research, we will study on 70 bronzes with optical microscope, scanning electronic microscope, lead isotope ratios detection and some other measures. The study shows that the bronzes found in the regions of East Tianshan Mountains have a certain proportion of arsenic bronzes, which have not been found in the regions of West Tianshan Mountains, but in Hexi Corridor a number of bronzes are made of arsenic and copper. Besides, some typical bronzes were also found in Hexi Corridor. These results show a strong link of bronzes between East Tianshan regions and Hexi Corridor. Of course, there also exist impact from Eurasian steppe on bronzes. The study proves that bronzes in the regions of East Tianshan Mountains could have multiple origins, which could have linked with local economy form.

11:50 – 12:10. **Yuxuan WANG** (Northwest University). **Pastoral Workshops? Rethinking Pastoral Bone Production in the Tianshan Region**

In the Iron Age socio-political and cultural landscapes of Northern China and Central Asia, the distinct structures of agricultural and pastoral communities have shaped archaeological interpretations of bone manufacturing. While anthropological and ecological studies have questioned this binary view, bone production in pastoral societies is still often seen as household-level craftsmanship, in contrast to the sophisticated workshop productions of the Central Plains. This study examines spatially, and chronologically contextualized worked bones unearthed from F1 - the main structure within the large residential area of the Iron Age site of Shirenzigou - to investigate raw material procurement and identify potential patterns of production. The findings suggest the

existence of a fairly well-organized bone production system at the site, characterized by efficient management of faunal resources through minimal waste, material reuse, the deliberate selection of specific body parts for artifact creation and relatively well-defined production stages. The significant size of building F1 and the worked bones found within it suggest organized labour for collective production, indicating the potential presence of workshops-like structures in the Tianshan region. These findings challenge traditional binary models of agricultural versus pastoral bone production and emphasize the need for a more nuanced understanding of the socio-economic and production systems within pastoral communities.

12:10 – 12:30. **Xiangpeng ZHANG** (Xinjiang Institute of Cultural Relics and Archaeology; Fudan University). **Early Populations and Water Resource Management in Xinjiang: Insights from Kuiyukexiehai'er**

The Ancient City of Kuiyukexiehai'er, situated in southern Xinjiang at the southern foothills of the Tianshan Mountains, was constructed around 550 BC and continuously inhabited until approximately 80 AD. It is one of the earliest cities discovered in the Tarim Basin, with a distinct archaeological sequence, revealing evidence of populations predating its establishment. Recent excavations have revealed advanced water management strategies that developed over time, offering valuable insights into human settlement patterns and the utilization of water resources in arid environments. Before the city's construction (770–550 BC), water was directed into a moat encircling settlements for defense and boundary marking. After the city was established, a broader moat encircled its walls, with silt deposits and dredging marks indicating intensive use. A large reservoir near the western city wall connected to an ancient riverbed, while a suspected water conduit south of the city suggests domestic water management. Flood defence systems were also developed, including an artificial earthwork northwest of the city. Layers of flood silt indicate its function as a flood control facility, with radiocarbon dating placing its construction between the 4th and 2nd centuries BC. These findings illustrate the dynamic relationship between settlement development and water resource management, offering new perspectives on societal adaptation in arid landscapes.

12:30 – 12:50. **Maeryamu YIBULAYINMU** (Turpan Cultural Relics Bureau). **Ancient Threads: Textiles from the Yanghai Cemetery, in Turpan, Xinjiang**

The Yanghai Cemetery in Turpan, spanning from the Spring and Autumn period (770–476 BCE) to the Han dynasty (206 BCE–220 AD), has yielded a remarkable collection of over 400 woollen garments and textile fragments, with more than 200 reconstructed for detailed study. These textiles encompass a wide variety of items, including tunics, trousers, shawls, and tufted rugs, primarily crafted from sheep wool using advanced Z-twist and S-twist spinning techniques. Notably, the assemblage includes the world's oldest known pair of trousers with a crotch seam. The textiles exhibit a range of weaving methods such as plain weave, twill, and tapestry, alongside intricate patterns that reflect cultural influences from both Eastern and Western traditions. The garments' construction involved minimal cutting, demonstrating efficient material use and advanced design practices. These findings provide valuable insights into early textile craftsmanship, cultural interactions, and material culture in Turpan, deepening our understanding of life in ancient arid environments and the technological sophistication of the region's inhabitants.

12:50 – 13:10. **Liang CHEN** (Northwest University), **Cuo YONG** (Northwest University), **Lin XI** (Northwest University), **Bo ZHANG** (Northwest University). **Sacrificial vessel in Tibet in ancient China: Study on Kapala Bowl at Wenjiang Duo Site in Qushui County**

The Kapala bowl is a representative sacrificial vessel of Tibetan Buddhism. Previously, most documented Kapala bowls in China were cultural relics collected during the reign of Emperor Qianlong in the Qing Dynasty. In 2021, a skull was unearthed from the sixth layer of the No. 7 wall at the Wenjiang Duo site in Qushui County, Tibet, China. The Wenjiang Duo site was a grand temple constructed during the Tubo period and continued to function as a Buddhist temple in later periods. Historical records state that Kapala bowls were typically made from the skulls of eminent monks. Radiocarbon dating (C14) determined the skull's age to be AD 772–950. This skull was cut along the upper brow arch, middle parietal bone, upper temporal bone, and upper occipital bone. Examination with a depth-of-field microscope revealed that the incisions were polished flat, forming the rim of the bowl. Based on the condition of the intracranial sagittal suture and lambdoid suture,

the skull belonged to a woman aged 25–35 years. This Kapala bowl, made from a female skull, represents the first excavated specimen with a clear archaeological context. The finding of this Kapala bowl provides valuable insights into the origins, production techniques, and symbolic significance of this type of sacrificial vessel.

DAY 4, FRIDAY, AUGUST 22nd AFTERNOON

SESSION 19.

Current approaches in Korean Archaeology (Part 1): New findings, new ideas

Organizer:

Sungjoo LEE (Kyungpook National University)

The two sessions “Current approaches in Korean Archaeology (1) and (2), explore the newest outcomes of Korean archaeology and share those results with broader East Asian communities. This session is one of them. Despite Korea’s growing scholarship and cultural influence, Korean archaeology has been underserved in the realm of global publication. These project sessions will contribute to the recognition of Korean archaeology as an exemplary case study for many of the most fascinating questions about humanity’s history. From the early Holocene Neolithic dietary pattern to the cultural landscape of 8th century Buddhist temple of the Unified Silla period, the contributors of these sessions will share their most recent findings from various regions of Korean peninsula. Presentations on these critical issues will place Korea as a pivotal focus of scholarly development in the East Asian region and worldwide.

14:00 – 14:20. **Yuna HAHM** (Kyungpook National University). **Characteristics of the landscape of the Unified Silla Royal Temple**

This study focuses on the landscape of the Silla royal temples. The main research focus will be on introducing the construction method and layout of the royal temples of King Wonseong(元聖王) and his descendants, discuss their meaning, and examine the landscape in which the Buddhist doctrine and the dignity of the Silla royal family is visualized. The royal temples, which were built by descendants of King Wonseong(785), who marked the beginning of the Silla Dynasty, are mainly located in the mountainous area, enhanced the prestige of the temple by creating a large stone platform in front of the temple, and placed the building that is believed to have enshrined the portrait of the ancestors higher than the centre of the temple where Geumdang is located. Changes such as the placement of Buddha statues in the centre of the temple and the movement of the pagoda, which was located in the centre of the temple in the previous period, to the back are observed. These changes are believed to be a projection of reinterpretation of the existing Buddhist faith in the temple’s landscape, reflecting the intention to overcome the instability of the Silla Kingdom and the desire to pray for and to restore the reputation of the ancestors who have deceased during the power struggle, reinterpreting the existing Buddhist beliefs and projecting them in the temple's landscape.

14:20 – 14:40. **Hyoungyoul PARK** (Sunchon National University). **Study on the changes in the central tomb group due to urbanization of the Silla capital in the 4th to 6th centuries**

Gyeongju is the capital of Silla, and the location of the tomb complex changed as urbanization progressed between the 4th and 6th centuries. In summary, In the 4th century, a group of ancient tombs was formed about 2km northwest of a settlement near Wolseong, Gyeongju. In the 5th

century, when Wolseong was rebuilt as a palace of Silla, a city was formed to the north of it, and large tombs were built in the central group of ancient tombs. The large tombs were formed along the western edge of the group of ancient tombs, and the small and medium-sized tombs were grouped to the east of the large tombs. In the 6th century, as Gyeongju was urbanized by Silla's policy, the Gyeongju Basin was divided, and the group of ancient tombs moved to Seoak-dong, the western side of Seocheon River, and a large group of ancient tombs was formed. After that, the group of ancient tombs was dispersed to the foothills around the city.

14:40 – 15:00. **Jaeyeon LEE** (Kyungpook National University), **Sungjoo LEE** (Kyungpook National University). **Wave and Net Motifs in Silla Glassware: Cultural Fusion through Trans-Eurasian Trade**

This study explores the typological and technological characteristics of Roman web-threaded wavelet patterned glassware, focusing on artifacts excavated from tombs in South Korea during the Silla Maripgan period (4th–6th century). Using a multidisciplinary approach mainly on archaeological typology comparative studies, and chemical composition analysis as supplementary, the research investigates the historical and cultural connections between Korean glassware and global productions, such as Central Asia North-western European region and the Mediterranean. The study focuses on four primary artifacts from the tombs of Wolseong-ro Ga grave No.13, Hwangnamdaechong south tomb, Geumgwanchong, and Seobongchong. These items exhibit intricate applied decoration (wave and net motifs) using a sophisticated trailing technique. Notably, the Silla-period glassware shares key features with contemporaneous Central Asian examples, including plant-ash-based chemical compositions, design motifs, and decorative techniques. Thus, distinctions such as lower annealing quality and unique vessel forms (predominantly cups and bowls) suggest a localized adaptation of imported technologies. Through typological analysis, the research classifies wave and net motifs into convex and flat forms based on their relief patterns and assesses the annealing processes through observations of surface fusion and structural integrity. Cross-regional comparisons highlight functional and stylistic parallels with Roman glassware from Mediterranean and Central Asian trade networks. The findings suggest that Silla's glassware production was heavily influenced by Central Asia, with additional inspiration from the broader Roman sphere. The results bridge gaps between archaeological and chemical analyses, proposing a Silk Road-derived origin for the technical and aesthetic elements in Silla Maripgan-period glassware. This research contributes to understanding trans-Eurasian cultural exchanges during late antiquity and underscores the integration of Silla into the global trade and production networks.

15:30 – 15:50. **Jiyoon LEE** (University of California Berkeley). **A Study on Chinese Ceramics from Baekje and Unified Silla**

Chinese ceramics began to be imported into the Korean peninsula during the Three Kingdoms Period and act as important material remains that reveal the trade and the network of the past. Previous archaeological research on the Three Kingdoms Period and the Unified Silla Period focused on the Chinese ceramics from one kingdom. This paper aims to explore Chinese ceramics from more than one kingdom to provide a comparative scope. By comparing the Chinese ceramics from Baekje and Unified Silla sites, this paper provides a new perspective on change in trade and network in a longer time frame. Excavation reports of sites where Chinese ceramics were excavated are examined and analysed in order to provide a deeper understanding of the type and context of the imported ceramics. In Baekje, Chinese ceramics were found in the palace and tombs. In the Unified Silla Period, the ceramics were found in more diverse types of spaces, including temples and fortresses. The differences in the context of Chinese ceramics reveal changes in trade and network in the Korean Peninsula.

15:50 – 16:10. **An HANSOL** (Kyungpook National University). **Storage in Complex society of Korea : Systems and Meaning**

The research trends in Korean archaeology regarding storage or storage pottery can be summarized as follows: studies on storage patterns and their significance in Bronze Age settlements, the production, transformation, and meaning of large storage vessels during the Hanseong Baekje period, research on crop storage and consumption, and studies related to dietary practices. Considering the functional purpose of storage, it naturally lends itself to discussions on resource redistribution, power, class, and the management and operation of states. However, an in-depth examination of "storage" or "storage pottery" itself seems to remain unexplored. All types of pottery

fundamentally serve the function of containing something. However, pottery designed for storage strongly implies the preservation of contents over short or extended periods. Therefore, not all vessels can be classified as storage pottery, and storage pottery, despite its primary function, may be versatile enough to serve other purposes, making its identification inherently ambiguous. This study examines the concept of storage in archaeology and seeks to briefly review the patterns and meanings of storage in ancient complex societies in Korean Peninsula. In this study, I would like to focus on how pottery storage relates to the various characteristics of complex society, such as specialization, division of labour, stratification, residential pattern, and sophisticated burial rite.

16:10 – 16:30. **Kimyeong JANG** (Gyeongju National Research Institute of Cultural Heritage). **Archaeological Indicators of Early States Core area: The Silla Case**

By the mid-fourth century, Silla was transformed into an early state. Gyeongju has been reborn as the capital, and the core area became fabricated landscape filled with new monumental structures. The new structure is the Wolseong Fortress and the high mounded tumuli zone adjacent to the north of fortress. Wolseong was both a political and administrative centre where social elites lived. At the same time, it was an Earthen Fortifications with defensive purposes. The Wolseong Northern tumuli zone was a ritual centre that promoted internal solidarity through huge ancestral tombs. Wolseong and Wolseong Northern tumuli were also the results of effective civil engineering using the topography of the alluvial fan. This core area, formed in the early state period, was organically connected to the existing centre in the northwest of Namsan Mountain. And over time, it transforms into a foundation for logistics distribution and consumption that linked the surrounding areas. As a result, the initial model of the core area, which combines Earthen Fortifications and high mounded tumuli zone, spread to other part of Silla region and some areas of Gaya, gradually establishing itself as an archaeological index of the early state centre.

16:30 – 16:50. **Sehwon DZON** (National Research Institute of Cultural Heritage). **A Restoration Study of Pungnap Fortress in Seoul Using Cultural Layer Data**

Pungnap Fortress, located in Seoul, served as the early royal capital of Baekje during Korea's Three Kingdoms period. Stretching 3.8 km along the Han River, it has been under systematic investigation by the National Research Institute of Cultural Heritage (NRICH) since 1997. Excavations have uncovered administrative offices, roads, ritual facilities, and sections of the fortress walls, but only about 10% of the site has been excavated. The slow progress is partly due to careful excavation practices but also because, when first designated as a "National Historic Site," only the fortress walls were included, leaving the interior vulnerable to urban development. Over the past 20 years, the government has allocated an annual budget of approximately $80 million to acquire key areas of the fortress interior. However, conflicts with residents over compensation and relocation persist, delaying preservation and excavation efforts. Despite these challenges, a significant dataset has been collected. After acquiring private land within the fortress, NRICH conducts small-scale investigations, excavating 1–2 square meter pits to document the elevation and soil characteristics of Baekje's cultural layers. Since the late 1990s, about 700 such datasets have been accumulated across the fortress interior. These datasets can be processed using GIS technology to reconstruct the ancient topography and infer the spatial structure of the capital. They also provide valuable predictive insights for future excavation efforts. This presentation highlights studies utilizing these 700 datasets to analyze topography, site layout, and spatial structures within the unique context of Pungnap Fortress.

16:50 – 17:10. **Taehee KIM** (Gaya National Research Institute of Cultural Heritage), **Surin PARK** (Kyungpook National University). **Early urbanization of Gaya**

Analysis and research on the urbanization process are very important in elucidating the formation of an early state through the function and operation of the centre. Along with Goguryeo, Baekje, and Silla, I would like to examine the urbanization process of Gaya (Small State Federation), which was formed around the southern part of the Korean Peninsula in the Three Kingdoms period. There were differences in the size, breakfast, and number of countries within the Gaya Federation, and it is understood that the role and character of the centripetal political body, which can be said to be the leader, were different. Recently, the residences of the ruling group have been excavated and investigated in Gimhae, Haman, and Hapcheon, and it is mentioned that this can be used as archaeological evidence that tells the existence of the national town as the centre of the country.

Representative examples are the fortresses of Gaya, and investigators report this as the royal fortress of Gaya. In this paper, I would like to examine the process of completing the plane shape of the city inside the Gaya Federation through the excavation achievements so far.

SESSION 20.

New Archaeological Science Research in Neolithic Northern China: A multidisciplinary perspective

Organizers:

Quan ZHANG (Shandong University)

Rubi WU (Shandong University)

14:00 – 14:20. **Rubi WU** (School of Archaeology, Shandong University), **John G. HODGSON** (University of Oxford), **Yukiko KIKUCHI** (Paleo Lab, Co., Ltd.), **Hiroo NASU** (Okayama University of Science), **Michael CHARLES** (University of Oxford). **The functional weed ecology of paddy rice management: a case study from the Nishikubo wetland, Japan**

The Lower Yangtze River basin (LYRB), China has been widely acknowledged as one of the regions where japonica rice originated. Work over recent decades has revealed that the growing conditions of early cultivated rice in the LYRB varied in a non-linear fashion in terms of wetness levels and field scale. These early farming systems also included dryland crops such as millets at a few sites. It is necessary to study rice growing conditions on a case-by-case basis to understand the formation of rice farming and the development of rice domestication. Functional weed ecology has proved useful in western Eurasian modern studies and archaeological sites for identifying crop growing conditions. In the present study, functional weed ecology was applied for the first time in East Asia, to rice from experimental plots that have been traditionally managed for over 20 years in the Nishikubo wetland, Japan. The results show that paddy rice plots can successfully be identified as intensively managed plots, contrasting with extensive low-input systems. Also, paddy rice can be distinguished from dryland farming of cereals and pulses in Europe. A first archaeobotanical application of this method, to the rice weed assemblage from Maoshan (Late Liangzhu culture, around 4500 BP) in the LYRB supports its identification as wet paddy rice. Such findings confirm the potential of functional weed ecology for revealing the intensity and wetness of archaeological paddy field sites in the LYRB, China and beyond.

14:20 – 14:40. **Xiaoran WANG** (Max Planck Institute of Geoanthropology). **Human Mobility and Animal Resource Utilization in the Prehistoric Lower Yangtze River Region**

Before the dawn of the Liangzhu culture (良渚文化, 5300-4000 BP), the lower Yangtze River area experienced several significant cultural stages, including the Majiabang (马家浜文化, 5000-3350 BP) and Songze (崧泽文化, 6000-5300 BP) periods. Archaeological evidence has indicated intensive and broad cultural fusion, suggesting complex mobility among different groups. The domestication and use of pigs played a crucial role in early subsistence strategies and were valued as symbols of wealth in this region. However, systematic research using scientific methods on these key topics remains insufficient, and related bioarchaeological data are still lacking. This presentation aims to explore the key issues of human mobility and subsistence strategies during this period, incorporating preliminary findings from isotopic studies

14:40 – 15:00. **Quan ZHANG** (Institute of Cultural Heritage, Shandong University), **Bo SUN** (Shandong Provincial Institute of Cultural Relics and Archaeology), **Fengshi LUAN** (Institute of Archaeology, Shandong University), **Yanchang LIU** (Shandong Museum), **Li HE** (Jinan Institute of Archaeology). **Isotopic evidence for diverse animal feeding ecologies influenced by early Neolithic millet cultivation in northern China between 10 to 6 ka cal. BP**

Animal domestication fundamentally transformed the predator-prey relationship between humans and animals that persisted throughout the Palaeolithic, often associated with increased sedentism and the rise of crop cultivation during the Neolithization process. In northern China, pig domestication and husbandry have been linked to millet cultivation. However, how Neolithic animals were influenced by the agricultural niche constructed by humans, and why pigs were selected for domestication rather than other species, remain unclear. To address this, we conducted stable carbon and nitrogen isotope analyses on a variety of animal species recovered from five Early to Middle Neolithic sites in the lower Yellow River region, with direct radiocarbon dates ranging from 10000 to 5900 cal. BP, to investigate their feeding ecologies and assess how different animal species responded to the anthropogenic niche associated with millet cultivation. The results reveal that animal species interacted with humans in distinct ways, reflecting diverse feeding ecologies. Water buffalo continued to forage in open environments, exhibiting some C4 consumption, and were consistently hunted by humans. Pigs, however, became increasingly attracted to the human agricultural niche, eventually leading to domestication. Pheasants, though attracted to the anthropogenic niche, maintained a commensal relationship with humans rather than being domesticated, likely due to their biological traits. This study demonstrates that different animal species responded differently to millet cultivation in Neolithic northern China, leading to complex and dynamic relationships between animals and humans.

15:30 – 15:50. **Wenfei LIU** (Durham University), **Xuexiang CHEN** (Shandong University), **Yijie ZHUANG** (University College London), **Guiyun JIN** (Shandong University). **Geoarchaeological Reconstruction of the Construction and Utilization of Ancient Houses from the Longshan Period at the Qingqiu Site**

The lower Yellow River Valley plays a key role in understanding the origins and development of Chinese civilisation. In recent decades, archaeological excavations have uncovered numerous Neolithic settlements and house remains, offering rich insights into early social life at both household and community levels. The 2021 excavation at the Qingqiu site in Shandong, a Neolithic tell site in the lower reaches of the Yellow River, revealed several Longshan Culture houses, providing valuable material for reconstructing the construction materials, use, maintenance, and abandonment processes of Neolithic houses. This paper presents the analysis of soil micromorphology and bulk soil and sediment samples from two Neolithic houses (F12 and F45), dating to 4300-3800 BP, which permitted the identification of human-made floor layers, activity surfaces, and the use of mats. Geoarchaeological analyses indicated that the construction materials mainly came from nearby fluvial and lacustrine deposits, along with cultural sediments, suggesting that the inhabitants sourced earth materials locally. The walls and floors were built primarily with raw earth and water, with minimal use of plant materials. This study offers a micro-scale reconstruction of the life cycle of two Longshan Culture houses, shedding light on construction techniques, household activities, the roles of spatial organisation and architectural choices in the development of social complexity in the Lower Yellow River Valley. The findings highlight the potential of geoarchaeological methods and provide important reference points for household archaeology and social structures in the lower Yellow River Valley.

15:50 – 16:10. **Zichan WANG** (University of California, Los Angeles). **Beyond Sudden Collapse: Reconceptualizing the Longshan-Erlitou Transformation based on Settlement Data**

The Longshan Era (2400-1800 BCE) is characterized by rapid population growth, intensified social stratification and specialization, and expanded long-distance interaction. At the turn of the second millennium BCE, however, the Longshan societies collapsed, marked by the demise of proto-urban centers, contraction of settlement numbers and size, reduction of craft production, and sudden changes in various cultural traditions across the Middle and Lower Yellow River Valley.This article focuses on the evidence that most clearly manifests such change — the settlement data. While past research based on general surveys suggested the Longshan collapse was a sudden phenomenon,

this article, using systematic survey data from various regions in northern, southwestern, and southeastern Shandong as well as southern and central Shanxi, shows that it was actually a long-term, multi-scale, and multi-staged process. This transformation emerged in the Late Longshan Phase around 2000 BCE, culminated at the end of the Longshan Era, and continued through the Erlitou (1900-1600 BCE) and Erligang (1600-1200 BCE) periods in some regions. Moreover, in contrast to previous conceptualizations viewing the Longshan collapse as a single monolithic phenomenon by stressing the similar patterns across regions, this article demonstrates that it comprised a series of regional transformations occurring over approximately two centuries. Each region experienced distinct transformative pathways—whether through population dispersal from central sites, concentration into central sites, loss of mobility, or destruction of monuments—each representing different socio-political changes. Cross-culturally, regional case studies have illuminated that many cases previously seen as sweeping and fleeting collapses are essentially long-term transitions, involving continuous building, negotiating, and restructuring of social relations in diverse ways. This research reconceptualizes the Longshan "collapse" as a long-term transformation, paving the way for future studies to adopt a more nuanced, region-specific framework.

16:10 – 16:30. **Yao GAO** (Shandong University), **Hua WANG** (Shandong University), **Hui FANG** (Shandong University), **Quan ZHANG** (Shandong University), **Yameng ZHANG** (Shandong University). **Specialized dog husbandry for mortuary practices: a 3D geometric morphometric approach to investigating the dog mandibles at the Shang site of Daxinzhuang, Northern China**

Dogs (*Canis lupus familiaris*) were one of the most important and frequently animal resources in mortuary practices and ritual activities during the Shang Dynasty. Oracle bone inscriptions and archaeological evidences indicated that specialized dog management linked to increased ritual use of dogs were practiced. In this study, the zooarchaeological analysis and three-dimensional geometric morphometrics were applied to reveal the age profiles and mandibular morphology of the mortuary dog remains from the Shang site of Daxinzhuang in northern China. The results showed that the age pattern of the mortuary dogs was dominated by skeletally adult individuals. The geometric morphometrics analysis showed that Daxinzhuang mortuary dogs were characterized by smaller mandible size and less variation, whereas midden dogs displayed a comparably higher variation in morphology at Daxinzhuang. Moreover, some mortuary dogs presented a delicate (and smaller) mandible with shape suggesting a low bite force. These morphological differences may be explained by the diet of mortuary dogs which were probably feeding on some soft food (i.e., millet), which probably provisioned by professional dog officers. These pieces of evidence not only suggested an intentional selection of dogs for Shang mortuary practices but also implied a specialized and well-organized dog economy at the Daxinzhuang settlement. Our study contributes new insights into the dog husbandry and even ritual economy at the Shang settlement in northern China.

16:30 – 16:50. **Chun YU** (School of Cultural Heritage, Northwest University). **Building on written texts: anthropological and archaeometeric approaches to 'post-Qin' archaeology in China**

Since the start of the 21st century technology has advanced rapidly. Similarly, archaeometry (科技考古), the application of the physical, biological and computer sciences to archaeology, has also grown and evolved significantly. However, despite significant financial investment the adoption of archaeometry within Chinese archaeology has been uneven. Despite a notable increase in anthropological approaches and archaeometric analysis in pre-Qin (prior to 221 BCE, namely the Neolithic and Bronze Ages) archaeology in China, studies relating to the post-Qin (221 – 1644 CE) period of Chinese history are still largely focused on the social centres, specifically capital cities (Xi'an, Luoyang, Beijing) and elite tombs, with historical texts being used to prove the validity of archaeological discoveries rather than vice versa. This presentation first explores potential reasons for the current relative absence of archaeometric research in post-Qin contexts before continuing to examine how anthropological and archaeometric data might be applied more beneficially in post-Qin contexts in China.

SESSION 21.

Eurasian Archaeology

Organizers:

Asa CAMERON (Yale University)

Emily EKLUND (University of Pittsburgh)

14:00 – 14:20. **Ursula BROSSEDER** (Leibniz-Zentrum Für Archäologie). **Horsepower – Interaction between China, Mongolia and the steppe 2000-0 BCE**

The narrative about the interaction between Mongolia and China has been dominated by asymmetry. Interestingly, towards the end of the second century BC not only the Empire of the Qin came into being, but also in Mongolia the Xiongnu established the first steppe empire. But while each empire developed in its local historical contexts, the interaction between the Central Plains and the steppe was equally crucial. In this presentation I will give an overview over the Horsepower project and present the first results about our work in Mongolia and China.

14:20 – 14:40. **Asa CAMERON** (Yale University). **Killing in the Name of: the Evolution of Animal Sacrifice on the Steppes of Mongolia**

Animals fill numerous roles within the broader dynamic of human-animal relationships; from prey to pet, from mode of transportation to guide, from source of secondary products to guard, and numerous others. In archaeology, one of the most readily identifiable of these roles is sacrificial victim. Animals are used to consecrate buildings, to provide religious offerings and feasting opportunities, and for companionship and sustenance as people cross into the afterlife. In Mongolia, sacrificed animals have been part of the archaeological record since at least the Bronze Age (3000-1000 BC), and ritually deposited faunal remains are a common component in mortuary contexts. Despite the frequency of finds, the evolution and significance of this phenomenon in Mongolia is poorly understood. This paper charts diachronic changes in animal sacrifice practices through zooarchaeological and mortuary data from the Bronze Age onward, with a specific focus on what these shifting patterns can tell us about alterations in human organizational complexity and ritual behavior throughout Mongolia's prehistory.

14:40 – 15:00. **Sarah PLEUGER-DREIBRODT** (University of Edinburgh). **Herders and herded in the eastern Mongolian Gobi - traces of pastoralist identities in the zooarchaeological record at Delgerkhaan Uul**

The vast steppe and desert steppe landscapes of Mongolia have been the setting for a transformation towards a sustainable sociocultural system that has existed for thousands of years. Pastoralism, which is often practiced together with a nomadic lifestyle and is defined by the reliance on domestic livestock herding as a main component of subsistence, started replacing hunter-gatherer systems in these regions between 6000 – 4000 years ago. In rural Mongolia, for example the case study area of Delgerkhaan Uul, this mobile way of living, which is based on a reciprocal relationship between human and nonhuman animals, is practiced to this day. The aim of this paper is to provide insights into when and how domestic livestock was first introduced into eastern Mongolia during the Bronze Age (from c. 1800 BC), as well as how pastoralism became the main foundation for subsistence, of sociocultural practices and identity culminating in the formation of the Xiongnu pastoral nomadic state (c. 200 BC). Based on the rich archaeological record of the multiperiod case study areas of Delgerkhaan Uul and Chandmani Khar Uul and complementing zooarchaeological investigations with stable isotope analyses, the study systematically compares expressions of pastoral multispecies relationships in different archaeological periods and contexts.

15:30 – 15:50. **Xinyi OUYANG** (Department of Archaeology and Museology, Peking University), **Xiaohong WU** (Peking University). **Horse as resource: Isotopic insight into horse acquisition and management in Western Zhou societies**

Archaeological and documentary evidence from Shang and Zhou periods indicates that the acquisition and management of horses were significant issues within early dynasties. However, the limited nature of such materials restricts detailed understanding. Stable isotope analysis provides insights into the diets and origin of these horses. Our study focuses on key Western Zhou sites: Zhouyuan (the capital region and a major centre for horse consumption), Yaoheyuan (a newly discovered site on the northwestern frontier), and Liulihe (on the northern boundary of the Zhou's eastern land). By integrating multi-isotope data (C, N, Sr, O) of bones and enamel samples with radiocarbon dating, we discuss the methods and temporal changes in horse acquisition and management at these sites. We also compare these findings with data from other regions, examining similarities and differences in horse management practices across the Western Zhou and surrounding steppe regions (west and north), as well as the source of horses and potential horse exchange networks. Preliminary data from Late Shang sites present a different narrative, which we are also investigating.

15:50 – 16:10. **Emily EKLUND** (University of Pittsburgh), **Jargalan BURENTOGTOKH** (National University of Mongolia), **William GARDNER** (Yale University). **Archaeological Geophysical and Geochemical Approaches to Investigating Late Bronze Age Khirigsuur Monuments in Mongolia**

This paper will present the results of an archaeological geophysical and geochemical investigation of two Late Bronze Age (1400 – 750 BCE) khirigsuur monumental complexes undertaken by the Tarvagatai Valley Project in north-central Mongolia during the summer 2024 field season. Previous scholarship has identified the Mongolian Bronze Age (1800 – 750 BCE) as a transformative period wherein mobile forms of pastoralism increased, long-distance trade networks emerged, new technology and subsistence adaptations were achieved, and an overall increase in social interactions occurred. Notably, these developments appeared in tandem with the inaugural construction of stone monuments, including khirigsuurs – surface stone complexes that range in size from a few meters to several hectares. The Tarvagatai Valley Project implemented an innovative research design to test these monumental landscapes, employing complimentary geophysical and geochemical methodologies, including: (i) near surface geophysical surveys (fluxgate gradiometry, magnetic susceptibility, and electromagnetic conductivity) and (ii) soil geochemistry (multi-element analysis with portable XRF). The application of these remote sensing techniques, in coordination with more traditional archaeology surveying methods, provides an effective approach for examining how the construction and use of these monuments reflected changing patterns of social organization, territoriality, and social integration of dispersed pastoralist communities in the Mongolian Late Bronze Age.

16:10 – 16:30. **Jan BEMMANN** (University of Bonn). **Death and Murder in the Mongol Heartland**

This study focuses on the analysis of 13th-14th century graves from the Middle Orkhon Valley, particularly those in and around the Mongol capital of Karakorum. The research explores whether newcomers to the city maintained their ancestral burial traditions, adopted local nomadic customs, or created a fusion of practices. It also examines whether the inhabitants shared cemeteries or maintained separate burial grounds and investigates the influence of religions, such as Buddhism, on Mongol burial customs. A mass grave near Karakorum is of special interest, with palaeopathological analyses shedding light on the lives and deaths of its occupants. Beyond the capital, the study delves into the organization of nomadic burial sites, questioning whether the Mongols reused older sites to construct a sense of ancestry and exploring their preferences for cemetery locations within the landscape. The relationship between cemeteries and permanent settlements, residences, or cities is also analyzed, alongside the distinctions between elite burials and those of commoners. The interpretation of these burial practices draws on over 900 documented graves from all over Mongolia, examined in three key dissertations by Mongolian scholars (Lkhagvasüren 2007; Erdenebat 2009; Batdalai 2024). Despite their importance, these studies have received minimal international attention, leaving significant archaeological findings on Mongol death and burial practices largely overlooked.

16:30 – 16:50. **Byambadorj BATSUREN** (Max Planck Institute of Geoanthropology). **Probable cases of gout in Medieval Mongolian population: Findings from the Khorig Mountain cemetery**

In 2018 and 2019, the field research team of the Mongolian-American "Northern Mongolia Archaeology Project" conducted salvage excavations in response to the destruction of 67 tombs by looters. These tombs, dating to the Mongol Empire period (XIII–XVIth century AD), were located in the Khorig Mountain of Mungarag bag, Ulaan-Uul soum, Khuvsgul province. Despite the extensive damage, the team uncovered a wealth of artifacts and human remains, shedding new light on the lives and burial practices of the Mongol Empire's elite. Systematic, comparative palaeopathological study of the remains from this site shows that, in the individual from burial KhL21 (a male aged 44-50 years), exhibited joint destruction due to an erosive lesion on the distal metatarsal and the left first metatarsal bone. Additionally, another cavitated osteolysis was observed on the distal articular surface of the left first metatarsal of the individual from burial KhL13, estimated as a male over 50 years old at the age of death. These differential diagnoses suggest the symptoms in these two individuals are more consistent with gout than other types of arthritis. The findings from their graves, along with the overall quality of the cemetery, indicate they may have been members of the region's elite during the Mongol Empire. These probable cases of gout may offer us some insights into the daily lifestyle, health conditions, and dietary practices (e.g. consumption of alcohol or protein-rich food) that may have been prevalent among the elites during this period.

16:50 – 17:10. **Zichan WANG** (University of California, Los Angeles). **Discovering Metalworkers in the Mortuary Context in Bronze Age China and Beyond**

Materials, technologies, customs, and beliefs often travel together. While research on interregional interaction across the Eurasian steppes has emphasized the transmission of materials and technologies, the adoption, resistance, and localization of customs and beliefs remain underexplored. This paper examines metalworker burial customs in Shang (1600-1000 BCE) and Zhou (1000-221 BCE) China, identifying two distinct traditions in the Central Plains and the "Crescent-Shaped Cultural-Communication Belt" (Tong Enzheng 1987). In the Central Plains, metalworkers' identity was signaled primarily by proximity to foundries and secondarily by including tuyères or ceramic mold fragments in tombs. This reflects a "prescriptive" organization (Franklin 2004), where individual workers performed specialized tasks, community as a whole was coordinated to complete production. The emphasis in burial custom was on integration with the workshop and community rather than on personal possession of metalworking tools. In contrast, the Crescent Belt metalworker burial custom was characterized by the inclusion of a relatively complete metalworking apparatus or its central competent — bivalve moulds — in the burial. Such custom is widely found in Eastern Europe and Central Asia. In general, this tradition indicates the identity of metalworkers as independent artisans who operated without relying on permanent metalworking facilities or large-scale coordination, reflecting a "holistic" mode of production (Franklin 2004). This tradition, however, varied by region: northeast China's metalworker burials highlighted a warrior-metalworker complex identity while those in southwestern China emphasized symbolic aspects of metalworks. In other words, while broadly adopted by different Eurasian metalworking groups, the meaning of such burial custom may have significantly transformed.

17:10 – 17:30. **Kazuo MIYAMOTO** (Kyushu University/Sichuan University). **Bronzeware spread from Eurasian grassland area to the Central Plains of China viewed from the bronze graves of Mongolian Plateau**

Through the fifteen years excavations at Daram Site, Tevsh Site, Bor ovoo Site, Khyar kharaach Site, Emeelt tolgoi Site and Avdalai khyasaa Site in Mongolia, we were able to construct a chronology for Bronze Age graves in Mongolia. We found a Chemurucheck culture grave and Munkhkhairkhan culture graves at Avdalai khyasaa Site. The chronological order of the Bronze Age in western Mongolia constructed through these excavations can be used to show the existence of Chemurucheck, Munkhkhairkhan and khirigsuur cultures. The chronology of khirigsuur culture graves shows that that khirigsuur culture graves are manly distributed in western and middle Mongolia, where Karasuk bronze culture was probably distributed in the same period and area. On the other hand, the rectangular stone construction graves, figured graves and stone-slab graves in the stone-burial culture were distributed in central and western Mongolia, corresponding to the Karask culture of bronzeware. Bronze spearheads of Seima-Turbino culture type were found in the

central plains of China like Xiawanggang site, Henan province which is dating to the end of Neolithic before Earlitou culture period. It is believed that the emergence of bronzeware in the central plains of China is related with spread of Seima-Turbino culture. This culture spread with Munkhkhairkhan culture grave in northwestern Mongolia and reached to the central plains China through central Mongolia where figured graves were distributed afterward.

SESSION 22.

Ritual and The Functions of Objects

Organizer:

Maddalena POLI (Yale University)

14:00 – 14:20. **Chigusa UCHIDA** (Kyushu University). **The Social Structure of Jade Headdresses in Liangzhu Culture**

Liangzhu Culture was an agricultural society that emerged in the late Neolithic period in the lower reaches of the Yangtze River in China between 3500 and 1500 BC. Liangzhu Culture is thought to have been a society with a division and stratification of labour, based on the discovery of the remains of a walled city, a dam, the construction of an altar, and the remains of workshops producing elaborate jades and potteries, as well as ritual implements and ornaments made of jade with the same patterns. The applicant examined the temporal and spatial transition process of the social structure, such as the inter-regional exchange relations of Liangzhu culture and the weighting of the social roles of gender, through a typological analysis of jade headdresses excavated from row tombs on the hillside, which are thought to belong to the higher-ranking members of the hierarchy that controlled this society. Furthermore, the results of the applicant's analysis were verified by comparing them with the study of co-components, such as by interment pottery, as a verification of the hypothesis. As a result, it became clear that while there was little difference between men and women in the early stages of Liangzhu Culture, the number and variety of jade vessels excavated in male graves gradually increased, and the number of jade vessels with designs on them also tended to increase in burials thought to be male graves.

14:20 – 14:40. **Xin LIN** (University College London). T**wo ways of ritualisation: blade-shaped jade artefacts in early China and Mesoamerica**

This paper presents a cross-cultural comparison of the distinct trajectories through which blade-shaped objects evolved from stone tools into jade ritual artefacts in two jade-using civilizations: early China and Mesoamerica. In prehistoric China, stone axes and adzes were common tools. As social complexity increased during the Late Neolithic period, blade-shaped objects became significant ritual artefacts, appearing in cultural regions such as Liangzhu, Shimao, Qijia, and Sanxingdui. In the eastern jade tradition, this transformation is represented by the jade Yue (钺, Axe), while in the western Chinese tradition, it is represented by the jade Zhang (璋, tablet). These blade-shaped objects were ritualised through refined craftsmanship, intricate motifs, and increased size. The jade Yue and Zhang symbolised military authority under the influence of both divine and royal power, reflecting a top-down, elite-controlled system. In Mesoamerica, stone axes were also common tools at an earlier stage, later giving rise to exquisite serpentine and jadeite axe-shaped artefacts, which were frequently used in public rituals. In the Formative period, one of the earliest jade-using sites on the Gulf Coast, El Manatí, yielded a significant number of jade celts in a ritualised landscape associated with rivers and fertility. In Mesoamerica, the shape of celt itself symbolised the maize god and was often arranged in orientations corresponding to the four cardinal directions. Jade celts also frequently featured maize god-related iconographic motifs in a variety of artistic expressions. Compared to early China, the ritualisation of blade-shaped objects in Mesoamerica indicated stronger communal aspect, integrating not only divine or royal authority but also the landscape. The use of jade celts represents the more collective beliefs of local people in a bottom-up manner.

14:40 – 15:00. **Xiyang DUAN** (École pratique des hautes études-PSL/ Institute for the history of natural sciences-CAS). **A Study on Owl-shaped Bronze You Vessels from Shang Dynasty**

Owl-shaped bronze vessels, referred to as "Xiao You" in Chinese, is a term coined by modern Chinese archaeologists. These vessels represent a unique subset within the category of "you" vessels in ancient Chinese bronze vessels. Despite their rarity, with a total of 45 owl-shaped bronze "you" known to be collected in museums, institutions, and by private collectors in China and abroad—comprising both scientifically excavated pieces and those passed down through generations—their presence is rarely noted in the bronze catalogues authored by epigraphists of Song, Ming, and Qing dynasties. And it is clearly suggested through these catalogues that epigraphers shared a different understanding of the owl-shaped you vessels from contemporary archaeologists. However, scholars have not conducted extensive research on them, with studies primarily confined to typological analyses. From the standpoint of traditional classification, the owl-shaped "you" belongs to the broader category; in terms of form, it is also considered an animal-shaped vessel. This study focuses on the Shang Dynasty owl-shaped "you," that have been unearthed and collected, as well as those documented in ancient texts, for a comprehensive examination. Beyond the compilation and review of materials, through formal and technical analysis, as well as discussion on the inscriptions, this paper delves into the classification, the provenance, its connection with the Shang court, and its significance as a distinctive type of vessel that emerged, flourished and then rapidly vanished from the reign of King Wuding to the end of Shang Dynasty.

15:30 – 15:50. **Kirie STROMBERG** (Yale University). **Music in Miniature: the Significance of Small Bronze Bells (shō dōtaku) and Bronze Bell Pottery Skeuomorphs (dōtakugata doseihin) from Japan's Yayoi Period**

Over 500 dōtaku bronze bells, traditionally dated to the middle-late Yayoi period (ca. 200 BCE-250 CE), have been excavated predominately from throughout Japan's central Kinki region. However, this number does not include so-called "small dōtaku" and pottery skeuomorph miniatures, which are seldom included as more than a footnote in analyses of full-size (about 20 cm. and above) bells. This paper challenges prevailing dōtaku categorization conventions and argues that seemingly insignificant miniatures are essential to understanding bronze bells as an incipient means of economic value storage and exchange during the Yayoi period.

15:50 – 16:10. **Elizabeth CHILDS-JOHNSON** (Old Dominion University). **The Rise and Fall of the Libation Rite Based on Archaeological and Paleographic Data**

The rite of pouring out heated alcohol in honour of spirits, begins early, during the Late Neolithic but matures as a formal institution known in writing and in cast bronze during the earliest phases of the historic Bronze Age, namely the Erlitou (ca 1900-1600BC) and Shang periods (ca 1600-1046BC). As will be analysed, the jue rite [示+爵]which involved use of the bronze tripod jue 爵continues through the Zhou era but by the 9th-8th c BC it changes in physical and written appearance. These changes are radical in casting away an old tradition and adopting a new one, yet not completely new as will be analysed. The libation rite which begins with the singular use of the eccentric small bronze tripod jue evaporates from the archaeological and paleographic record in favour of what is a short and slim decorated jade rod, known as zan (瓚). Why does this occur and what written and archaeological data may be used to illustrate these changes? As will be analysed and reviewed these changes are a perfect example of historic archaicism and syncretism that underscore the beginning of the end of the Bronze Age. It will become clear that although both small bronze tripod and short jade rod are known archaeologically from Late Neolithic through Zhou periods- one was clearly used for heating alcoholic libations and the other apparently for impregnating the poured hot alcohol with magical powers.

16:10 – 16:30. **Maddalena POLI** (Yale University). **Back to the Tomb: Discussing Warring States Manuscripts as Archeological Artifacts**

The last decades have seen a surge in archaeological discoveries in China. Among many artifacts, there is an unprecedented number of manuscripts in the form of bamboo strips produced during the Warring States and (457-221BCE) the Han empires (206 BCE – 220 CE). While they are proper archaeological artifacts, these manuscripts are often studied as textual entities, and their original context of discovery is sidelined. This paper aims to discuss the manuscripts by placing them back in their archaeological context. It overviews several manuscript corpora from the Warring States,

their place of discovery, and how tombs in which they were found compares to other tombs within the same cemeteries. The goal is to understand what the archaeological contexts can tell us about the society that produced these tombs and the manuscripts within. Secondarily, I am to see whether this modelling can be used to contextualize looted manuscripts, which are often assumed to have been taken from tombs.

SESSION 23.

Key Issues in the Study of the Early Chinese Economics

Organizers:

Roderick CAMPBELL (New York University, Institute for the Study of the Ancient World)

Yitzchak JAFFE (Haifa University)

From Neolithic urbanism to Bronze Age markets and from Easter Zhou private workshops to the early Imperial gifting economy, there are many potential areas of controversy within the broad topic of the Early Chinese economy. The dominant perspective on these developments assumes that the first Neolithic urban centers had centralized economies with little to no commercialization. Craft production was focused on elite prestige redistribution and horizontal exchange was limited to long-distance gifting between regional elites.Key to resolving many of these important issues are multi-disciplinary, holistic approaches that examine the various components of economic structure and change from a variety of evidentiary sources, but importantly also as parts of larger interacting systems. This roundtable will bring together an interdisciplinary group of scholars with expertise in different aspects of ancient Chinese economies to share their work and discuss its relevance to some of the larger themes outlined here.This roundtable will bring together historians and archaeologists to ask: Which topics are the most controversial and crucial to our understanding of economic development from the late Neolithic and the Qin and Han empires? How might they be studied?

PANELLISTS:

Lothar VON FALKENHAUSEN (University of California, Los Angles).

Enno GIELE (Heidelberg University).

Chris KIM (New York University).

Maxim KOROLKOV (Heidelberg University).

Yung-Ti LI (University of Chicago).

Ruiliang LIU (British Museum).

Alice YAO (University of Chicago).

SESSION 24.

Interconnections of Environment, Economy, and Culture in East Asia

Organizers:

Rubi WU (Shandong University)

Quan ZHANG (Shandong University)

Environment, economy and culture intertwined with each other. Agroecology encompasses the management of productive environments—such as arable land—by integrating the intricate relationships among humans, plants, and their broader ecological contexts. A comprehensive understanding of agroecology is essential for elucidating the dynamics of subsistence economies and the circumstances surrounding the emergence of domesticated animals and crops. Furthermore, it sheds light on how agricultural practices exhibit resilience and adaptability in the face of both external and internal challenges. The diverse geographic and archaeological landscapes of East Asia present a rich tapestry for examining the interconnections of environment, economy, and culture. This session seeks to illuminate case studies that illustrate how ancient populations managed arable lands, domesticated animals, and cultivated plants. We encourage contributions that explore the decision-making processes surrounding the adoption of new species, as well as the various patterns of labour organization that emerged in different cultural contexts. Comparative analyses that highlight similarities and differences both within and between regions and archaeological cultures are particularly welcome. The aim of this session is to convene scholars engaged in the agroecological study of East Asia, encompassing a wide range of disciplines including, but not limited to, environmental archaeology, zooarchaeology, archaeobotany, stable isotope analysis, ancient DNA from sediment, agricultural tool studies, and experimental archaeology. Through collaborative dialogue and interdisciplinary exchange, we hope to deepen our understanding of the complexities inherent in East Asian agricultural practices and their socio-cultural implications. We invite contributions that not only offer new insights but also promote discussion on methodologies and theoretical frameworks that can foster further research in the field of agroecology in East Asia.

14:00 – 14:20. **Shenglun DU** (Institute of Archaeology, University College London). **Modelling the evolution of Taihu Lake and spatial analysis of Neolithic occupation on the East China coast**

Taihu Lake is the third largest modern freshwater lake in China and its formation is a major event in the development of the Yangtze River Delta Plain and the East China Coast. The Taihu region was transformed from a coastal plain with incised valleys into a saucer-like depression by changes in river discharge during the late Pleistocene to early Holocene. Later, coastal dunes and accumulated fluvial deposits in the bay isolated the lagoon from the sea and its desalination occurred subsequently. The evolution of Taihu Lake bears witness to the significant marine transgression and regression events between 7500-5500BP, which played a key role in shaping human occupation of the area during the Middle Neolithic. By reviewing previous palaeoclimatic and palaeoenvironmental studies - including various scientific analyses of environmental proxies and dating of borehole and stratigraphic section samples - this study attempts to reconstruct and map the land-sea evolution of the Taihu region by integrating published geomorphic simulation models and other empirical data. On this basis, the spatial distribution and cultural characteristics of 86 archaeological sites belonging to the Majiabang culture (7100-6000 BP) and 146 sites belonging to the Zongze culture (6000-5300 BP), together with the subsistence data from 68 of them, are further investigated to provide insights into human-environment interactions during the Neolithic period.

14:20 – 14:40. **Renjie MA** (Peking University), **Jianfeng CUI** (Peking University). **Preliminary Exploration on the Evolution and Circulation Pattern of the Highly Radiogenic Lead Resources in the Shang Dynasty**

The internal evolution of highly radiogenic lead resources in Shang dynasty is basically synchronous among regions. Our study introduces the general evolution laws of highly radiogenic lead resources among the Central Plains and its surrounding areas through Shang dynasty and divides highly radiogenic lead resources into two groups. HRL(A) is represented by Erligang bronzes unearthed in Zhengzhou and Panlongcheng, and HRL(B) mainly includes bronzes from Huanbei. Anyang, the Loess Plateau, and Sanxingdui all have located these two sets of data. The phenomenon that the utilization and transition of highly radiogenic lead resources in the core, semi-periphery and periphery areas of Shang culture are basically in sync implies that this special resource has a single source. The simple core-edge model can't explain the complex interaction between Shang and surrounding bronze civilizations. There seems to be no model that is only influenced by the core areas of Shang culture. Especially during the late Shang dynasty, the previous pattern was broken and reorganized, some peripheral areas rose to become new regional centers. This study reveals the regional characteristics behind "Erligang style" in early Shang dynasty, as well as the internal relations behind various "regional style" in the late Shang dynasty.

14:40 – 15:00. **Yuanyuan ZHANG** (University of Science and Technology of China). **The Use of Cowries in the Western Zhou Dynasty**

Cowries have been in use worldwide since the Neolithic serving functions such as ornaments, symbols of social status, and currencies, etc. China was one of the primary centres for the use of cowries. The use of cowries reached its peak in the Western Zhou Dynasty. In the Western Zhou, a society with a strict hierarchy based on the clan system was established. studying the use of cowries aids in understanding the utilization patterns of these precious exotic goods among different social groups and the role they played in establishing authority and maintaining the hierarchical system. This study analysed about 4,000 cowries unearthed from Zhouyuan site (high-ranking settlement) and Yangjiaogou site (common settlement), conducting species identification, processing morphology, quantity statistics, and size measurements. The findings were discussed in the context of tomb hierarchy, age and sex of the tomb occupants, and the position of cowries in the tomb.The results indicate that: (1) Cowries unearthed from the Western Zhou period were predominantly of the species *Monetaria moneta* (82%), with a smaller proportion of *Monetaria annulus* (18%). (2) There was no differential treatment of cowries based on species in terms of their use and processing morphology. (3) In the same cemetery, high-ranking tombs contained a relatively greater number of cowries. (4) The cowries were primarily medium to large in size, and there was no significant correlation between size variation and period. However, within the same period and tomb hierarchy, males were associated with larger-sized cowrie shells than females.

15:30 – 15:50. **Jianlan WANG** (Queens University Belfast). **Lacquered Gauze in Han Dynasty in Haiqu, China, and its Material Culture**

The archaeological fabric fragments excavated from the Han tomb of Haiqu (海曲) in Rizhao (日照) are invaluable textile heritage of Han Dynasty in Shandong. Lacquer coating technique is one of the extraordinary crafts in ancient China. In Han Dynasty, in the process of making crowns and shoes, lacquer coating was often applied to achieve an equivalent purpose as the modern finishing technique, that is, functionally modified textiles: to make silk fabrics stiff, firm and waterproof. The fragments were investigated by analytical methods including ultra-depth-of-field microscopic observation, Fourier-transform infrared spectroscopy, scanning electron microscopy-energy spectroscopy, Raman spectroscopy, and the excavated fragment materials therefore were determined as follows: the inner core yarn is mulberry silk, with lacquer decorated outside. Cinnabar and etc. were also added to the lacquer part as color components. In particular, according to Raman spectroscopic analysis, albite was present as one of the additives in the lacquer dusty layer process. Through further understanding of the distribution of shell midden sites in the Jiaodong (胶东) Peninsula, where Haiqu area is located, we boldly speculated and verified that some composition of dusty layer in the lacquered gauze may come from the use of shell.

15:50 – 16:10. **Zhihua YANG** (National Museum of China), **Zhenwei QIU** (National Museum of China), **Dan LIU** (National Museum of China), **Wenhui LIU** (National Museum of China). **Spatial and Temporal distribution of the paleo-oyster reefs on the south coast of Laizhou Bay, Bohai Sea, China**

Paleo-oyster reefs represent a crucial record for the study of paleoclimate and paleo-coastline changes and have been increasingly employed in geoarchaeological research. Remnants of paleo-oyster reefs are extensively preserved in Holocene strata along the northwest and south coasts of the Bohai Sea in China, mainly comprising *Crassostrea gigas* and *Crassostrea ariakensis*. During the archaeological surveys carried out from 2019 to 2024, we discovered eight oyster reefs on the south coast of Laizhou Bay, Bohai Sea. According to AMS 14C dating of these reefs, their age ranges from 6.5 ka to 4.5 ka BP, a range that coincides with the mid-Holocene transgression period in Laizhou Bay of the Bohai Sea. This study, grounded on recent survey findings and integrating earlier research on oyster reefs and the known distribution of Neolithic sites on the south coast of Laizhou Bay, delves into the correlation between the distribution of the paleo-coastline and human settlements during the mid-Holocene in this region. It thereby offers insights for the verification of coastal archaeological sites.

16:10 – 16:30. **Konstantina SALIARI** (Natural History Museum Vienna), **Erich DRAGANITS** (Department of Geology, University of Vienna), **Martin ZUSCHIN** (Department of Palaeontology, University of Vienna), **Charles HIGHAM** (University of Otago), **Pitsanupong KANJANAPAYONT** (Department of Geology, Chulalongkorn University). **Archaeozoological and geoarchaeological reconnaissance study in coastal Krabi (Ban Laem Nang / Railay Beach, Thailand)**

This paper covers interdisciplinary research combining archaeological, geological, geoarchaeological, archaeozoological research as well as geochronological dating on the south-western coast of Thailand. The investigated archaeological site is located on top of a relict rock fall between Ban Laem Nang / Railay Beach and Khao Hat Pla Tok / Tonsai Beach (Krabi Province). The rock fall is c. 170 m wide and 110 m long, consisting of blocks of grey Permian cherty limestone with maximum block sizes exceeding 15 m. The site is located c. 12 m above present sea level, directly at a c. 90 m high vertical cliff, facing the coast towards southwest. The archaeological remains are found in two settings: 1) firmly imbedded in tufa layers formed by a relict spring and 2) within greyish ashy layers with abundant angular fragments of limestone. The site is still strongly degrading, mainly by trampling by people walking between Ban Laem Nang and Khao Hat Pla Tok areas and by rock-climbing activities. Therefore, the design of our study was a minimal invasive reconnaissance characterization of the site, including the collection of surface finds, but no excavation. Finds mainly comprise shallow marine Bivalvia and Gastropoda, dominated by *Telescopium telescopium*, *Laevistrombus canarium* and *Terebratula palustris*. In total, 210 shells and shell fragments attributed to 12 families and 22 species were identified and analysed. Mammalia bone fragments and stone tools are very rare. Preliminary radiocarbon ages on marine gastropod shells are between c. 8200-7600 cal. BCE from the tufa and c. 6100-5200 cal. BCE from the greyish soil. These ages indicate that the investigated archaeological site is one of very few sites known so far from this part of Thailand and the only one located directly at the coast.

16:30 – 16:50. **Zhenwei QIU** (National Museum of China), **Lina ZHUANG** (National Museum of China), **Huiyun RAO** (Institute of Vertebrate Paleontology and Paleoanthropology), **Zhihua YANG** (National Museum of China), **Wenhui LIU** (National Museum of China). **Ecological environment of Early-Mid Holocene millet cultivation in northern China: insights from the Xinglong site**

A series of important archaeological discoveries at Xinglong site in Bashang Grassland, including the settled remains from the Paleolithic-Neolithic transition to the mid-Neolithic period, as well as millet remains from the early to mid-Holocene, have provided crucial materials for elucidating the prehistoric man-land relationship in this region. Based on newly unearthed materials in recent years, this study analyses pollen and phytolith from the TG1E profile of the site. The results reveal that the region has undergone several climate stages since the end of Younger Dryas event, including a warming, slightly dry phase during the Holocene onset (11,700-10,100 cal. a BP) following the Younger Dryas; cool and slightly dry conditions during the early to mid-Holocene (10,100-5,000 cal. a BP); and a continuously dry and cold period during the late Holocene (since 5,000 cal. a BP).

Concurrently, the vegetation type shifted from dessert steppe to typical or sparse grassland. Despite the overall drying and cooling trend, the early-mid Holocene period (approximately 10,100-7,100 cal. a BP) represented a relatively favourable stage for the local environmental landscape. The notable fluctuations in woody plant content may have been influenced by the intensity and/or frequency of human activity during this period, particularly the substantial demand for wood due to sedentism and the impact of low-level food production from domesticated species on the surrounding ecological environment. Moreover, between 11,700-5,000 cal. a BP, there may have been intermittent river and lake wetlands near the site, although the water bodies underwent significant fluctuations. The Xinglong ancestors probably chose this period to occupy or settle in this micro-landform, characterized by northwest mountains and southeast water in a small basin, and adopted millet cultivation as a supplementary means to their hunting and gathering lifestyles since at least 8,600 cal. a BP.

16:50 – 17:10. **Guanyu WANG** (National Museum of China). **The earth science approach to archaeology: a case study on the Xinglong site**

Geoarchaeology refers to the utilization of earth science methods within archaeology to address issues in archaeology. It is of great practical significance to apply geoscientific methods apart from a humanities and social science perspective for a comprehensive analysis. Focusing on the Xinglong site in Kangbao, Bashang Grassland, northern China, we utilize multiple geoscientific methods to conduct research on the lithology characteristics of the stone tools, the surface morphology and sedimentary environment of the Xinglong site and its surrounding areas, so that we can explore issues like the raw material sources and material acquisition, and reconstruct the regional paleoenvironment. Furthermore, we explore the connections between paleoenvironment and settlement selection, discuss human activities at the Xinglong site and uncover the formation process of the site, providing scientific evidence for understanding the multi-dimensional relationships among landscape evolution, climate fluctuations, and human activities in the grassland area of the Bashang region and accurately restoring the ancient human history.

DAY 5, SATURDAY, AUGUST 23rd MORNING

SESSION 25.

Beyond the Surface: Pottery as a Window into Cultural, Social, and Economic Dimensions of the Past

Organizers:

Yiyi YANG (Dartmouth College)

Mi WANG (Institute for the Study of Ancient World, New York University)

Pottery, one of the most ubiquitous artifacts in archaeological contexts, has long been intertwined with the social fabric of human societies. This session will explore how pottery, beyond its typological classification, reflects the cultural, social, and economic dimensions of everyday life—what it reveals about the people who made and used it, and the broader social and economic contexts in which they lived. From the earliest human settlements to more recent historical societies, pottery serves as a lens through which we can examine human behaviors and broader social processes that are often not directly visible in the archaeological record.This session welcomes studies employing a range of technological methods, including, but not limited to, analysis of manufacturing techniques, petrography, mechanical engineering, chemical analysis, use-alteration inspection, and residue analysis to contextualize pottery in terms of its production, distribution, and consumption within a socio-cultural

framework. Participants are encouraged to present work from any time period or region and to address key social questions, such as the organization of craft production, economic systems, foodways, human-environment interactions, individual and collective decision-making, cultural interaction, and the transmission of knowledge. Additionally, participants are invited to explore how pottery can illuminate broader issues of social identity, social organization, and technological innovation. This session seeks to uncover the full potential of pottery studies, fostering a deeper understanding of the people behind the pots.

09:20 – 09:40. **Jing CHENG** (Yale University), **Gary CLINE** (Yale University), **Andrew KOH** (Yale University). **Pottery Production and Usage of the Xiantouling Culture: Craftsmanship of Hunter-Gatherer-Fishers in Prehistoric Southern China (7000–5000 BP)**

The significant deposition of pottery wares at Xiajiaoshan in the Pearl River Delta, China, highlights the potential scale of pottery production by hunter-gatherer-fisher communities of the Xiantouling culture, dating back approximately 7000–5000 BP. The site sets in the coastal environment with very unique deposit dated to Mid-Neolithic period. These pottery assemblages provide a unique opportunity to explore the technological and cultural practices of prehistoric societies in southern China. This research investigates the craft production of these communities by analysing the chemical composition of pottery sherds by Instrumental Neutron Activation Analysis (INAA) and examining the modelling techniques employed by early potters by petrology observation. We also look into the residue analysis of the pottery to understand how pottery was being used by these hunter-gather-fisher communities. By examining these aspects, the study sheds light on the resource choices, technological innovation, and potential functional uses of pottery within these communities. This research contributes to broader discussions on the development of technological practices, resource utilization, and the social organization of prehistoric hunter-gatherer societies in southern China.

09:40 – 10:00. **Tsz Mei LI** (Yale University). **Cultural Trajectories in Prehistoric South China: Rethinking the Origins of Xiantouling Through Ceramic Forming Techniques**

The Xiantouling culture (7000–5000 BP) is one of the most important Neolithic archaeological cultures on the South China Coast. This study investigates the origins of Xiantouling's representative artifact, the ring-footed vessel, through an analysis of ceramic forming techniques. While previous typological comparisons of vessel forms and decorative patterns have suggested connections between Xiantouling and inland Neolithic cultures, particularly those in Hunan Province (e.g., Gaomiao, Tangjiagang, and Daxi), this research shifts focus from external appearances to production methods. Drawing from ethnographic studies on modern pottery production in Southeast Asia by Cort and Lefferts, which highlights forming techniques as reliable indicators of cultural transmission, this study compares Xiantouling ceramics with those from Hunan to reassess the narrative of population migration and technological diffusion. The findings aim to provide a fresh perspective on the origins of Xiantouling's ceramic traditions, contributing to broader discussions on cultural interaction and technological exchange in prehistoric southern China.

10:00 – 10:20. **Ayako SHIBUTANI** (Historiographical Institute, The University of Tokyo). **Unveiling the Culinary Landscape of Jomon Japan: Starch-Based Insights into Pottery Use**

Over the last two decades, in Japanese archaeology, extensive starch data have been collected from stone artefacts, pottery residues, wooden materials, soil sediments, and human and animal dental calculi. The data mainly focused on determining the functions of the tools, identifying processed plants and field crops, and reconstructing past plant-based foods and dietary habits. Pottery residue studies have been conducted using plant macro- and microremains analyses combined with other scientific analyses such as carbon dating, stable isotope, and lipid analyses. This study introduces starch-based food and cooking activities using Jomon pottery. It reports the results of pottery residues excavated from the following Jomon period sites: the Torihama shell mound (the Early Jomon period, dating back approximately 6,000 years) in Fukui Prefecture, the Shimo-yakebe site (the Middle to Final Jomon period, ca. 5300-2800 cal BP) in Tokyo, and the sites of Mibiki, Kitazuka, Yoneizumi, Nakayasawa, and Okyoduka (the Initial to Final Jomon period) in Ishikawa Prefecture. Following previously established analysis guidelines, well-preserved starch

granules were extracted. Some species were taxonomically identified as bulbs, tubers, nuts, or acorns. Others showed the plants had received heat treatment. These results, considering other scientific analyses at the above sites, elucidate the culinary activities of the Jomon people with pottery.

10:50 – 11:10. **Che-Hsien TSAI** (Department of Anthropology, National Taiwan University). **Technological Diversity in the Late Neolithic Yuanshan Pottery of Taiwan**

The Late Neolithic Yuanshan pottery types, notable for the use of andesite temper, showcase a distinctive ceramic tradition that reflects the domains of the culture it represents. However, this andesite-tempered pottery does not imply homogeneity in either the raw material choices or the technological processes employed in its production. The Taipei Basin and its adjacent areas in the North Taiwan have long been regarded as the cultural heartland of Yuanshan culture during the Late Neolithic, providing a unique spatial context to study these ceramics. This paper presents a comparative analysis of ceramics from multiple sites in Yuanshan culture period across the Taipei Basin and adjacent region. By examining variations in pottery types, raw materials, and manufacturing techniques, this study aims to uncover the technological diversity within the Yuanshan ceramic tradition. Petrographic and compositional analyses reveal variations in the choices and manipulation of raw materials, as well as differences in production methods across these sites. These findings indicate the complex social and cultural dynamics, including resource access, trade or exchange networks, and knowledge transmission within the Yuanshan cultural sphere.

11:10 – 11:30. **Mi WANG** (Institute for the Study of the Ancient World, New York University), **Yiyi TANG** (Dartmouth College). **Craft Production and Food Consumption: New Perspectives on Liangzhu Socio-economic Organization Through Pottery Analysis**

This presentation explores the dynamics of Liangzhu society (3300–2300 BCE) through complementary analyses of craft production and food consumption, offering a fresh lens on its urbanization and socio-economic organization. Central to this exploration is the analysis of its pottery, whose typological uniformity has long been seen as evidence of a centralized economic and ideological system. However, our analyses of manufacturing techniques and material composition reveal significant local variability obscured by typological uniformity, pointing instead to decentralized networks of production. Complementing this is an examination of Liangzhu's food consumption through residue analyses of starch granules and phytoliths. These findings reveal a diversified diet, including wild grasses, tubers, and potentially millet, that extended beyond rice. These findings challenge assumptions about the suggested intensity of rice agriculture, instead highlighting the strategic exploitation of varied food sources to sustain complex societal structures. Together, these findings paint a nuanced picture of Liangzhu socio-economic network as a dynamic interplay of decentralized technological practices and diversified foodways, reshaping our understanding of the social and economic frameworks that supported Liangzhu's urbanization.

11:30-11:50. **Élise LUNEAU** (Deutsches Archäologisches Institut, Eurasien-Abteilung), **Verónica MARTÍNEZ FERRERAS** (ERAAUB, IAUB, Universitat de Barcelona). **The First Regional Cross-Study of Bronze Age Pottery from Northern Bactria Sites (Central Asia)**

Pottery has often been used as a key marker of the social and cultural identity of Bronze Age populations in Central Asia. Research has traditionally focused on morphological and stylistic features of pottery; only recently, interdisciplinary investigations, including archaeometric analysis (petrography, chemical analysis), of ceramic products from different pottery workshops located along the Surkhan-Darya and Hissar valleys in southern Uzbekistan and Tajikistan (in the area historically known as northern Bactria) have been conducted by the authors. This paper proposes a cross-analysis that combines both qualitative (stylistic and technological) and quantitative methods to examine Bronze Age pottery (fine and coarse wares) from four sites located in modern southern Uzbekistan (Jarkutan, Molali) and Tajikistan (Tandyrjul, Kumsaj), respectively. The study aims to assess the variability in pottery production at local and regional scales, approach the provenance of the samples, and trace the circulation of raw materials, techniques, and objects between the sites. We also explore the similarities in production practices across these sites, as well as changes in

manufacturing technology throughout the Bronze Age. These pioneering comparative analyses across sites at the regional scale offer new perspectives on the organization of production and cultural interactions in northern Bactria during the Bronze Age and contribute to a deeper understanding of community identities in southern Central Asia.

11:50 – 12:10. **Yoshiki MIYATA** (The University Museum, The University of Tokyo), **Tomokazu ONISHI** (The International University of Kagoshima), **Kenji KANEGAE** (The International University of Kagoshima), **Naoko NAKAMURA** (Kagoshima University), **Shinji KUBOTA** (Kumamoto University). **Rice cooking in the Kofun period of Southern Kyushu, Japan**

In recent years, there has been a lot of active research into the analysis of residual lipids in earthenware from the Japanese archipelago in prehistoric times. However, it is difficult to say that there has been sufficient analysis of lipids, particularly in the Kyushu region from the Yayoi period, when rice cultivation spread to northern Kyushu, to the Kofun period. In this presentation, we will analyse the residual lipids of complete earthenware vessels excavated from the Kadai-konai site on the Kagoshima University campus and earthenware shards excavated from the Teuchi Shell Mound on the Shimokoshiki Islands, and combine the results with the use-wear analysis of complete earthenware vessels in 3D models to consider the cooking of rice and the environment at the time, as might have been done with Narikawa-type earthenware vessels from the Kofun period in southern Kyushu.Some of the results of the analysis of earthenware excavated from the Kadai-konai site are presented below. The results of the lipid biomarker analysis, in which various plant markers were detected, including levoglucosan, a pyrolysis product of starch, are consistent with the use-wear analysis of pottery that rice was boiled on Narikawa-type earthenware.

12:10 – 12:30. **Andrew WOMACK** (Furman University), **Yitzchak JAFFE** (University of Haifa), **Karine TACHÉ** (Université Laval). **Unveiling the Shang-Zhou Transition via Ceramics: A Multi-analytical Approach**

Our research focuses on identifying changes in ceramic production and food preparation and consumption traditions before, during, and after the Zhou Dynasty colonization of what is now Shandong Province in eastern China. To do this we explore community-specific production and uses of li tripod cooking vessels. Rather than deriving ethnic identity from ceramic form and style, we concentrate on how these vessels were created and utilized by combining ceramic petrography, use-alteration analysis, and residue analysis. Analysing craft traditions and food habits are important proxies for investigating past social identities and their potential for generating insights into culture contact, migration, and colonialism. The combination of these methods allows us to assess different intersecting levels of social practice inhabiting a single region via a single ubiquitous artifact. Each proposed method provides insight into social practices from ceramics: how and where they were created (petrographic analysis), used to cook food (use-alteration analysis), and what foods were cooked in them (residue analysis). A continuum is proposed: similar social aspects gleaned from ceramic analysis at some sites suggest conquest, assimilation, and absorption, while differences at other sites reflect local variability and resistance to foreign acculturation.

12:30 – 12:50. **Ruitong YAO** (School of Archaeology and Museology, Peking University/Key Laboratory of Archaeological Science), **Chunbai HU** (Institute of Cultural Relics and Archaeology of Inner Mongolia Autonomous Region), **Xiaohong WU** (School of Archaeology and Museology, Peking University/Key Laboratory of Archaeological Science,Peking University). **Dynamic Subsistence Influence of Central Plains Regimes on Northern Frontier: Insights from the Fuluta Cemetery through Organic Residue Analysis**

During the formation and expansion of the Qin Empire and the subsequent transition to the Western Han Dynasty, the central and southern regions of the Ordos Plateau in Inner Mongolia became a focal point for political and economic interactions between the states and the frontier societies of northern China. The Fuluta Cemetery, a large burial site dating from the late Warring States period to the early Western Han Dynasty, contains a rich array of artifacts representing Qin, Zhao, and northern steppe cultures, with Qin cultural elements predominating. These artifacts provide valuable insights into the influence of the Central Plains regimes on the region’s indigenous populations. This study employs a multi-method comprehensive approach to analyse the Fuluta cemetery, including

organic residue analysis of pottery, bronzeware, and dental calculus, to investigate the dietary and economic practices of local communities. The results reveal a strong reliance on dryland agriculture from the late Warring States period to the early Western Han Dynasty. This research contributes to our understanding of how the policies of the Central Plains regimes shaped local livelihoods and dietary transitions, shedding light on the broader political and economic impacts of these regimes on northern frontier societies. The study underscores the process of multi-dimensional cultural integration in this frontier region.

12:50 – 13:10. **Baodong ZENG** (Jingdezhen Ceramic University), **Tao MA** (University of Ottawa), **Yongqiang WANG** (Xinjiang Institute of Cultural Relics and Archaeology), **Jie ZHANG** (Xinjiang Institute of Cultural Relics and Archaeology), **Liangren ZHANG** (Nanjing University). **Interregional and intraregional interaction of the Tianshanbeilu population in eastern Xinjiang from the perspective of pottery analysis**

The beginning of human settlement in the Hami Basin, located in the eastern part of Xinjiang, has been a focal question for the academic community in China. In particular, the thesis that immigrating population from the Hexi Corridor since the late Neolithic founded the Tianshanbeilu culture has riveted the attention of scholars. Pottery wares, abundantly discovered at the synonymous cemetery of this culture, has played a key role in extrapolating population migration and cultural interaction. This paper aims to test the thesis by characterizing the chemical composition, painting pigment, and carburizing technique of 70 pottery samples from the cemetery with various scientific methods. It shows that the chemical compositions of the coarse pottery in the three colors of red, yellow, and gray, painted and unpainted alike, are remarkably different from those of fine pottery in black and red, indicating that the raw materials for the coarse and fine pottery samples are possibly procured from different sources; the pigments of the red slip and black paint are derived from hematite, black manganese ore, and carbon black; carburizing and polishing techniques are further applied to the gray coarse pottery; In combination with the compositional data of pottery samples from the Yaer cemetery also in the Hami Basin and the Xichengyi settlement in the Hexi Corridor, this paper finds that some pottery wares of the Tianshanbeilu culture were exchanged within the Hami Basin, but each site had its own production facility. No direct exchange of pottery wares with Xichengyi is attested; the similar style of pottery wares between the two sites may have resulted from population migration and technological exchange.

SESSION 26.

Rethinking the Southern Silk Road in the Bronze Age: Interaction Networks between the Central Plains, Southwest China, and South/Southeast Asia

Organizer:

Haichao LI (Sichuan University)

The Southern Silk Road is a term that is generally used to refer to the trading routes connecting southwest China and South/Southeast Asia. In recent years, new excavations and studies on Sanxingdui, Yinxu, and other sites have encouraged us to rethink the date and spatial boundary of this long-range network. Besides the connection between southeast China and South/Southeast Asia, could the routes have extended northeastward to the Central Plains? What kinds of resources, techniques, and ideas circulated in this network? What was the nature of this network?This session explores the interactions between the Central Plains, Southwest China, and South/Southeast Asia during the Bronze Age from different perspectives. Presenters will offer new perspectives on the possible interaction network with diverse approaches including scientific analyses. Topics include the circulations of bronze, gold, jade, ivory, and cowries; the flow of technical, religious, ritual, and aesthetic ideas; and the nature and interaction routes. Sanxingdui, Yinxu, Dian, and Southeast Asia sites will be discussed to offer a macro view of this network. Comparative studies will also be included to enhance our understanding of this topic.

09:20 – 09:40. **Haichao LI** (Sichuan University). **Resources and Rituals: Revolutions in Ancient Shu and the Shang, Zhou Dynasties**

During the Shang and Western Zhou periods, three centres occupied the ancient Shu region, namely Sanxingdui, Jinsha, and Zhuwajie. However, their relationship is unclear as well as their rise and fall. This paper tries to answer this question from the perspective of resource circulation. Archaeological, scientific, and ancient literature evidence were combined and shows that a developed resource circulation system has been established between Sanxingdui and the Shang Dynasty. Ivories and cowries were transferred through Sanxingdui to Yinxu. On the other hand, bronze resources flowed from Yinxu to Sanxingdui which supported the rise of Sanxingdui bronzes. The system collapsed when the Western Zhou replaced the Shang. At the same time, all ritual artifacts of Sanxingdui were ruined and buried. Then Sanxingdui people moved to the Jinsha site which no longer interacted with the Western Zhou Dynasty. People in Zhuwajie, on the other hand, became representative of Zhou people in the Shu region. In the next few centuries, the ritual system of Zhuwajie gradually became the mainstream of Shu while the Sanxingdui-Jinsha system disappeared for unknown reasons.

09:40 – 10:00. **Jay XU** (Asian Art Museum of San Francisco). **The Sanxingdui Site in the Context of Ancient China: Characteristics and Nature of External Interaction with the Middle Changjiang Region and the Central Plain**

The Sanxingdui Site in the Context of Ancient China: Characteristics and Nature of External Interaction with the Middle Changjiang Region and the Central Plain. Few communities have ever existed in total isolation, the trajectory of their cultural development unaffected by interaction with other communities and cultures. Sanxingdui was not cut off from the rest of the world, even though the contents of its eight sacrificial pits, probably produced at the height of the local civilization, are astonishingly original, leaving no doubt that they represent a material culture radically different from that of the Central Plain or anywhere else. Traces of interaction are discernible in many categories of artifacts, including the extraordinary imagery; they suggest contacts in all directions. In this presentation, I will focus on the interaction that the Sanxingdui site had with the middle Changjiang region and the Central Plain through the two millennia of its occupational history, first describing the traces of interaction available on the present archaeological record, and then attempting to interpret the characteristics and nature of the interaction.

10:00 – 10:20. **Haicheng WANG** (University of Washington). **Interpreting shared motifs and object types in Bronze Age China**

The talk will analyse similar motifs and object types that have been found in the Central Plains (Erlitou and Yinxu, but also the Shandong peninsula), the Loess Plateau (Shimao and further north and west), the middle Yangzi region (Shijiahe), the upper Yangzi region (Sanxingdui), and the much later sites of the Dian culture in Yunnan. How do we explain this wide scattering across space and time? On the other hand, on present evidence, Dian had no neighbour that could have supplied models for the ferocious animal-combat motifs or busy street scenes on its bronzes. Dian kings could have imported the necessary expertise in the form of artists and casters, but from where? India? Sensuous human figures, princes under parasols, sedan chairs, crowd scenes, barefoot horsemen, and bulls were favorite motifs of Indian relief carvers and sculptors, possibly as early as the third century. Some nearer place under its influence? If, however, Yunnan casters somehow managed to create all these things without imported talent or inspiration, independently and in a relatively short time, how would we explain this achievement? Would better documented trade networks give us some intimations about the connections we see in objects?

10:50 – 11:10. **Alice YAO** (University of Chicago). **Bovines and Economic Diversification during the Bronze Age in Southwest China**

During the mid-second millennium BC, interactions intensified among societies inhabiting the watersheds of the Yangzi, Lancang, Nu, Salween, and Pearl Rivers—possibly extending as far west as the Indian subcontinent. Understanding how subsistence goods such as crops and animals, along with technologies like bronze metallurgy, circulated across this expansive and topographically

diverse landscape requires a cross-regional archaeological approach that bridges research from both China and mainland Southeast Asia. This paper turns attention to another key actor in these exchange networks: cattle, particularly in their role as sources of ritual value. By integrating evidence from bovine iconography, preliminary isotopic data, and comparative ethnology, the study proposes the existence of a bovine-based exchange system that helped structure the western routes of the Southern Silk Road..

11:10 – 11:30. **Thomas PRYCE** (Centre National de la Recherche Scientifique). **Twenty years on from "looking north" in early Southeast Asian metallurgy: What is the current evidence for late 2nd / early 1st millennium BC interactions between Mainland Southeast Asia and southern China**

On the occasion of the British Museum conference, "Metals and mines: studies in archaeometallurgy", in honour of Paul Craddock's retirement in 2005, Vincent C. Pigott and Roberto Ciarla laid out a detailed argument "looking north" for the Chinese derivation of early Southeast Asian metal technologies. While the general idea of a Chinese origin for copper-base metallurgy was already widely accepted, usually on the basis of 'trade and exchange' relations, Pigott and Ciarla constructed an evidential trail, largely-based on the typology of metal objects and metallurgical paraphernalia, for a mid-late 2nd millennium BC routing via Lingnan, or southeastern China. This was added to by Joyce White and Elizabeth Hamilton with their late 3rd/early 2nd millennium BC proposal for a technological transmission via southwest China. This latter path more closely follows historical Southwest Silk Roads. but reliable datasets on both sides of the border were greatly lacking. Two decades later and the quantity and quality of data have massively increased, permitting more nuanced interpretations of long-term relations between Southeast and East Asia. Here I review recent Southeast Asian radiocarbon data, particularly from Myanmar, and compare them to the latest dates from southern China; demonstrating a chronological contiguity that does not require any interpretative acrobatics. This will be followed by laying out 17 years of research by the Southeast Asian Lead Isotope Project, which has constructed complex links of copper supply and demand, which spread across the region from the late 2nd millennium. Recent community detection analysis has exposed numerous sequential metallurgical transmission paths 'looking north' to southern Chinese origins. With the ever-growing Chinese dataset, we can now examine some of those putative exchange relations and interrogate what they might actually mean in terms of human interactions.

11:30 – 11:50. **Xiaoli QIN** (Fudan University, China). **The Seashell Road in the Early Bronze Age**

Seashells discovered in Neolithic archaeology were primarily found in Qinghai, Gansu, Northeast China, Yunnan, and Tibet. Interestingly, no seashells were excavated in the Central Plains and the eastern coastal areas, which were hubs of civilization, until the Yinxu period. This suggests that seashells were popular in the inland crescent-shaped region, far from the ocean during. The prevalence of seashells during this time period signifies cultural exchanges between the East and the West. During the Erlitou culture period, coinciding with the introduction of bronze metallurgy technology and the migration of livestock and crops from the northwest to the Central Plains, seashells transitioned from Neolithic ornaments to symbols of ritual communication among the elite class of the Central Plains. The largest quantity of seashells was unearthed at capital sites in the Central Plains from the Erlitou culture to the Yinxu period, consistently serving as essential components of ritual objects in the tombs of high-ranking nobles alongside jade and bronze. Consequently, seashells played a vital role in the ritual system during the establishment of the dynastic state. These seashells were also prevalent in early Bronze Age sites such as the Xiajiadian Lower Culture, Zhukaigou Culture, Qijia Culture, Sanxingdui Culture, and Jinsha Culture within the crescent-shaped region from the northeast to the southwest. This shared cultural element underscores the exchange and interaction of upper-class material culture between the archaeological cultures of the Central Plains and neighbouring regions.

11:50 – 12:10. **Yating LIAO** (University of Toronto). **Manufacturing Slit Rings in a Bronze Age Society: Insights from the Pearl River Delta**

The late Neolithic and Bronze Ages in South China marked a period of profound socio-political transformation, characterized by the emergence of increasingly complex societies. While environmental factors provided the foundation for early social developments, technological

innovations and interregional interactions across East and Southeast Asia were instrumental in shaping these dynamics. The Pearl River Delta, including prehistoric sites in Hong Kong, offers a unique lens for examining these processes. This paper centres on the production of slit rings (jue), iconic artifacts unearthed in prehistoric Hong Kong, to explore the intersection of technology, economy, and society. By conducting microwear analysis of finished and semi-finished slit rings, as well as examining the tools used in their production, the research reconstructs jade manufacturing techniques. Evidence suggests the potential use of early tube-drilling technology, originating in the Neolithic period when metal tools were unavailable, indicating advanced craftsmanship and innovation. Beyond manufacturing techniques, this study examines the sourcing of raw materials, the distribution networks for slit rings, and their cultural and historical significance. Archaeological experiments simulate jade manufacturing processes, offering insights into the labour and time investments required to craft artifacts of varying Mohs hardness. Comparative analysis with jade artifacts from across East Asia highlights technological exchange and shared traditions within Bronze Age networks. Through a multidisciplinary approach, this research provides a deeper understanding of how the production and distribution of slit rings reflected broader societal changes, technological advancements, and interregional connectivity in the Pearl River Delta and beyond during the Bronze Age.

SESSION 27.

Ten years of bioarchaeology at Mogou, a Bronze Age cemetery in Gansu, China

Organizers:

Elizabeth BERGER (University of California, Riverside)

Ruilin MAO (Gansu Provincial Institute of Cultural Relics and Archaeology)

This session will present the findings from ten years of multidisciplinary research on the human and animal remains from the Mogou cemetery, Gansu Province, China. The cemetery was in use from c. 1750-1100 BCE and consists of 1688 graves containing between 5000 and 6000 individuals, and material culture of the Qijia and Siwa culture complexes. The geological location and temporal span of Mogou provides a unique chance to observe how populations of the Northwest adapted to environmental change, new technology and domesticates, and increasing contact with surrounding regions. The complexity of the burial practices, richness of the skeletal record, and excellent preservation has allowed for multiple complementary lines of research at the site, including human osteoarchaeology and paleopathology, zooarchaeology, ancient DNA, stable isotopes, and proteomics. This session will review the findings to date and their relevance for understanding of social change during the Chinese Bronze Age and the immense potential of multidisciplinary bioarchaeology.

09:20 – 09:40. **Jenna DITTMAR** (Edward Via College of Osteopathic Medicine), **Angela DAUTARTAS** (Department of Anthropology, Sociology, and Criminology, Troy University), **Jennifer AUSTEN** (Department of Archaeology, University of Reading), **Xiaoya ZHAN** (School of Humanities, Nanyang Technological University, Singapore), **Ruilin MAO** (Gansu Provincial Institute of Cultural Relics and Archaeology). **The Mogou Bioarchaeology Project: Exploring health, demography & violence in Bronze Age China**

The second millennium BCE in Northwest China was characterized by a drastic period of climate change, technological exchange, and social upheaval. To begin to explore the impact of various social, technological, and environmental factors on human health, demography and lifeways during the Bronze Age, the Mogou Bioarchaeology Project was established in collaboration with the Gansu Provincial Institute of Cultural Relics and Archaeology in 2015. Over the past decade, the analysis

of the human skeletal remains interred at the cemetery site of Mogou (磨沟) in Gansu Province, show that the region's inhabitants suffered from a range of infectious, metabolic, and degenerative diseases, and experienced a wide range of skeletal injuries, both accidental and intentional. Poor health during childhood was common: children with skeletal indicators of physiological stress (i.e. cribra orbitalia and porotic hyperostosis) were found to have an increased risk of death when compared with adults. This indicates that the condition(s) that cause these lesions, possibly anemia, posed a significant threat to childhood survival in this region. For those that survived childhood, poor oral health was common, as were degenerative joint diseases, while infectious diseases like tuberculosis and other chronic pulmonary diseases were rare.

09:40 – 10:00. **Angela DAUTARTAS** (Troy University), **Elizabeth BERGER** (Department of Anthropology, University of California, Riverside), **Jenna DITTMAR** (Biomedical Affairs, Edward Via College of Osteopathic Medicine), **Abigail GANCZ** (Department of Population Health and Pathobiology, North Carolina State University), **Jennifer AUSTEN** (Department of Archaeology, University of Reading). **Mogou Paleodemography- Trends in Fertility**

This presentation will discuss the paleodemographic trends from the Mogou Cemetery site. It will focus primarily on fertility but will also briefly discuss life expectancy and other trends. Juvenility indexes were calculated to compare the birth and fertility rates of the Qijia and Siwa populations of Mogou to each other and to similar populations from the region. Statistically significant differences were found in both fertility and birth rate between the Qijia population from Mogou compared to a Kayue population from Shangsunjia and a Xindian population from Xiaohandi. The Qijia from Mogou are thought to have been primarily agriculturalists, while the other two populations are theorized to have been more reliant on animal husbandry and have had a more varied diet. Differences were also found between the Qijia from Mogou compared to two other Qijia or proto-Qijia groups from Qinweijia-Dahezhuang and Caiyuan. This reflects differences in adaptive strategies within one material culture horizon.No statistically significant differences were found between the Qijia from Mogou as compared to the Siwa from the same site. This contrasts with the significant differences found between the Qijia from Mogou and the Siwa from Xujianian. Possible explanations for this contrast will be explored in this presentation, including examining the effects of different sample sizes as well as questions about the identification of cultural periods in bioarchaeological populations.

10:00 – 10:20. **Xiaoying REN** (Fudan University), **Xiaomin YANG** (Xiamen University), **Ruilin MAO** (Gansu Provincial Institute of Cultural Relics and Archaeology). **Bones, Burials, and Bonds: Exploring Kinship Practices in the Mogou Cemetery**

The Mogou Cemetery, located in Lintan County, Gansu Province, dates to the Late Qijia and Siwa cultures (3800-3300 BC) and is known for its large-scale collective burials, with many tombs containing over 10 individuals. This research combines ancient DNA analysis, archaeology, and anthropology to examine kinship relationships and burial practices at Mogou. Key findings include: 1) The genetic structure shows continuity from the Late Qijia to the Siwa culture, suggesting cultural rather than population-driven changes. 2)Collective burials include nuclear families, extended relatives, and individuals with no direct biological ties, indicating diverse kinship constructs such as marital relations or social adoption. 3) Burial patterns reflect kinship influence, with closer blood ties often corresponding to spatial proximity, but patrilineal or bilineal descent patterns dominated, with no evidence of matrilineal succession. These findings challenge previous assumptions about multigenerational family burials and reveal a complex interplay of biological and socially constructed kinship. Funerary practices at Mogou were not just practical but served as expressive spaces reflecting and reproducing kinship relationships. This research contributes to understanding prehistoric social organization in Northwest China, offering a methodological framework that combines molecular archaeology with anthropological and archaeological insights. It also provides a platform for training the next generation of archaeologists and advancing collaborative approaches to studying social structures.

10:50 – 11:10. **Jennifer AUSTEN** (University of Reading), **Jenna DITTMAR** (Biomedical Affairs, Edward Via College of Osteopathic Medicine), **Angela DAUTARTAS** (Department of Anthropology, Sociology, and Criminology, Troy University), **Xiaoya ZHAN** (School of Humanities, Nanyang Technological University), **Ashley SCHULTZ** (Department of Anthropology, University of California, Riverside). **An exploration of health at Mogou using cribrous lesions**

While current debates cannot confirm the aetiology of cribrous lesions, cribrous lesions have been known to provide insight into health in the past, specifically childhood health. This can be informative when understanding the effects of climate change, diet, and other and environmental factors on populations in Bronze Age China. This presentation will discuss trends of cribrous lesion prevalence in a small sample of individuals (N=261) interred at the Mogou Cemetery site (磨沟) to better understand population health at the time. Age-related trends, and trends between Qijia (n=230) and Siwa (n=30) populations interred at Mogou, were of particular focus. Cribrous lesions (porotic hyperostosis and cribra orbitalia) were recorded using Stuart Macadam's (1991) scoring scheme, with state of remodelling for each lesion recorded. Postcranial cribrous lesions were additionally recorded using a method devised by the lead author. Age-related trends in cribrous lesion prevalence were found to reflect poor childhood health in the Mogou population. This particular result indicates that survivability in children was poor than adults in this population, and further demonstrates that children provide a good indication of how external factors affect population health.

11:10 – 11:30. **Xiaoya ZHAN** (Institute of Archaeological Science, Fudan University), **Hui Yuan YEH** (Nanyang Technological University), **Ruilin MAO** (Gansu Provincial Institute for Cultural Relics and Archaeology), **Shaoqing WEN** (Institute of Archaeological Science, Fudan University). **Intestinal Parasites Infection and Its Syndemic Effects among the Mogou Ancient Population**

Intestinal parasite infections are commonly spotted in modern clinics. World Health Organization estimated that nearly one-fourth of the world's population is infected with soil-transmitted helminths, while intestinal parasites dominated the infections, namely roundworm (*Ascaris lumbricoides*), whipworm (*Trichuris trichiura*), and hookworms (*Necator americanus* and *Ancylostoma duodenale*). The research on intestinal parasite infections among archaeological populations has been well-established in the Americas and Europe while in Asia, it is still in its infancy. Mogou is located at the Tao River Vally, Gansu, China. Dating back to 1750-1100 BCE, the Mogou consists of two archaeological cultures, namely the Qijia and Siwa. People at this site relied on millet farming and had meat sources from domesticated animals including pigs, sheep, and cattle. The infections of intestinal parasites may be caused by the consumption of undercooked food, inadequate hygiene practices, and interactions with animals. The research on intestinal parasite infections was performed to investigate the intestinal parasite infections among the Mogou population. Meanwhile, we applied the syndemic research to the Mogou population to see how intestinal parasite infections played a role here. It provides new insight into interpreting the health conditions and daily lives of the Mogou population.

11:30 – 11:50. **Zhiyan ZHANG** (School of Archaeology and Museology, Peking University; Key Laboratory of Archaeological Science (Peking University), Ministry of Education), **Ruilin MAO** (Gansu Provincial Institute of Cultural Relics and Archaeology), **Yishi YANG** (Gansu Provincial Institute of Cultural Relics and Archaeology), **Guoke CHEN** (Gansu Provincial Institute of Cultural Relics and Archaeology), **Chao NING** (School of Archaeology and Museology, Peking University; Key Laboratory of Archaeological Science, Peking University). **Proteomic Analysis of Dental Calculus Shed Light on Dietary Practices and Oral Microbiome of the Mogou Population**

Archaeological dental calculus is one of the richest sources of ancient biomolecular information, offering valuable insights into paleodiets, oral microbiomes, lifestyles, and diseases. It forms through the calcification of bacterial biofilms that periodically fossilize on the surface of teeth. In this study, we performed proteomic analysis on dental calculus samples from Mogou individuals of the Qijia and Siwa periods to investigate their dietary practices and oral microbiomes. Our results revealed the possible presence of Pecora collagen, suggesting a reliance on animal-based protein sources. However, no milk proteins were detected in the calculus proteomes from either period, which may indicate limited dairy consumption. Meanwhile, the oral microbial proteome of the Qijia and Siwa individuals could not be differentiated, raising intriguing questions about their similar microbial environments. This study will explore the broader social, ecological, and biological implications of

these findings, shedding light on dietary patterns and microbial environments during a key time of cultural transition and trans-Eurasian exchange.

11:50 – 12:10. **Yihsien LIN** (School of Archaeology and Museology, Peking University; Key Laboratory of Archaeological Science, Peking University), **Shengpeng JIANG** (University of Oxford), **Xiaohong WU** (School of Archaeology and Museology, Peking University; Key Laboratory of Archaeological Science, Peking University), **Yingliang YANG** (School of Archaeology and Museology, Peking University; Key Laboratory of Archaeological Science, Peking University), **Ruilin MAO** (Gansu Provincial Institute of Cultural Relics and Archaeology). **Dietary Practices and Subsistence Strategies at the Mogou Cemetery: Insights from Stable Isotope Analysis**

The Mogou Cemetery, a key site along the ancient Silk Road, features extensive burials of both the Qijia and Siwa cultures. It offers valuable insights into dietary transitions, subsistence strategies, and trans-Eurasian interactions during the Bronze Age. In this study, carbon and nitrogen stable isotope analyses were conducted on human remains from the Mogou Cemetery to reconstruct ancient diets and subsistence strategies. The results reveal that the Mogou population had a diverse dietary pattern, reflecting a mixed subsistence strategy. Staple crops such as wheat, barley, and millet were likely complemented by domesticated animals that consumed both C3 and C4 plants. Comparison with the Qijiaping site highlights significant changes in dietary patterns and subsistence strategies. This suggests that the Qijia Culture population experienced notable transitions in their dietary and subsistence strategies during the late Qijia Culture period. These findings enhance our understanding of dietary practices and offer insights into agricultural developments and social transitions in ancient northwest China.

12:10 – 12:30. **Rowan FLAD** (Harvard University). **Discussant**

SESSION 28.

Current approaches in Korean Archaeology (part 2): New findings, new ideas

Organizer:

Seungki KWAK (Kyungpook National University)

These two sessions try to explore the newest outcomes of Korean archaeology and share those results with broader East Asian communities. Despite Korea's growing scholarship and cultural influence, Korean archaeology has been underserved in the realm of global publication. These project sessions will contribute to the recognition of Korean archaeology as an exemplary case study for many of the most fascinating questions about humanity's history. From the early Holocene Neolithic dietary pattern to the cultural landscape of 8th century buddhist temple of the Unified Silla period, the contributors of these sessions will share their most recent findings from various regions of Korean peninsula. Presentations on these critical issues will place Korea as a pivotal focus of scholarly development in the East Asian region and worldwide.

09:20 – 09:40. **Hyunjoo LEE** (Bokcheon Museum). **The funerary rituals for warrior in ancient Silla and Gaya**

The polities of the ancient Silla Kingdom (57 BCE–935 CE) and the Gaya Confederacy (42–532 CE) established systematic military organizations by organizing various specialized warriors to prepare for frequent warfare. Due to the absence of records in historical documents, an understanding of ancient military organizations must be approached through the burial rites conducted for the warriors. In the early institutionalized burial rituals, among the various offerings that could be dedicated to high-status deceased individuals, the most important item was the iron spear point. In particular, the burial ritual that involved neatly laying iron spearheads on the floor of the grave, where the deceased would be placed, was meant for the high status male. As the burial rituals of the ruling

class became more complex, the funerary practices for various specialized warriors also became intricately differentiated. Notably, the offering of iron armour was something that people took the most careful consideration of among the burial rituals for warriors. In this presentation, I aim to understand the community's memory of the deceased's military activities and the messages conveyed by the ritual performers through analysing the types of armour and the ways they were arranged within the warrior's burials.

09:40 – 10:00. **Sonyeon AHN** (Gyeongju National Research Institute of Cultural Heritage). **An Archaeobotanical Study of the Subsistence Economy of the Royal Capital of Silla**

This paper presents the current archaeobotanical findings on resource use in the Silla kingdom during the ancient times of the Korean Peninsula. In particular, from the evidence of the resource production at the time, it infers various subsistence strategies the ancient people used to acquire resources, such as gathering and management, agriculture, and trade. Gyeongju, located in the south-eastern region of South Korea, was the capital of the ancient state of Silla for nearly 1000 years. The formation process of the Silla kingdom can be analyzed into three phases as follows: first, the formation of the central area with the Wolseong Castle and tombs of Jjoksaem, second, the development of the periphery and the establishment of Hwangryongsa Temple, and the third phase of significant population increase and road constructions that led to the formation of the capital of the unified Silla. Recently, a wide variety of plant remains were identified from the waterlogged deposits collected at the ancient capital, such as moats, ditches and wells, and these findings suggest what kinds of resources sustained the kingdom from the 1st to the 8(9)th century AD. The plant remains reveal that there were cereals, nuts, fruits, vegetables, rhizomes, spices, oil plants, and edible aquatic plants. we categorize the ancient people's use of non-edible plant resources as medicinal, fuel, fiber, tool, landscaping, street tree, ritual plants. Silla was an intensive agricultural society but the archaeobotanical evidence suggests that people in the ancient capital also cultivated wild plants and managed them as a significant part of resource acquisitions, serving food availability and stability, or some people's tastes. This shows how ancient people organized their subsistence systems to manage the stable supply and demand of resources.

10:00 – 10:20. **Gyeongmin PARK** (Truth and Reconciliation commission, Republic of Korea). **Changes in Pottery Culture of the Bronze Age in the Island Regions of the Korean Peninsula**

There are approximately 3,000 to 4,000 islands in Korea. Most islands are located in seas close to the mainland. Therefore, the inhabitants who lived along the coasts and on the islands during prehistory would have been naturally exposed to the island landscapes, which likely had a significant impact on their livelihoods, economy, and social networks. Island culture is often perceived as a marginal, backward, and isolated space, separate from the dominant culture. Therefore, island culture is generally excluded when explaining past cultural changes. Explanations related to cultural changes often rely on large, populous, and powerful political entities located on the mainland, which leads to neglect of island culture research, and at times, it disappears from history. However, islands provide important evidence of the diverse ways of livelihood and the formation of social networks in human history. In reality, islands are connected to the diverse ways of life and relationships within a community. Through various cultural exchanges with the mainland, islands adjust internal and external power relations, and justify or maintain the legitimacy of certain forces. In the coastal waters of the Korean Peninsula, there are relatively large islands such as Ganghwado Island, Jindo Island, and Geojedo Island. During the Bronze Age on these islands, various pottery cultures were formed through exchanges with the nearby mainland, based on the dolmens culture. The pottery cultures of each island sometimes share characteristics with the mainland and at other times differentiate themselves, forming unique material cultures. Island communities structure their livelihoods and social relationships based on the cultural formation strategies of tradition and change. However, this process is not uniform and can manifest in various ways, depending on the social and environmental networks each community is situated in.

10:50 – 11:10. **Sujung LEE** (Kyungpook National University). **The Tradition of Pottery Production Techniques for Burial Goods during the Bronze Age in Korea**

This study investigates the tradition of pottery production techniques for burial goods in the Korean Bronze Age using the concept of “chaîne opératoire”. The research material consists of 45 potteries excavated from tombs at the Daepyeong-ri site in Jinju. The Daepyeong-ri site is a large settlement where the most numerous archaeological features from the Early to Middle Bronze Age have been identified in Korea. Previous studies have suggested that this site was the production centre for burial goods pottery. The analysis through the observation of pottery revealed that the pottery-making group of the Daepyeong-ri settlement changed the shape, size, decoration, and surface treatment methods of the burial goods pottery over time. However, other techniques remained consistent with previous stages. In other words, the production techniques did not change concurrently in a single event but evolved gradually. Moreover, the changes in the manufacturing technology of burial jars are linked to the introduction of new burial customs. In response to these changes, the pottery-making group at the Daepyeong-ri settlement made efforts to produce different types of burial jars based on the technology that they possessed at the time of the production.

11:10 – 11:30. **Sunghyun PARK** (University of Notre Dame), **Ian KUIJT** (University of Notre Dame). **No Room for the Dead: Late Bronze Age Mortuary Practice, Neuk-do, South Korea**

Be it in the past or present, cemeteries are locations of human action through the repeated, intergenerational, construction of social memory, ancestry, and experience of place. In thinking about cemeteries, however, archaeologists often fail to recognize that in coastal settings, such as islands, there are limitations in the availability of space. As a result, in some cases mortuary practices result in the focused, and very intensive, repeated use of specific spaces. Drawing upon the case study of Neuk-do, in South Korea, occupied from the Late Bronze Age to Early Iron Age period (2ed century BCE to 1st century CE), in this presentation we explore how mortuary practices on this island focused on the repeated use of space due to land scarcity, and resulted in a cemetery where new depositional layers were created above existing burial plots to accommodate additional interments. With archaeological data and ethnoarchaeological research, our study analysis combines multiple archaeological and biological data sets to better understand the evolutionary transition of mortuary practices at Neuk-do. Analysis of the Neuk-do cemetery provides new insight into how Late Bronze Age community members adapted their burial practices when faced with environmental constraints, and with limited space of burials, creating an intergenerational cemetery. Collectively, this analysis provides insights into early burial paces and the development of historical societies struggling to find balance between respect for the dead in the face of increasing population levels and urban density.

11:30 – 11:50. **Seungki KWAK** (Kyungpook National University), **Hyomin SONG** (Kyungpook National University). **Broad-spectrum foodways in the Neolithic Korean peninsula during the middle Holocene**

This study attempts to understand the role of Broad-Spectrum Revolution (BSR) in the Neolithic East Asia, especially focusing on the Korean peninsula. The study also tries to reveal how BSR and the initial beginning of plant domestication are related in this context. Initially introduced in 1969, BSR quickly became a powerful explanatory tool for understanding prehistoric human subsistence strategy and emergence of both plant and animal domestication. BSR has been often conjoined with theoretical frameworks such as diet-breath model based on optimal foraging theory and environmental niche construction to explain prehistoric subsistence pattern. In here, we tried to synthesize recent evidence regarding Neolithic subsistence generated from advanced techniques including organic residue analysis and paleoethnobotany. The results indicated that BSR was clearly found at least in some part the Korean peninsula, and some of them showed evidence of initial plant domestication. With this study, we were able assume affinity between BSR and the beginning of plant domestication in certain area of Neolithic Korea.

11:50 – 12:10. **Doyoung KIM** (Kyungpook National University), **Gaeun JEON** (Kyungpook National University). **Production and Distribution of Gold Works in Silla**

This study examines the production and distribution of Silla goldwork during the Three Kingdoms Period. These artifacts, crafted from gold and silver, include prestigious items such as crowns, metal shoes, earrings, and belt decorations. Beyond their ornamental value, Silla goldwork served as

symbols of social status and political authority. Previous research on Silla goldwork has primarily focused on chronological classification and manufacturing techniques, with additional interpretations from regional governance and local characteristics perspectives. However, due to the absence of discovered workshops, there has been limited research on production and distribution methods. Furthermore, studies on the craftspeople who created these pieces remain scarce. This study aims to investigate the production system of Silla goldwork by analysing pieces whose manufacturing origins remain unclear. We focus particularly on the manufacturing techniques, specifically the various patterns engraved on the surfaces of these artifacts. These patterns were created using chisels, and although no actual chisels have been discovered at archaeological sites, we can reconstruct the tools and techniques used by analysing the distinctive marks left by individual craftsmen. Our research examines goldwork excavated from Silla tombs (including the Southern, Northern, Cheonmachong, and Imdang Ancient Tombs) dating from the mid-5th to 6th centuries, seeking to illuminate the production methods of the period.

12:10 – 12:30. **Yangjin PAK** (Chungnam National University). **A Preliminary Discussion of Gender and Marital System in the Buyeo Society**

This paper will discuss some aspects of gender and marital system in the Buyeo society with an analysis of the mortuary data from the Laoheshen cemetery in Jilin, China. Archaeological data from this cemetery provide valuable evidence of male and female adults who are considered to have been couples in their lifetime. Through qualitative and quantitative analyses of the grave goods and burial structures, it will be possible to discuss the relative social status of male and female members of the Buyeo society. The variation in the composition of the couples also gives a rare chance to discuss the marital system, including the possibility of levirate marriage, of this ancient society.

SESSION 29.

Past, Present, and Future of East Asian Ceramics: Circulation, Exchange of Technologies, and Consumption in a Globalized World

Organizer:

Zhaohui LIU (Fudan University)

The global circulation of East Asian ceramics—whether in the form of raw materials, finished products, technologies, or artistic styles—has profoundly shaped economic, technological and cultural exchanges throughout history. Since the ninth century, Chinese ceramics have been highly desired by consumers across Japan and Korea, Central, South and Southeast Asia, the Middle East, Europe and the Americas. These ceramics have not only inspired local potters to develop new techniques and styles but also contributed to the evolution of tastes and fashion trends worldwide. It provides a unique thread for weaving together a wide range of scholarly interests, promoting interdisciplinary collaboration and the co-production of knowledge. This panel invites scholars to discuss the past, present, and future of East Asian ceramics within its local and global contexts, examining the circulation of material objects alongside the mobility of people and ideas. This panel focuses (but is not limited to) the following themes,1. Circulation of Ceramics: Examining how ceramics have shaped both local and global markets, influencing the flow of goods and ideas crossing through boundaries. 2. Exchange of Technologies: Exploring how the introduction of new forming, decorating, glazing, and firing techniques encouraged local technological and artistic innovations. 3. Consumption Patterns and Globalisation: Investigating how foreign ceramics were received outside their place of origin and their impact on domestic consumption behaviours and developing new tastes in consumer markets. Through examining the natural environment and technological trajectories that shaped local ceramic production in East Asia, as well as exploring the interwoven relationships between ceramic circulation, technology exchange, and consumption in a global network, this panel aims to deepen our understanding of East Asian ceramics as a vital component of a broader culture complex in an interconnected world.

14:00 – 14:20. **Yulai CHEN** (Shaanxi Academy of Archaeology), **Rui WEN** (Northwest University). T**he Interaction of Aesthetics and Technology between East and West, from the Perspective of Low-fire Polychrome Glazed Pottery in China**

The origins of low-fire lead-glazed pottery in China date back to the late Warring States period and flourished during the Han dynasty. The majority of the Han lead-glazed pottery features monochrome glazes, but in areas such as Jiyuan, Baoji, and Yan'an, however, some artifacts have been found with multiple glaze colours applied to a single object, commonly referred to as polychrome glazed pottery. This study employs various analytical methods, including pXRF, EDXRF, EPMA, SEM-EDS, and LA-ICP-MS. The results show that the pottery is of low-fire glaze type, but the glaze systems are unique, high-lead glazes are used as the base for red, yellow, and brown colours, while the green decorative glaze is a lead-barium glaze. The coexistence of high-lead glaze, lead-barium glaze, and the binary lead-glaze technology reflects the complexity of Han low-fire glazed pottery. Polychrome lead-barium-glazed ceramics are not decorated with 'compound eyes', their chemical composition, polychrome decoration, and barium-copper-silicate pigments suggest that the manufacturing technology can be closely linked to that of lead-barium glass and glaze during the earlier Warring States period. The scientific analysis showed that the lead glaze (red, yellow, and brown glazes) and the lead-barium glaze (green and blue glazes) were used on the same vessel. It suggests that the technology and aesthetics of low-fire pottery, which had existed during the Warring States period, experienced a revival and entered a new phase during the Han dynasty. This study shows that the emergence of polychrome glazed pottery integrates these two trajectories of formation - an independent Chinese tradition and a Western influence - suggesting Eurasian cultural hybridity and exchange.

14:20 – 14:40. **Xuelin HAO** (Fudan University), **Wenjiang ZHANG** (Jiangxi Provincial Institute of Cultural Relics and Archaeology). **Ceramic Production of Longquan Celadon Imitations in the Fuhe River Basin, Jiangxi Province, China**

Longquan Kiln is a porcelain-making centre with wide-spread influence. Its products and techniques have long radiated to the surrounding areas throughout history. As one of the five major river basins in Jiangxi, the Fuhe River Basin is an important part of the ceramic cultural circles of Jiangxi Province, Zhejiang Province, and Fujian Province. Its ceramic production is simultaneously influenced by the kiln industries in these three regions, presenting a rich variety of product appearances and complex technological sources. The production of Longquan celadon imitations in the Fuhe River Basin is a concrete manifestation of the "Longquan throughout the World" pattern since the Yuan Dynasty. In 2023, the Department of Cultural Relics and Museology at Fudan University and the Jiangxi Provincial Institute of Cultural Relics and Archaeology jointly conducted a systematic investigation of porcelain kiln sites in the Fuhe River Basin of Jiangxi Province, China, which provided rich physical materials for a detailed exploration of the kiln industry appearance of Longquan Kiln. Based on this archaeological investigation, this report sorts out the ceramic production of Longquan Celadon imitations in the Fuhe River Basin, compares it with that in the Xinjiang River Basin (Jiangxi Province, China), and then discusses the reasons for the differences between the two places, striving to restore the technological exchange among different regions.

14:40 – 15:00. **Gyeongin KIM** (Department of Archaeology and Art History, Korea University). **Whitewares from the Southern Regions of the Song Dynasty in East Asia : Trade Routes Reflected through Excavation Patterns in Goryeo and Japan**

This study examines the import patterns and consumption of whitewares from the Southern Regions of the Song Dynasty(宋代, 960-1279) in Goryeo(高麗, 918-1392), focusing primarily on Jingdezhen(景德鎭), Fujian(福建), and Guangdong(廣東) products. The research analyses 884 porcelain artifacts unearthed from Goryeo sites, which include products from Jingdezhen, Fujian, and Guangdong. These porcelains were mostly found in elite tombs in Kaesong(開城), while provincial finds predominantly featured products from Fujian and Guangdong, highlighting a regional distinction in consumption. The study divides the imports into two phases: Phase 1 (late 10th century to mid-12th century) and Phase 2 (late 12th century to late 13th century). During Phase 1, a significant amount of Jingdezhen porcelain was imported, and it had a profound influence on Goryeo celadon, as evidenced by similar motifs and techniques. The Jingdezhen ceramics found in Gangjin, a major Goryeo celadon production site, further confirm this influence. In Phase 2, trade ceramics, including

bowls and dishes, became more widespread, and were often found along major trade routes reflected through excavation patterns, indicating expanded maritime trade activities. By this period, a notable divergence in the trade routes reflected through excavation patterns between Goryeo and Japan emerged; while Goryeo imported a limited range of ceramics, Japan imported and used a more diverse selection. This difference underscores the variations in the trade methods and trade routes between Goryeo and Japan during their interactions with the Song. By examining the artifacts, the study sheds light on the role of southern white porcelain not only as a trade commodity but also as an influential cultural medium within the broader context of East Asian ceramic exchange and cultural interactions.

15:30 – 15:50 **Yunjeong KIM** (Korea University, Sejong Campus). **Regional Variations in the Distribution of Chinese Ceramics Imported to the Korean Peninsula during the Goryeo Dynasty(918-1391)**

This presentation will examine regional variations in Chinese ceramics introduced to the Korean Peninsula during the Goryeo Dynasty (918-1391 CE) and explore their causes and historical context. Goryeo maintained diverse relations with Chinese dynasties, including Wudai, Song, Jin, and Yuan, fostering exchanges in politics, society, and culture.By analysing approximately 2,000 pieces of Chinese ceramics excavated from Goryeo Dynasty ruins, differences in types, styles, and quality across three regions were confirmed. First, various ceramics from northern and southern Chinese kilns were found in Kaesong, the Goryeo capital. Second, in regions outside Kaesong, ceramics from specific kilns, such as Jingdezhen Qingbai porcelain, Ding Kiln whiteware, Yaozhou kiln celadon, and black glazed tea bowls, were primarily found at government and Buddhist temple sites. Third, on Jeju Island, far from the inland regions, many Longquan kiln celadon pieces were discovered. Therefore, it is presumed that the differences in Chinese ceramics across the three regions during the Goryeo Dynasty were related to the locations of the ports from which the ceramic trade ships departed and the routes they followed. In other words, the types of porcelain shipped were determined by the port of departure during the Song and Yuan Dynasties, and the varieties and forms of ceramics also varied depending on the final destination of the trade ships. Chinese ceramics excavated from Goryeo Dynasty ruins are the key material culture preserving traces of Goryeo's diverse exchanges, offering insight into maritime trade in the Middle Ages. This presentation will clarify Goryeo's role in East Asia's maritime ceramics trade, which have remained unclear.

15:50 – 16:10. **Susanne REICHERT** (Bonn University). **Unveiling the Production of Turquoise-Glazed Floor Tiles: A 13th-Century Mongol Empire Workshop at Zharantai Gol in the Orkhon valley and its wider implications**

This paper explores the recent archaeological findings at Zharantai Gol, a production site located near Ögödei Khan's Spring Palace in the Orkhon Valley, which sheds light on the manufacturing of turquoise-glazed floor tiles from the 1230s, during the height of the Mongol Empire. Excavations have uncovered two furnaces and what is likely a field kiln for floor tile production. This marks the first complete understanding of the production process of these distinctive tiles, which were likely used in elite Mongol structures. The analysis of these kilns and associated artifacts offers new insights into the technical and artistic methods employed in tile production during the 13th century. Additionally, these findings tie in with reports from written sources which detail the transfer of Muslim workers from Central Asia tasked with the erection of the Spring palace. The presentation will detail the excavation results, the technological aspects of the ceramic production, and the implications for understanding the cultural and economic context of the Mongol imperial court.

16:10 – 16:30. **Gowoon SEONG** (Fudan University). **Circulation and Use of Korean Ceramics Unearthed from 14th to 16th Century Japanese Archaeological Sites**

This study investigates the circulation and use of Korean ceramics excavated from Japanese archaeological sites dating from the 14th to the 16th centuries, a pivotal era of cultural and material exchanges across East Asia. By focusing on Korean ceramics discovered in Okinawa, Kyushu, and Kansai, this research highlights their contributions to shaping Japanese cultural practices, particularly tea culture, while underscoring their coexistence with Chinese ceramics. It contributes to a nuanced understanding of Korean ceramics as integral to Korea-China-Japan cultural

exchanges, expanding upon their multifaceted roles beyond prior interpretations. The research examines Goryeo celadon, late Goryeo and early Joseon gray-green and Buncheong ware, and 16th-century Joseon white porcelain. Comparative analysis of Korean-produced artifacts reveals distinct production timelines and regional distribution patterns. Ceramics unearthed in Okinawa predominantly date to the 14th and 15th centuries, including Goryeo celadon and gray-green ware. Kansai sites feature 15th-century Buncheong ware and 16th-century Joseon white porcelain, while Kyushu, acting as a distribution nexus, contains a combination of ceramics from both regions. Historical records related to Japanese tea culture reveal the prominence of Korean ceramics in 16th-century tea gatherings (chanoyu) and Zen tea practices. Archaeological evidence, however, also uncovers high-quality Joseon court ceramics, suggesting their broader applications beyond tea culture, particularly among elite circles. This study addresses the limitations of prior research, which often relied on textual evidence, by incorporating archaeological findings to offer a more comprehensive view of Korean ceramics' roles. By situating these artifacts within the broader East Asian ceramic trade networks, this research underscores their significance as key components in understanding this transformative period's material culture and transregional interactions.

16:30 – 16:50. **Xuyang GAO** (Hong Kong Palace Museum). **From Import to Local Imitation: Yixing Teapots in Europe - Consumption, Trade, and Manufacturing**

This research concerns the manufacture and trade of exported Yixing zisha ware in 17–20th century Europe. The consumption of these teapots and their influence on the European ceramic industry is also discussed. Zisha teapots are unglazed stoneware produced in Yixing, Jiangsu province, China; they have been exported to Europe alongside tea since the 17th century. We examined the artistic style, colour, and potters' marks of teapots found in shipwrecks, exemplified as the Oosterland, the Geldermalsen, the Teek Seeun, and the Desaru. Visual and textual materials were investigated for information about European teapot consumers and the ways they used exported wares. In addition, European-produced red stoneware teapots in Museum collections were examined to identify their makers, manufacturing techniques, and production locations. We determined that the artistic style of exported Yixing teapots does not differ significantly from that of teapots produced for the domestic market. It is highly likely these teapots were first transported to ports in Xiamen, Canton, Ceylon, or Malaysia and then loaded onto ships bound for Europe. Teapots commanded a high market price in Europe and were commonly re-decorated with precious metals to meet local artistic tastes. Influenced by zisha imports, European potters like Ary De Milde and Jacobus de Caluwe, as well as manufacturers like Meissen, also started producing red stoneware teapots. Their imitations of Yixing wares introduced certain techniques (e.g. sprigging) and decorative patterns (e.g. squirrels, pine trees) to European ceramic production.

16:50 – 17:10. **Siyi WU** (School of Archaeology, University of Oxford). **Reinventing Jingdezhen in 20th-Century Britain: Travellers, Collectors, Potters, and the Myth of 'Imperial Kilns'**

Porcelain produced for the imperial courts of the Ming (1368–1644) and Qing (1644–1911) Dynasties became highly desirable 'antiques' among an intimate circle of British collectors in the 20th century. These pieces were believed to symbolise the summit of attainment in potters' art, and thus stood apart from the relatively inexpensive Chinese porcelain made for England export market, which entered everyday lives of the middle and upper classes since the 18th century. The contrast in monetary, artistic, and technological value placed Jingdezhen, a small town in Southeast China, under the spotlight, as it was the origin of both the high-quality 'antiques' and low-quality daily wares. For collectors and curators of Chinese ceramics, it became a major task to identify and authenticate porcelain from the 'imperial kilns', arguably established during the Ming Dynasty to produce porcelains exclusively for the emperors. Recent archaeological discoveries, however, have questioned the so-called differences in production quality between imperial porcelain for the emperors and non-imperial porcelain intended for commoners' markets within China and abroad. This presents an opportunity to reflect on how 20th-century Britain perceived Jingdezhen and its products, a view shaped by ethnographic accounts of western travellers, traditional Chinese connoisseurship inherited by British collectors, and the idealisation of potters for their dedication to craftsmanship that resonated with the Arts and Crafts movement of the time. While Jingdezhen porcelain was central to the evolving scholarship on Chinese ceramics in Britain, influencing local archaeology in Jingdezhen, it was the archaeological findings themselves that ultimately challenged

the temporal perspectives of British collectors and ceramic specialists. This has prompted a reconsideration of the binary classification between imperial and non-imperial porcelain.

17:10 – 17:30. **Jie CHEN** (Shanghai Museum). **Discussant**

DAY 5, SATURDAY, AUGUST 23rd AFTERNOON

SESSION 30.

Acceptance and Innovation: The Studies of Animal Motifs in China during Han and Jin Dynasties

Organizer:

Hu ZHU (East China Normal University)

During Han and Jin Dynasties, animal motifs were generally categorized into two distinctions: real animals versus imaginary animals, and native animals versus foreign animals. These distinctions represented perspectives on the tangible and unknown worlds, as well as an expanding geographical knowledge. Ancient Chinese people, through their understanding of real, native animals, created imaginary creatures (divine beasts) that they believed could adapt to various environments. They later incorporated foreign real animals, further developing new imaginary creatures.Our panel includes four studies. Two of them focusing on Qin and Han Dynasties, examining native and foreign mysterious animals and their roles in the concept of ascension. The others extend the discussion to the period from Han Dynasty to Wei, Jin, and Southern and Northern Dynasties, spanning Eurasia, to explore mysterious animal motifs on belt fittings.It is hoped that these researches will provide new materials and perspectives on the study of divine beasts during Han and Jin Dynasties, offering fresh insights into the worldview and cosmology of the time.

14:00 – 14:20. **Huichih CHUANG** (National Kaohsiung University of Hospitality and Tourism) **Riding or Taking: Transportation Methods to Heaven in Qin and Han Dynasties as Revealed by Archaeology**

The depictions of chariots in Qin and Han Dynasty are popular topics in Chinese archaeology and art history. However, the transportation methods to heaven were comparatively less attention. Based on current archaeological findings, there were two main transportation methods to heaven or wonderland (to becoming immortal) during the Qin and Han periods: (1) riding a horse or a mythical beast, and (2) traveling by chariots pull by horses or mythical beasts. Travel to wonderland or heaven by riding a horse or a mythical beast was first seen in the silk painting in the tomb of the Warring States Period, while depictions of chariot journeys appeared later, originating in Qin and Han sacrificial sites. At the mid to late Western Han period, model carriages and horses and related mural paintings began to appear in tomb chambers. Following the Xin Dynasty, chariots pulled by mythical beasts began to emerge. These developments reflected a shift in perceptions of transportation to heaven from the Warring States to the Han Dynasty. This study argues that the concept of traveling to heaven by chariot originated in the Guanzhong region of Shaanxi, influenced by the state rituals of the Qin and Han dynasties. Among the general populace, it was more commonly believed that the souls of the deceased would travel to heaven by riding mythical beasts. During the mid to late Western Han period (after Emperor Wu), sacrifice rituals were changed, the transportation methods to heaven were changed, too. After the Xinmang Dynasty, the Han people's imagination of heaven became more abundant, so there were more scenes of mythical beasts pulling carts.

14:20 – 14:40. **Keith KNAPP** (The Citadel, The Military College of South Carolina). **Invasive Auspicious Beasts: The Replacement of Animal Figurines with Stamps of Propitious Creatures on Soul or Spirit Jars (hunping 魂瓶)**

Spirit or Soul Jars are eye-catching funerary vessels that were buried with the wealthy dead in southeastern China from the second to the fourth century CE. One of their remarkable features is that they are often decorated with figurines of natural animals and humans. However, by the late third century, the number of natural animals depicted on the jars decreases. They are frequently replaced by two-dimensional stamps of auspicious creatures. What was responsible for this change? Where were these images of auspicious creatures coming from? What exact meanings did they have? My paper will document how this new type of decoration gradually changed the pictorial program of the jars. It will also identify each of these auspicious creatures and their meanings. I will indicate that the preponderance of these fantastical beasts was prevalent in northern China during the Han Dynasty. Hence, their appearance on these indigenous jars indicates the large-scale migration of refugees from war-stricken northern China to Jiangnan (Southeastern China). The near banishment of natural animal figurines also suggests the waning strength of the cultural influence of the indigenous Mountain Yue (Shan Yue 山越) people.

14:40 – 15:00. **Hu ZHU** (East China Normal University). **A Brief Exploration of Hellenistic Mythical Animal Imagery in Newly Discovered Jin-Style Belt fittings**

Recently, a set of Jin-style belt fittings belonging to Wu state during the late Three Kingdoms Period was published. The set consists of 14 pieces, including a pair of belt buckles and six pairs of belt plaques. The decorative themes of it are very reach, such us “Feathered Immortal”, “White Tiger”, “Phoenix” and “Buddha Statues”. These included 2 sets of “Warriors Fighting with Tigers” motifs on the belt buckles previously been interpreted by the author as representations of "Donghai Huang Gong” (Master Huang of Eastern Sea) playing juggling. Through a reanalysis of the imagery, it is evident that the tiger’s tail was distinctly depicted as a fish tail, with the figure holding a fish and exhaling clouds. Combined with the subject matter of nomadic figures playing with beasts, this suggests an influence from early Greek depictions of fish-tailed creatures. The newly discovered belt buckle designs reveal exchanges between the Wu state during the Three Kingdoms period and the Hellenistic world, challenging the traditional view of Three Kingdoms art as being understood solely through a Buddhist perspective.

SESSION 31.

Archaeological Discoveries and Relics in Sichuan, China

Organizers:

Zhiyan LIU (Sichuan Provincial Cultural Relics and Archaeology Research Institute)

Yiting HUANG (Sichuan Provincial Cultural Relics and Archaeology Research Institute)

This session is about archaeological and cultural relics research in Sichuan Province, China. Located in southwest China, Sichuan has a long and prosperous history and is rich in various kinds of relics from prehistory to the Ming and Qing Dynasties, with many excavated relics. Important sites include the Piluo site and the Mengxi River site in the Paleolithic period, the Lianhuaba site and the Liujiazhai site in the Neolithic period, the Sanxingdui site and the Luogiaba site in the Shang and Zhou periods, and the Chengba site and the Battleground of Late Ming Dynasty at Jiangkou in the historical period. Sichuan archaeology is an important part of Chinese archaeology, and even of East Asian archaeology.This session is open to all research related to the archaeological discoveries and relics in Sichuan. Research topics are open to all time periods, categories, and culture types, but better be directed at archaeological discoveries in the Sichuan region. The research content may include

archaeology, cultural heritage, conservation, art history, scientific and technological archaeology, and others, and we look forward to mutual exchanges in different research directions.

15:30 – 15:50. **Juanying XIAO** (Sichuan Provincial Institute of Archaeology, China). **Ceramic specialization and social complexity connections: a case study from the Sanxingdui and Jinsha Sites, China**

Ceramic specialization in morphology, raw materials, and production techniques is frequently associated with implications of social complexity, particularly in a stratified society where the elite actively intervenes in ceramic consumption and production to achieve political goals. As the centre of ancient Shu culture, the Sanxingdui and Jinsha sites have unearthed a large number of ceramics, which provide abundant evidence for the interpretation of the origin and development of ancient Shu civilization. In this study, we conduct a thorough analysis of the morphology and materials of ceramics excavated from the Sanxingdui and Jinsha sites. The primary objective is to systematically examine and compare the morphological standardization, raw material compositions, and manufacturing techniques of ceramics across different historical periods, geographical regions, and types. Through this comprehensive analysis, we seek to elucidate patterns of inheritance and innovation in ceramic craftsmanship between the two sites. Building upon previous research findings, this study aims to deepen our understanding of the ceramics from the Sanxingdui and Jinsha sites and provide novel insights into the intricate social connections between these two locations.

15:50 – 16:10. **Joshua WRIGHT** (University of Aberdeen). **Rowan FLAD** (Harvard University), **Kuei-Chen LIN** (Academica Sinica), **Gwen BENNETT** (Mcgill University), **Zhiqing ZHOU** (Chengdu Cultural Relics and Archaeology Research Institute) **Results from the Chengdu Plain Archaeological Survey**

The Chengdu Plain Archaeological Survey (CPAS) was a large collaborative regional archaeological project focused on Pixian county in the Chengdu Plain. Fieldwork took place between 2005 and 2011. In this paper we celebrate the publication of the project's final report. The project's research goals focused on emergent polities in the Chengdu plain and the context of the Sanxingdui site. We studied the spatial organisation of local settlements and central places, and the roots on the *Linpan* settlement pattern. Our work traced changes in settlement patterns from late Neolithic Baodun period to the incorporation of the region into the Han Empire. The CPAS's methodological approach tackled the challenging rice agricultural landscapes through overlapping surface and subsurface methods and geophysical studies. The results show the emergence of central places in the late Neolithic focused on walled enclosures and separated by less inhabited areas. In the Bronze Age the number of detected sites greatly increased showing settlement in areas away from the central places. Survey of the Han period shows the continuity of old centres, but also the growth of new villages, towns, and elite mortuary landscapes. This paper will survey the results of the project and introduce some analytical approaches using this regional survey data.

16:10– 16:30. **Jianbo GUO** (Sichuan Provincial Cultural Relics and Archaeology Research Institute), **Kunlong CHEN** (University of Science and Technology Beijing), **Liang QU** (Palace Museum Beijing), **Jianjun MEI** (Needham Research Institute Cambridge), **Zhenbin XIE** (Palace Museum Beijing). **Bronze Casting Techniques and Technological Innovations at Sanxingdui**

In ancient China, bronzes from the Shang and Western Zhou dynasties (1600-771 BC) were primarily produced using a section-mold technique. In this method, outer molds were removed in sections from a clay model and then reassembled around a clay core to cast the final object. This process allowed for casting either in single or multiple pours, the latter applied to the unique bronzes found at Sanxingdui. The multi-stage pouring process used at Sanxingdui enabled the casting of highly complex objects through a sequence of pours, yet there remains scholarly debate about how separate components were joined across these multiple sessions. Various terms— pre-casting, welding, running-on, soldering, and brazing—have been proposed to describe these processes. We analyzed bronze fragments from the Sanxingdui site, focusing on both their structural and technological characteristics. Using X-ray computed tomography (CT) scanning and non-destructive

testing and assessed surface traces to understand the range of techniques employed. These findings indicate that Sanxingdui artisans extensively used both casting and joining techniques to assemble intricate structures, such as the famed Sanxingdui bronze tree. This required multiple casting sessions to create secure mechanical connections among components.Distinctive technological features at Sanxingdui include post-casting hook-and-loop connections on sun-shaped artifacts, as well as tenon-joint structures used to affix branches to the inner walls of the so-called "divine tree." Analysis revealed core rods within bronze branch fragments, with both organic and inorganic types identified—providing the earliest known physical evidence of such materials in ancient Chinese bronzework. Additionally, the use of core chaplets, sometimes in combination with core rods, was documented, highlighting the sophistication of Sanxingdui casting methods. These technological characteristics are mirrored across many recently excavated Sanxingdui artifacts.

16:30 – 16:50. **Lushan WEI** (Center for Science and Technology Archaeology). **Archaeological Survey and Smelting Technology Studies at the Copper Smelting Site of Zhaiziyuan**

The Zhaiziyuan copper smelting site is located in Jiuxiang Town, Hanyuan County. In 2024, the Sichuan Provincial Cultural Relics and Archaeology Research Institute conducted systematic surveys and trial excavations in the smelting area of this site. The investigation revealed that the site covers an area of approximately 100,000 square meters, with the core smelting area spanning about 4,500 square meters. Based on the unearthed artifacts, the site is preliminarily dated to the late Western Han to the mid-Eastern Han period. Trial excavations in the core smelting area uncovered a smelting waste layer approximately 1.2 meters thick, containing thousands of pieces of slag, furnace walls, and bellows. Preliminary scientific testing and analysis have been conducted on some of the slag, furnace walls, and bellows discovered during the survey. The analysis suggests that copper smelting activities at the site used copper sulfide ore as the primary raw material, with trace amounts of lead, arsenic, zinc, and antimony minerals present in the copper ore. The furnace walls and bellows appear to have been made from locally sourced soil mixed with plant materials as additives. The Zhaiziyuan site represents a significant newly discovered Han Dynasty copper smelting site in Sichuan. The large number of smelting and casting artifacts unearthed at the site holds great significance for exploring the technological systems and industrial production layouts of copper smelting and casting in the southwestern region during the Han Dynasty.

16:50 – 17:10. **Tian LIU** (University of Science and Technology Beijing), **Zhiyan LIU** (Sichuan Provincial Institute of Archaeology), **Siran LIU** (University of Science and Technology Beijing). **Shaping Taxation: The Mutual Influence of Morphological and Institutional Dynamics in 50 tael Silver Bullions of Ming Dynasty**

The Ming Dynasty (1368–1644 AD) marked the formal establishment of a silver-based monetary system in China, completing the transition from in-kind taxation to silver taxation. The central government mandated that local governments cast tax silver into bullions weighing 50 taels each, inscribed with inscriptions including production date and location. Consequently, the morphological characteristics of these silver bullions produced by local governments serve as a crucial medium for understanding the tax system. This study employs geometric morphometric analysis, utilizing elliptical Fourier transformation to quantitatively describe the orthographic contours of the silver bullions. A total of 312 silver bullions from Jiangkou Site in Sichuan are analyzed to identify the regional typological characteristics of these bullions and their diachronic evolution. Combining these findings with historical documentation, the study explores the interplay between the development of bullion typology and the establishment of the silver taxation system.Quantitative analysis of bullions from the Wanli (1573–1620 AD), Tianqi (1621–1627 AD), and Chongzhen (1628–1644 AD) eras reveals a trend of increasing length-to-width ratios in bullions from the Huguang region. By the late Ming Dynasty, intra-regional uniformity in bullion typology increased, while inter-regional independence became more pronounced. This trend was primarily influenced by variations in the production volume and the transportation routes of bullions. Historical records indicate that during the late Ming economic crisis, most tax silver was transported to the central government, while inter-regional trade decreased. This reduction in regional collaboration further reinforced the independent production of silver bullions during the Chongzhen period. This research establishes a spatiotemporal framework for the typology and evolutionary trends of Ming silver bullions,

highlighting the significant potential of geometric morphometrics in the study of the Ming taxation system.

17:10– 17:30. **Yiting HUANG** (Sichuan Provincial Cultural Relics and Archaeology Research Institute). **A preliminary study of the use of kilns in Meishan during the Tang and Song dynasties**

As one of the kiln areas in the Minjiang River basin south of Chengdu, the Meishan area, including the Pengshan kiln area, the Wazipo kiln in Hongya, and the Tanguan kiln in Qingshen, formed a sequential time sequence in the Tang and Song dynasties, which provided the conditions for the study of kiln assemblage and use in the region during the Tang and Song dynasties. It seems that the kiln area of the open-fire naked firing has existed since the Sui to the Song Dynasty, sagger mounted firing appeared in the Southern Song Dynasty after the middle. Multi-toothed pegs + mat post + mat plate (+ sagger) is the most common combination of kiln furniture in the region, some of which have changed over time, with multi-toothed pegs being the most obvious. Overall, the kiln furniture in the Meishan area during the Tang and Song dynasties is similar to that of the Chengdu kiln area, but is slightly less varied, and the kiln furniture combinations preserved in such neighbouring secondary local kilns are probably the most basic and easily transmitted part of the kiln technology system.

17:30 – 17:50. **Shuo YANG** (the Sichuan Provincial Institute of Archaeology). **The Cultural Transition of East Zhou and Han Dynasty in Sichuan Area from the Huabeidi site**

The Huabeidi site is located in Group 3, Dalin Community, Taihe Town, Dongpo District, Meishan City, Sichuan Province,and about 2 kilometres away from Meishan City in the south. It is located on the right bank of the Minjiang River on the second-level terrace. In 2023, the excavation of the Huabeidi site will clean up more than 300 ash pits, ash ditches, kilns, pillar holes, building foundation sites, tombs and other relics from the Qin and Han dynasties to the Ming and Qing dynasties. More than 1,000 pieces (groups) of various types of pottery, copper, iron, bone, glassware and so on have been unearthed, among which several inscriptions such as "Yuanshi for Fourth years" are the most important. The remains of the Qin and Han dynasties of the Warring States period excavated in this excavation can be preliminarily divided into four stages: the early Warring States period, the middle and late Warring States periods, the early and middle Western Han Dynasty, and the late Western Han Dynasty to the Eastern Han Dynasty. The Huabeidi site is one of the rare sites in the southern part of the Chengdu Plain that developed continuously from the early Warring States period to the Eastern Han Dynasty, with a clear stratigraphic relationship, diverse types of relics, and abundant unearthed relics. The site developed from the Bashu culture cemetery in the Warring States period to the Han culture cemetery in the early and middle Western Han Dynasty, and then developed into a local central settlement from the late Western Han Dynasty to the Eastern Han Dynasty, which profoundly reflects the transformation of the Chengdu Plain from the regional Bashu culture in the Warring States period to the Qin and Han cultures.

SESSION 32.

When People Move: Migration, Exchange, and Cultural Change

Organizers:

Corey NOXON (Ritsumeikan University)

Tomoko NAGATOMO (Ritsumeikan University)

The movement and migration of people involves a wide variety of factors and often brings with it a number of changes to societies and cultures. These movements can be due to external changes related to the environment or external societal pressures from outside groups, can be internally motivated due to changing societal needs or norms, or can also be an integral part of the societies to begin with. Whatever the motivation, exploring and traveling beyond the bounds of one's immediate surroundings provides opportunities to encounter new environments, new people, new cultures, and develop new ways of life. These encounters can have significant impacts on both the individuals and societies which are actively moving to new areas as well as those whom they encounter. Evidence of these meetings, exchanges, and societal impacts are often visible in the archaeological record, and we are constantly exploring and developing new ways to delve deeper and learn more about these events. This session focuses on some of these movements and migrations in East Asia, examining the archaeological evidence, causes, and consequences of when people move.

14:00 – 14:20. **Carola FRANZEN** (University of Hawai'i / Renmin University of China). **Revisiting the Qin and Han expansion into the northeast**

The extensive territorial expansion of the Qin and Han states are not only well studied through a historical lens but also left many traces in the archaeological record along their shifting borders. At the forefront of expansion research are acculturation and biomolecular studies, enriching our understanding of implemented strategies and local impacts across scales, from regional to molecular level. Due to a lack of detailed historical descriptions and various limitations of the excavated material, trans-regional effects on local societies and their responses remain under explored. Regional settlement datasets can open a pathway to shedding light on the underlying processes on a larger scale and complement the current knowledge of ancient imperial and colonial processes. This study aims to review various approaches to Qin and Han expansion and investigate previously understudied material and angles, highlighting local responses to colonial and imperial processes across various scales in the northeastern extensions of the expansions.

14:20 – 14:40. **Christine LEE** (University of Mississippi). **Immigrants and Criminals in Ancient China (770 BCE-220 CE)**

Concrete evidence for migration and immigration is rare in archaeological context. Bioarchaeology, the study of human skeletal remains from archaeological excavations, can provide direct evidence of the ancient movement of individuals and populations. With the creation of the Chinese and Xiongnu empires new borders and alliances were created with neighbouring states. Migration and immigration in China were strictly controlled by the state. Historical records show evidence of widespread voluntary and involuntary migrations within China at this time. At the same time legal documents trace the movement and legal status of immigrants. For this study, 11 individuals from four archaeological sites (Nileke, Chandman, Yanghai, Yingpan) dating from 770 BCE-220 CE were analysed with distinctive trauma patterns to the face. During imperial times these sites were four separate independent states along the Chinese and Xiongnu frontier. Ten individuals (7 male, 3 female) had their noses cut off with a sharp instrument. All of them were well healed, indicating advanced medical knowledge. One male individual had a well healed trauma to the forehead, possibly from branding or a tattoo. All of these individuals were from non-Asian populations (Indo-European/Persian/Turkic languages), and would have been visually distinctive (blonde hair, blue eyes) from the Xiongnu and Han Chinese. Chinese legal documents on mutilating punishments correspond to the trauma found on these individuals. This study further explores possible reasons for their immigration into China and what felony crimes may have been committed.

14:40 – 15:00. **Siyi WANG** (National Institute for Advanced Humanistic Studies, Fudan University).

From the Perspective of a Unified Regime: The Interaction between the Capital and Regional Buddhist Statuary Styles in the Eastern Wei 东魏and Northern Qi 北齐Dynasties

In the late Northern Dynasties of China, Yecheng邺城, serving as the capital of both the Eastern Wei 东魏 and Northern Qi北齐 dynasties, emerged as a pivotal point where cultures from all directions converged, intermingled, or underwent new transformations, thereby fostering a flourishing landscape of Buddhist art. During the Northern Dynasties, traveling south from Pingcheng平城, one

would encounter Jinyang晋阳 and Dingzhou定州, separated by the Taihang Mountains太行山, and further south were Yecheng and Luoyang洛阳, with Qingzhou青州 lying directly to the east. Buddhist statuary styles spread widely and developed continuously through the major transportation routes, leaving a rich legacy of Buddhist statues across various regions. These relics provide a window through which to glimpse the underlying political and social landscapes of the Northern Dynasties. This paper aims to explore, from the perspective of unified regimes, the interactive relationship between the Buddhist statue styles of the capital city of Yecheng and those of the surrounding regions. It endeavours to elucidate how these interactions were facilitated by individual migration, religious group activities, and large-scale population movements. Furthermore, it emphasizes that during the reign of the Gao family, the attention and control exercised over Yecheng and its surrounding areas were significant driving forces in influencing the material cultural landscape of these regions

15:30 – 15:50. **Lisa JANZ** (University of Toronto). **Mobile Social Networks in the East Asian Desert Corridor. Or How the East was Won.**

The spread of pastoralism across East Asia does not appear to have been a quick, simple, or straightforward process. Despite the arrival of Afanasievo herding communities in western and central Mongolia by 3300 BC, it is not until after 1800 BC that we are able to clearly see the rising dominance of herding culture across that region. Current research suggests a gradual spread of metallurgy, domesticates, and burial customs tied to indigenous adoption of these technologies and perhaps influenced by increasing influxes of migration from farther west. In addition to the leisurely pace of enculturation, there are several other recent discoveries that stand out. First, the earliest evidence of western domesticates in East Asia comes from the site of Houtaomuga in Northeastern China, where mtDNA shows the earliest confirmed presence of (a) domesticated taurine cattle (cow). Secondly, the earliest widespread iteration of Bronze Age culture in Mongolia appears with Prone Burial cultures, whose geographic spread is closely tied to the east, particularly the eastern desert and desert-steppe. Analysis of numerous archaeological assemblages from the Gobi Desert suggest that the region was fairly heavily populated throughout the Neolithic and into the Bronze Age, and that Bronze Age material culture was similarly dispersed compared to Neolithic habitation. The rise of carnelian and chalcedony bead-making in the late Neolithic and the presence of finely made high-fired pottery by about 4500 BC may even support the possibility of engagement in long-distance trade networks. This presentation will hypothesize that Gobi Desert groups were fundamentally responsible for the spread of pastoralist culture across the East Asian steppe, and that this spread was facilitated by established/pre-existing social networks already linking the Gansu Corridor, the Altai Mountains, and the far eastern steppe.

15:50 – 16:10. **Ray M.K. MA** (Antiquities and Monuments Office, Hong Kong). **The first settlers of Han culture in the southern periphery: Review of seventy year archaeological work since the discovery of Lei Cheng Uk Han Tomb**

The year 2025 marks the 70th anniversary of the discovery of the Lei Cheng Uk Han Tomb in Hong Kong. While thousands of Han tombs were found in Greater Guangzhou area, it has been the only Han tomb found in Hong Kong and its surrounding areas up to 1981, and not until 2008, has the second Han tomb found in Hong Kong. It was mentioned in the historical archives that imperial Han Empire conquered the south in the first century AD. The typical artefacts of Han style were gradually widespread in the archaeological records over the vast territory of the empire. With the recent archaeological discoveries in the region including Hong Kong, especially the archaeological findings in association with the artefacts for local industry of bronze casting work, and the typical iron tools found in the Han features and Han tombs, we are able to trace the cultural contact between the locals and the new comers and review the prevailing dates of the chronology of Hong Kong archaeology. It is also possible to have in-depth understanding about the social and cultural changes resulted from the initial advance of the Han culture reflected from the updated archaeological records.

16:10 – 16:30. **Daisuke NAKAMURA** (Saitama University, Liberal Arts), **Hiroki KIKUCHI** (Lanzhou University), **Takashi GAKUBARI** (Kanazawa University). **Trade network and landmark: activities in the Late Bronze Age of Mongolia**

During the late Bronze Age on the Mongolian plateau, the enormous complex monuments known as Khirgisuur were constructed. In particular, these monuments became larger in scale in the basins of the Khanui, Orkhon and Taimir rivers in the mid-western regions, and the practice of horse sacrifice became more prevalent. Although only male horses were sacrificed, the group included younger horses as well. This practice was not one of ritual consumption or disposal of unwanted horses; rather, it was a ritual that involved a disadvantage against the daily activity of steppe. Furthermore, it is conceivable that these horses were sourced from the surrounding area, as evidenced by Sr isotope analysis, which suggests significant human mobility. At this time, there was a spread of same style bronze artefacts from the Minusinsk Basin to the Great Wall region via the northern steppes, with a two-way exchange occurring. It is hypothesized that the erection of monuments at key points along the routes traversed by both bronze materials and people served to mark and delineate these locations. The exact significance of horse sacrifice remains unclear. However, it is postulated that the builders of the Mongolian plateau may have sought to enhance their power through such rituals.

16:30 – 16:50. **Yidan ZHANG** (University of Oxford). **Human Movement Routes Modelling along the Eastern Rim of the Tibetan Plateau in the Third Millennium BC**

Across the east rim of the Tibetan Plateau, archaeological material dating from the third millennium BC shows evidence of both frequent cultural contact and distinct regional characteristics. Around 3,000 BC, painted pottery spread from Gansu to the Western Sichuan Plateau. By the second millennium BC, bronze culture spread along the eastern rim of the Tibetan Plateau. The research seeks to answer how regions so different in both natural environment and cultural characteristics came to be connected. This study models human movement routes and human-environment interactions that occurred in this area in the third millennium BC through GIS analysis and network analysis. From a natural environment perspective, this study models the affordances of elevation, slope, aspect (or solar radiation), land curvature, river and vegetation as a basis for reconstructing the past landscape. An affordance index of the eastern rim of the Tibetan Plateau is calculated by combining the above six geographical factors, and then this study formulates a predictive and simulative model for human movement routes using spatial analysis methods. The simulated routes will then be tested against known archaeological material such as the evidence of ceramics, metals, mortuary practices, animals and plants, allowing us to better understand and interpret the complex dynamics of culture contact and exchange network in the eastern rim of the Tibetan Plateau.

16:50 – 17:10. **Corey NOXON** (Ritsumeikan University). **Residential Mobility and Intended Use Life: Utilizing 3D Scans of Reconstructions to Compare Material and Energy Costs of Jomon Pithouse Configurations**

The pithouse is the most observable dwelling structure in the archaeological record during the Jomon period in Japan, and shifts in the number of these dwellings are often used as indicators of population changes. However, unsurprisingly, not all pithouses are the same. In addition to the size of the structure itself, how deep the central pits were dug, number and size of inner main pillars, the presence or absence of outer vertical wall supports, and whether the floors were lined all contribute to differing amounts of materials, energy, and time to construct these pithouses. Prior to construction, the people building these structures had to decide how much time and effort they were willing to put into them. A stronger, more robust dwelling may last longer, but require more resources to build. A lightly built structure made of expedient materials could be built more easily but would require more maintenance if used long-term. As such, the type and configuration of a pithouse can provide insights into their intended use lives as well as possible shifts in residential mobility. The first step of utilizing this information is a quantitative understanding of the relationship between pithouse configurations and the resources required to make them. While archaeological evidence regarding the construction of pithouses beyond the size, shape, and configuration of pits and postholes is scarce, pithouse reconstructions can serve as analogs to an extent. These reconstructions demonstrate building plans that are structurally sound and provide a range of possible building interpretations to compare. In this project, over a dozen pithouse reconstructions were scanned

using photogrammetry, and the material and energy costs necessary to build these structures were calculated. These scans provide insights into different construction methods and costs associated with different pithouse types, providing a generalized quantitative comparison of costs between them.

17:10 – 17:30. **Tomomi TAMURA** (Nara National Research Institute for Cultural Properties). **Natron glass beads unearthed in Japan: The connection between the Mediterranean and East Asia**

Natron glass beads, which originated in the Mediterranean world, were distributed to Japan in the 2nd century AD. There are three types of natron glass beads from this period: round beads, double-layered segmented beads, and tubular beads. All but one round beads have been excavated in eastern Japan, mainly in the Kanto region. All of them are characterized by containing 1 to 2% antimony. It has been pointed out that antimony-decolored natron glass originated in the Egyptian coastal region, and it is possible that round beads found in Japan also originated in Egypt. Double-layered segmented beads containing a large amount of manganese and a small amount of antimony were found from Hirabaru No.1 Tomb in Fukuoka Prefecture of northern Kyushu. Manganese-decolored natron glass is believed to have been made in the Syro-Palestinian region. Similar examples of these double-layered beads have been found in Mongolia and Kazakhstan, indicating that they reached East Asia via an inland route, probably the Eurasian Steppe route. On the other hand, natron glass containing only large amounts of antimony such as round beads mentioned above has not been found in Mongolia or Kazakhstan. Natron glass round beads may have been distributed via the Maritime route. Tubular glass beads are coloured blue with copper and made opaque with calcium antimonate. Dozens of these have been excavated from the Nishitani Tombs in Shimane Prefecture in the San'in Region. They were excavated along with lead-barium glass beads and lead glass beads originated in China, and it has been suggested that natron glass may have been processed into tubular beads in China. The natron glass beads unearthed in Japan show that there were multiple trade routes connecting East Asia with the Mediterranean in the 2nd century AD.

17:30 – 17:50. **Takafumi YAMAMOTO** (Nihon university). **Migration and Tomb Construction as a Background of Cultural Change in Ancient East Asia**

The distribution of specific archaeological materials or changes in their distribution are explained as the result of propagation, diffusion, or decline, and various concepts such as movement, migration, fusion, exchange, trade, conversion, conquest, expulsion, dispatch, flight, and destruction are presented depending on the situation. These tend to be used arbitrarily depending on the historical background, geographical environment, distance of each material. It is often believed that foreign cultures were introduced through migration and negotiation, and played a role in changing the culture, lifestyle, and society of the Japanese archipelago during Kofun period. With regard to burial practices in particular, it is said that the immigrants maintained the practices they had adopted in their original lands after they moved, and these are explained as being due to the immigrants or immigrant culture. However, the actual situation has not necessarily been verified in all cases. For such an argument to be valid, it is implicitly assumed that certain remains and artefacts "belonged" to a certain group, society, or country. Unless this premise is verified, a correct interpretation cannot be reached. For instance, in Japan's Kofun period, the Stone Mound Tumulus is considered to be the tomb of immigrants from Koguryo during the Three Kingdoms period on the Korean Peninsula, and keyhole-shaped tombs in Korea are sometimes interpreted to be the tombs of Wa people. However, the example of King Muryeong's tomb in Baekje shows that this simple view is not always correct. In this presentation, I will summarize examples of interpretations of the relationship between tombs and migration found in various parts of ancient East Asia and examine the background to the spread of the tomb system from the perspective of human movement.

17:50 – 18:10. **Tomoko NAGATOMO** (Ritsumeikan University). **Migration and Tomb Construction as a Background of Cultural Change in Ancient East Asia**

18:10 – 18:30. **Brian LANDER** (Brown University). **The Archaeology of a Frontier: The Yangzi Delta in the Qin-Han Period**

The Yangtze River delta has been among the wealthiest places on earth for the past millennium, but we know very little about its society during the Qin-Han period, when it was a colonial frontier. When Qin conquered the region in the 220s BCE, it was a culturally alien region to its northern occupiers, but by the time the Han empire collapsed in 220 CE the colonists had erased many aspects of its culture, most notably its language, while retaining those aspects of indigenous agriculture and cuisine that were well suited to the subtropical wetland environment. We can deduce this by comparing evidence from before and after this period, but textual evidence from the Qin-Han period itself is thin and archaeological evidence comes mostly from tombs. This paper will review archaeological material from this period to evaluate available evidence of social change that might elucidate the Han colonization of this region.

SESSION 33.

Queen Mother of the West: Papers in Honour of Professor Gina Lee Barnes and her contribution to Japanese archaeology

Organizers:

Simon KANER (Sainsbury Institute for the Study of Japanese Arts and Cultures)

Mark HUDSON (Max Planck Institute of Geoanthropology)

Ilona BAUSCH (Heidelberg University)

As well as establishing the Society for East Asian Archaeology, Gina Lee Barnes nurtured a generation of students who went on to careers in Japanese archaeology. Papers in this session by her students and their successors will honour Gina's legacy, addressing a number of themes that were central to her work in Japanese archaeology, which ranged widely from paddy field archaeology to state formation, the study of gender in the past to geoarchaeology, the history of the field, and multiple analyses of material culture. Always fascinated by applying innovative new techniques to the Japanese dataset, Gina's prodigious outputs shaped international perceptions of Japanese archaeology for decades. As demonstrated in her seminal work China, Korea and Japan: the Rise of Civilization in East Asia, issued in revised form as Archaeology of East Asia: the Rise of Civilization in China, Korea and Japan (2015), still the only work that provides a comprehensive overview of the archaeology of the whole region from earliest times to the advent of the historical era, Gina was dedicated to understanding Japanese archaeology in its broader East Asian context, and to drawing on ideas of global significance to make apparent the potential for Japanese record to contribute fully to world archaeology.

14:00 – 14:20. **Junzo UCHIYAMA** (Department of Archaeology and Ancient History, Lund University), **Peter JORDAN** (Department of Archaeology and Ancient History, Lund University). **Advancing 'TephroArchaeology' in the Pacific Ring of Fire: Current Progress and Future Research Prospects**

Six years ago, Gina Barnes' introduction to the seminal book 'TephroArchaeology in the North Pacific' (Barnes and Soda, Eds. 2019) opened up a treasure box of innovative Japanese work on volcanic disaster studies to an international audience. The term 'TephroArchaeology' is a translation of 'kazanbai kōkogaku' (literally, 'volcanic ash archaeology'). It forms three sub-disciplines within the uniquely Japanese concept of 'Tectonic Archaeology', the others being 'Earthquake Archaeology' and 'Tsunami Archaeology'. Barnes highlights that pioneering Japanese research was entirely understandable, given that 10% of the world's active volcanoes (n=110) are packed into the

extended Japanese archipelago, with repeated eruptions impacting on diverse cultures since modern humans first arrived. Some of the most powerful volcanic events formed catastrophic 'super-eruptions', including the Aira (AT) event at 30 ka, one of the largest ever Quaternary eruptions in Japan, and the 7.3 ka Kikai-Akahoya (K-Ah) disaster, one the Holocene's largest ever eruptions globally. In both cases, landscapes, ecosystems, and the diverse human communities that relied on them, were severely impacted, often taking centuries or even millennia to rebound. Barnes argued that better collaboration was needed between archaeologists and volcanologists to better understand these catastrophic impacts as equally human social and cultural disasters, and that even more needed to be done to bring long-term volcanic disaster research into the realm of public policy planning. The core of our paper explores recent advances and emerging research directions in the unique field of Japanese TephroArchaeology. We focus on CALDERA, the new Nordic-Japan programme in disaster studies, which is currently researching the impacts and complex cultural, demographic and ecological legacies of the K-Ah super-eruption on SW Japan, deploying a suite of new scientific, computational and interpretive approaches, and engaging with international academic audiences through to local stakeholders and communities.

14:20 – 14:40. **Ilona BAUSCH** (Heidelberg University). **Of Jades and Jōmon: an alternative perspective on 'adornment'**

During the Jōmon period in the Japanese archipelago, jadeite, a rare and beautiful mineral, carried great cosmological and social value. From ca. 6000 years ago, the overwhelming majority of Jōmon jade objects have a drilled hole, as well as a shape that is suitable for use as a pendant or bead. For this reason, coupled with the fact that they are often (but not exclusively) recovered from pits, archaeologists have classified jade items as adornment. Jadeite items from the Early and Middle Jōmon phases are usually interpreted as apotropaic 'large pendants' (taishu) that signal authority, often with the assumption that they were worn by a (male) community leader. Smaller round beads and curved beads from Late and Final Jōmon are frequently found in large quantities inside a small minority of burials, especially in Northern Japan, and depictions on clay figurines show that beads were worn in composite necklaces. However, does the presence of a drilled hole automatically mean exclusively ornamental use as a "pendant" or "necklace"? During the Jōmon period when material resources were extremely sparse, it is likely that objects would have carried multiple functions and meanings, corresponding to use during a variety of social or ceremonial situations. By considering jadeite object shapes and properties, by taking intra-site contexts into account, and using ethnographic and archaeological analogies, this presentation posits that Jōmon jade objects could potentially have been used in multiple ways, rather than merely hanging statically around someone's neck as adornment. Additional functions could include use in healing ceremonies, or various ritual practices on behalf of the wider community.

14:40 – 15:00. **Britta STEIN** (Martin-Luther-University Halle-Wittenberg). **Elite Legitimation and Representation in Kofun Period Japan: A Gendered Perspective on the Role of the Horse and Iron Objects**

The middle Kofun period (5th century CE) witnessed significant transformations in Japanese society, marked by the rising importance of the horse and a sharp increase in military equipment among the burials goods.The introduction of the horse and new armour types brought new technologies to the Japanese archipelago, likely facilitated by specialized craftspeople from the Korean peninsula. Horses became potent symbols of elite status, reflected in horse burials, depictions of horses in decorated tombs, and haniwa. Similarly, iron objects, particularly weapons and armour, gained prominence despite an absence of evidence for large-scale conflicts. The lack of domestic iron smelting during this period meant reliance on imports, making iron a highly valuable and desirable resource. Although Kofun period armour and weapons have traditionally been interpreted from a military perspective and discussed as indicators for male gender, the lack of evidence for actual warfare necessitates alternative explanations. This paper argues that the horse and iron objects played crucial roles in elite legitimation and representation, as well as in ritual. The distribution of prestige objects likely served to foster alliances and reinforce social hierarchies. Furthermore, this paper explores how the Kofun elites took advantage of their access to iron, horses and specialized craftsmen to strengthen and legitimize their political and social position by shaping access to

resources within elite networks. By examining burial goods, tomb murals, and horse-related artefacts, this paper will offer a nuanced understanding of how the Kofun elite utilized horses and prestige objects to legitimize their authority and construct social identities. It will further investigate how these processes may have intersected with gender roles in Kofun society. Analysing the symbolic and apotropaic role of Kofun period prestige goods and their characteristic as unisex burial goods will contribute to a more comprehensive picture of this transformative period in Japanese protohistory.

15:30 – 15:50. **Doreen THIERFELDER** (Martin-Luther-University Halle-Wittenberg). **Reflecting Beliefs: The Significance of Deity and Beast Mirrors in Kofun Period Japan**

Bronze mirrors were regarded as valuable prestige goods and ritual objects on the Japanese archipelago during the Kofun period (mid-3rd–6th century). They possessed not only a high material value, but also a significant religious importance. Mirrors with a deity and beast motif (shinjū-kyō), which have been produced in China since the Later Han period, provide valuable insights into the belief system of the people during the Kofun period. In recent years, research on deity and beast mirrors has predominantly focused on those with a triangular rim, despite their relatively short period of usage in the Early Kofun period. However, it remains unclear to what extent the depicted figures from the Chinese Xian mythology on these mirrors were understood by the people on the Japanese archipelago. This paper aims to shed light on the significance of deity and beast mirrors with a particular focus on the domestic changes in the motifs and the gender of the owners of this type of mirrors. The archaeological evidence suggests that men were slightly more likely to receive such mirrors than women, which offers a new perspective on the role of ritual specialists during the Kofun period in Japan. Furthermore, the distribution of mirrors with deity and beast motifs indicates, that the people in the central Kinki region imported and (re-)produced these mirrors. They might even have been able to comprehend the original meaning of the figural motifs. However, it is possible that this meaning was lost as the mirrors were gifted and traded to elites in peripheral regions. The re-evaluation of those figurative motifs on domestic mirrors enables a more profound and nuanced understanding of the ways in which continental beliefs were perceived and adapted within the context of Kofun period Japan.

15:50 – 16:10. **Claudia ZANCAN** (Ca' Foscari University of Venice; Department of Asian and North African Studies). **Abstract Visions of Death: Human Figures in Kyūshū Decorated Tombs and Their Social Implications in Late Kofun Society**

Human figures often constitute a central element in funerary art, providing insights into the deceased's identity, social roles, and cultural practices. However, the decorated tombs of Kyūshū island during the Late/Final Kofun period (6th–7th century CE) diverge from this trend. While human figures are present, they are seldom central to the spatial arrangement and are depicted in a highly stylised manner, with minimal detail or distinguishing characteristics. Unlike other contexts where human figures dominate the visual narrative, the decorated tombs in Kyūshū adopt a symbolic visual strategy that prioritises abstract motifs over figurative representations. Moreover, the visual impact of human figures within the funerary space is less pronounced compared to other iconographies. This study examines the reasons behind this distinctive approach and argues that, in this context, the representation of individual identity, gender, and personal characteristics was not a primary concern. The focus on symbolic motifs and the minimal presence of human figures offers a unique perspective on Late Kofun society's understanding of death and the afterlife. By prioritising abstract concepts and collective identity over individual expression, these tombs redefine the funerary experience, reflecting a profound cultural dialogue on the perception of death and the nature of the funerary space.

16:10 – 16:30. **Irene Minerva MUÑOZ FERNÁNDEZ** (Complutense University of Madrid). **Goddesses of Fertility and Renewal: Literary, Archaeological, and Ethno-anthropological Perspectives**

This study investigates the potential conceptual connections between Inari and Yama no Kami, two significant figures in Japanese mythology. Inari, known for her role in rice agriculture, descends from the mountains each spring, riding a white horse, to nurture the fields before returning after the

harvest. Yama no Kami, by contrast, is a mountain deity primarily associated with fertility and childbirth. Despite their differing domains, both deities share symbolic elements, such as the protective role of white canines—foxes for Inari and dogs for Yama no Kami—and their links to fertility and sexuality. Inari features prominently in childbirth rituals, with rice amulets symbolising protection during labour. Similarly, Yama no Kami is invoked in cases of difficult childbirth, sometimes through elaborate rituals involving the sacrifice of a white horse. Both deities also exhibit associations with human sexuality: Inari as a patron of courtesans and Yama no Kami in myths emphasising her lascivious nature. Drawing on literary, archaeological, and ethno-anthropological sources, this paper examines these shared themes from ancient times to the present, exploring whether the two deities might represent distinct aspects of a shared cultural and symbolic framework introduced to Japan from continental regions.

16:30 – 16:50. **Mark HUDSON** (Max Planck Institute of Geoanthropology), **Katarina ŠUKELJ** (Max Planck Institute of Geoanthropology). **Himiko's immortal peaches? Sources and representations of power in Late Yayoi/Early Kofun Japan**

The nature of the power held by the third-century queen Himiko has long been a key issue in debates over early state formation in Japan. Gina Barnes has proposed that Himiko's status was bolstered through her ideological authority as an avatar of the Taoist Queen Mother of the West. Augmenting Barnes' previous research, we use archaeobotanical evidence to suggest that the peach—a Taoist symbol of immortality—likely forms another, previously unnoticed element of Queen Mother ideology in third-century Japan. Prunus arboriculture continued in aristocratic and religious contexts in Late Antiquity while other aspects of the Queen Mother ideology appear to have abruptly ended in the mid-fourth century. Despite this rupture, we use school textbooks to explore how ideas about the continuity of power in early Japan have remained strong.

16:50 – 17:10. **Martine ROBBEETS** (Max Planck Institute of Geoanthropology). **Himiko, Heiress of the West: A View from Linguistics**

In this paper, I will present linguistic evidence for Gina Barnes' hypothesis (2014) that the image of Himiko was associated with the Taoist ideology of 'Queen Mother of the West' in third-century Japan. To this end, I will analyse the etymology of the name 卑弥呼 rendered Himiko in modern Japanese to propose that it originally meant 'the female heir of the west'. My analysis will interprete the three characters in the light of Late Han Chinese (AD 25-220) a historical variety of Chinese recently reconstructed by Schuessler (2007). Contrary to earlier interpretations of the name as 'princess-child', 'sun-priestess' or 'sun-woman', I will suggest that the most likely pronunciation of the word for Wa's priest-queen would have sounded like *pie-mie-hɔ and meant 'the female heir of the west'. This interpretation will be contexualised by additional linguistic evidence for matriliny in Japan between the Late Yayoi and the Early Kofun periods. The evidence gains credibility in the light of the Queen Mother ideology in third-century Japan and is strikingly supportive of Gina Barnes' conceptualization of Himiko as 'Queen Mother of the West'.

17:10 – 17:30. **Simon KANER** (Sainsbury Institute for the Study of Japanese Arts and Cultures), **Ken'ichi OKADA** (Nara Prefectural Kashihara Archaeological Research Institute). **Kashihara and the archaeology of resistance in Nara**

In preparation of land for a huge new memorial to the legendary Emperor Jimmu in the late 1930's, significant archaeological remains including over 100 fragments of Final Jōmon dogū ceramic figures were discovered at Kashihara in the Nara basin. This remains the greatest quantity of dogū from western Japan, although there are other sites with relatively large numbers, notably Kannabe in Kumamoto prefecture. One interpretation of these Final Jōmon dogū in western Japan is that they played a role in rituals of resistance against the spread of rice farming from northern Kyushu during the first millennium BCE. Over the past 20 years large areas of early rice paddies have been uncovered in the Nara basin, revealing new details about the spread of rice farming into this area. This paper will revisit what we now know of the context of the Kashihara site, and current understanding of the spread of rice farming into the Kinai region – and re-evaluate ideas about 'cultural resistance' to the advent of agriculture in western Japan.

17:30 – 17:50. **Martijn KNAPEN** (Max Planck Institute of Geoanthropology). **Yamato's northern frontier: a reassessment of the Emishi-Ainu connection**

Emishi, a term that appears in the Nihon Shoki, refers to a group of people who lived beyond the boundaries of the emerging Yamato state, in what is now the Japanese region of Tōhoku. Questions remain regarding the cultural background of those individuals to whom the Emishi label was applied. The label itself referred to an administrative unit rather than a people. Nevertheless, connections between the Emishi and the Ainu – the Indigenous people of Hokkaidō – have frequently been proposed. By focussing on the Ainu language, this paper reassesses these proposed connections from a linguistic perspective. Previous research has identified ample traces of Ainu in Tōhoku in the form of loanwords (specifically in the Matagi taboo register) and toponyms. However, the antiquity of these vocabulary items has remained unclear. This study attempts to periodise the available Tōhoku Ainu corpus by identifying the place of Ainu loanwords within the sequence of datable sound changes that affected Tōhoku Japanese. The resulting chronology suggest that Ainu-speakers were present (at least as a portion of the population) in Tōhoku before the subjugation of the Emishi during the Nara period (710 – 794 CE), but also remained there after that point. This is consistent with the previously identified temporal link between the Ainu language and the Satsumon culture (600 – 1200 CE), and agrees with earlier research on the linguistic background of the Emishi.