

# Stanford

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## Li Liu

Sir Robert Ho Tung Professor  
East Asian Languages and Cultures

### Bio

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#### BIO

Li Liu joined Stanford faculty in 2010. Previously she taught archaeology at La Trobe University in Melbourne, Australia, for 14 years and was elected as Fellow of Academy of Humanities in Australia. She has a BA in History (Archaeology Major) from Northwest University in China, an MA in Anthropology from Temple University in Philadelphia, and a PhD in Anthropology from Harvard University. Her research interests include archaeology of early China (Neolithic and Bronze Age), ritual practice in ancient China, cultural interaction between China and other parts of the Old World, domestication of plants and animals in China, development of complex societies and state formation, settlement archaeology, and urbanism.

#### ACADEMIC APPOINTMENTS

- Professor, East Asian Languages and Cultures

#### HONORS AND AWARDS

- The Best Translated Book of Year in Archaeology, China, Best Translated Book Award (2007)
- Fellow of the Australian Academy of the Humanities (FAHA), Australian Academy of the Humanities (2008)

#### PROGRAM AFFILIATIONS

- Center for East Asian Studies

#### PROFESSIONAL EDUCATION

- Ph.D., Harvard University , Anthropology (1994)
- M.A., Temple University , Anthropology (1987)
- B.A., Northwestern University, Xi'an , Archaeology (1982)

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research interests:

Archaeology of early China (Neolithic and Bronze Age); ritual practice in ancient China; cultural interaction between China and other parts of the Old World; early domestication of plants and animals in China; theory of development of complex societies and state formation; settlement archaeology; urbanism; zooarchaeology; starch analysis; use-wear analysis; mortuary analysis; craft specialization

## Teaching

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### COURSES

#### 2022-23

- Archaeology of Food: production, consumption and ritual: ARCHLGY 124, ARCHLGY 224 (Win)
- Constructing National History in East Asian Archaeology: ARCHLGY 135, ARCHLGY 235, CHINA 175, CHINA 275 (Win)
- EXPERIMENTAL ARCHAEOLOGY: ARCHLGY 133, ARCHLGY 233 (Spr)
- Emergence of Chinese Civilization from Caves to Palaces: ARCHLGY 111, ARCHLGY 211, CHINA 176, CHINA 276 (Spr)

#### 2021-22

- Archaeology of Food: production, consumption and ritual: ARCHLGY 124, ARCHLGY 224 (Win)
- Constructing National History in East Asian Archaeology: ARCHLGY 135, ARCHLGY 235, CHINA 175, CHINA 275 (Win)
- EXPERIMENTAL ARCHAEOLOGY: ARCHLGY 133, ARCHLGY 233 (Spr)
- Emergence of Chinese Civilization from Caves to Palaces: ARCHLGY 111, ARCHLGY 211, CHINA 176, CHINA 276 (Spr)

#### 2020-21

- Archaeology of Food: production, consumption and ritual: ARCHLGY 124, ARCHLGY 224 (Win)
- Constructing National History in East Asian Archaeology: ARCHLGY 135, ARCHLGY 235, CHINA 175, CHINA 275 (Win)
- EXPERIMENTAL ARCHAEOLOGY: ARCHLGY 233 (Spr)
- Emergence of Chinese Civilization from Caves to Palaces: ARCHLGY 111, ARCHLGY 211, CHINA 176, CHINA 276 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Weronika Tomczyk

#### Doctoral Dissertation Advisor (AC)

Yahui He

#### Postdoctoral Research Mentor

Matthew Chastain, Kacey Grauer, Bendi Tso

## Publications

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### PUBLICATIONS

#### • Local adaptation and subsistence strategy of Yangshao migrants in Northwestern Sichuan in China during the Middle Neolithic (5300-4700 cal. BP) *HOLOCENE*

Tang, Y., Wang, J., Liu, L., Chen, W.  
2023

#### • Beyond subsistence: Evidence for red rice beer in 8000-year old Neolithic burials, north China *JOURNAL OF ARCHAEOLOGICAL SCIENCE-REPORTS*

Liu, L., Li, Y., Zhao, Y., Chen, X., Gu, W.  
2023; 51

#### • Identifying indigenous bast microfibers for archaeological research in East Asia *ARCHAEOLOGICAL RESEARCH IN ASIA*

Liu, L., He, Y., Grauer, K. C., Wang, Y.  
2023; 36

#### • Millet Beer Brewing in North China: Exploring Traditional Methods and their Significance in Archaeological Research *ETHNOARCHAEOLOGY*

Liu, L., Liu, Z.

2023

- **Misinterpretations of Shimao Research and Chinese Archaeology A Comment on Jaffe, Campbell, and Shelach-Lavi 2022** *CURRENT ANTHROPOLOGY*  
Liu, L., Chen, X.  
2023; 64 (4): 464-465
- **Serving red rice beer to the ancestors ca. 9000 years ago at Xiaohuangshan early Neolithic site in south China** *HOLOCENE*  
Liu, L., Wang, H., Sun, H., Chen, X.  
2023
- **Editorial: Ancient starch remains and prehistoric human subsistence** *FRONTIERS IN EARTH SCIENCE*  
Guan, Y., Liu, L., Yang, X.  
2023; 11
- **Archaeological evidence for initial migration of Neolithic Proto Sino-Tibetan speakers from Yellow River valley to Tibetan Plateau.** *Proceedings of the National Academy of Sciences of the United States of America*  
Liu, L., Chen, J., Wang, J., Zhao, Y., Chen, X.  
2022; 119 (51): e2212006119
- **The quest for red rice beer: transregional interactions and development of competitive feasting in Neolithic China** *ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES*  
Liu, L., Wang, J., Chen, R., Chen, X., Liang, Z.  
2022; 14 (4)
- **Brewing and Serving Alcoholic Beverages to Erlitou Elites of Prehistoric China: Residue Analysis of Ceramic Vessels** *FRONTIERS IN ECOLOGY AND EVOLUTION*  
He, Y., Zhao, H., Liu, L., Xu, H.  
2022; 10
- **Fermented maize beverages as ritual offerings: Investigating elite drinking during Classic Maya period at Copan, Honduras** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
Chen, R., He, Y., Li, X., Ramos, J., Li, M., Liu, L.  
2022; 65
- **Introduction: Alcohol, rituals, and politics in the ancient world** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
Wang, J., Liu, L.  
2022; 65
- **The earliest cotton fibers and Pan-regional contacts in the Near East.** *Frontiers in plant science*  
Liu, L., Levin, M. J., Klimscha, F., Rosenberg, D.  
2022; 13: 1045554
- **"Proposing a toast" from the first urban center in the north Loess Plateau, China: Alcoholic beverages at Shimao** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
He, Y., Liu, L., Sun, Z., Shao, J., Di, N.  
2021; 64
- **From Hangovers to Hierarchies: Beer production and use during the Chalcolithic period of the southern Levant-New evidence from Tel Tsaf and Peqi'in Cave** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
Rosenberg, D., Liu, L., Levin, M. J., Klimscha, F., Shalem, D.  
2021; 64
- **Red beer consumption and elite utensils: The emergence of competitive feasting in the Yangshao culture, North China** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
Feng, S., Liu, L., Wang, J., Levin, M. J., Li, X., Ma, X.  
2021; 64
- **Initial insights into ceramic production and exchange at the early Bronze Age citadel at Shimao, Shaanxi, China** *ARCHAEOLOGICAL RESEARCH IN ASIA*  
Womack, A., Liu, L., Di, N.  
2021; 28

- **Communal drinking rituals and social formations in the Yellow River valley of Neolithic China** *JOURNAL OF ANTHROPOLOGICAL ARCHAEOLOGY*  
Liu, L.  
2021; 63
- **Neolithic bone meal with acorn: Analyses on crusts in pottery bowls from 7000 BP Hemudu, China** *INTERNATIONAL JOURNAL OF OSTEOARCHAEOLOGY*  
Ge, W., Liu, L., Huang, W., Tao, S., Hou, X., Yin, X., Wu, Y.  
2021
- **A functional study of denticulate sickles and knives, ground stone tools from the early Neolithic Peiligang culture, China** *ARCHAEOLOGICAL RESEARCH IN ASIA*  
Fullagar, R., Hayes, E., Chen, X., Ma, X., Liu, L.  
2021; 26
- **Boost AI Power: Data Augmentation Strategies with Unlabeled Data and Conformal Prediction, a Case in Alternative Herbal Medicine Discrimination with Electronic Nose** *IEEE Sensors Journal*  
Liu, L., Zhan, X., Wu, R., Guan, X., Wang, Z., Pilanci, M., Luo, Z., Li, G., Wang, Y.  
2021: 1-11
- **The brewing function of the first amphorae in the Neolithic Yangshao culture, North China** *ARCHAEOLOGICAL AND ANTHROPOLOGICAL SCIENCES*  
Liu, L., Wang, J., Liu, H.  
2020; 12 (6)
- **Making beer with malted cereals and qu starter in the Neolithic Yangshao culture, China** *JOURNAL OF ARCHAEOLOGICAL SCIENCE-REPORTS*  
Liu, L., Li, Y., Hou, J.  
2020; 29
- **Response to comments on archaeological reconstruction of 13,000-y old Natufian beer making at Raqefet Cave, Israel** *JOURNAL OF ARCHAEOLOGICAL SCIENCE-REPORTS*  
Liu, L., Wang, J., Rosenberg, D., Zhao, H., Lengyel, G., Nadel, D.  
2019; 28
- **Exploitation of job's tears in Paleolithic and Neolithic China: Methodological problems and solutions** *QUATERNARY INTERNATIONAL*  
Liu, L., Duncan, N. A., Chen, X., Cui, J.  
2019; 529: 25–37
- **From foraging to farming across the Asia-Pacific: An introduction** *QUATERNARY INTERNATIONAL*  
Levin, M. J., Wang, J., Liu, L.  
2019; 529: 1–2
- **Rise and fall of complex societies in the Yiluo region, North China: The spatial and temporal changes** *QUATERNARY INTERNATIONAL*  
Liu, L., Chen, X., Wright, H., Xu, H., Li, Y., Chen, G., Zhao, H., Kim, H., Lee, G.  
2019; 521: 4–15
- **A method to identify Job's tears, *Coix lacryma-jobi* L., phytoliths in northern China** *JOURNAL OF ARCHAEOLOGICAL SCIENCE-REPORTS*  
Duncan, N. A., Starbuck, J., Liu, L.  
2019; 24: 16–23
- **The origins of specialized pottery and diverse alcohol fermentation techniques in Early Neolithic China.** *Proceedings of the National Academy of Sciences of the United States of America*  
Liu, L. n., Wang, J. n., Levin, M. J., Sinnott-Armstrong, N. n., Zhao, H. n., Zhao, Y. n., Shao, J. n., Di, N. n., Zhang, T. n.  
2019
- **Synchronous 500-year oscillations of monsoon climate and human activity in Northeast Asia.** *Nature communications*  
Xu, D. n., Lu, H. n., Chu, G. n., Liu, L. n., Shen, C. n., Li, F. n., Wang, C. n., Wu, N. n.  
2019; 10 (1): 4105
- **Fermented beverage and food storage in 13,000 y-old stone mortars at Raqefet Cave, Israel: Investigating Natufian ritual feasting** *JOURNAL OF ARCHAEOLOGICAL SCIENCE-REPORTS*  
Liu, L., Wang, J., Rosenberg, D., Zhao, H., Lengyel, G., Nadel, D.

2018; 21: 783–93

● **The first Neolithic urban center on China's north Loess Plateau: The rise and fall of Shimao** *ARCHAEOLOGICAL RESEARCH IN ASIA*

Sun, Z., Shao, J., Liu, L., Cui, J., Bonomo, M. F., Guo, Q., Wu, X., Wang, J.

2018; 14: 33–45

● **Harvesting and processing wild cereals in the Upper Palaeolithic Yellow River Valley, China** *ANTIQUITY*

Liu, L., Levin, M. J., Bonomo, M. F., Wang, J., Shi, J., Chen, X., Han, J., Song, Y.

2018; 92 (363): 603–19

● **Emerging approaches to the development of urbanization in early China** *ARCHAEOLOGICAL RESEARCH IN ASIA*

Owlett, T. E., Liu, L., Underhill, A. P.

2018; 14: 1–6

● **Wild plant use and multi-cropping at the early Neolithic Zhuzhai site in the middle Yellow River region, China** *HOLOCENE*

Bestel, S., Bao, Y., Zhong, H., Chen, X., Liu, L.

2018; 28 (2): 195–207

● **Plant exploitation of the first farmers in Northwest China: Microbotanical evidence from Dadiwan** *Quaternary International*

Wang, J., Zhao, X., Wang, H., Liu, L.

2018

● **Response to Comments on "Outburst flood at 1920 BCE supports historicity of China's Great Flood and the Xia dynasty".** *Science (New York, N.Y.)*

Wu, Q., Zhao, Z., Liu, L., Granger, D. E., Wang, H., Cohen, D. J., Wu, X., Ye, M., Bar-Yosef, O., Lu, B., Zhang, J., Zhang, P., Yuan, et al

2017; 355 (6332): 1382

● **Response to Comments on "Outburst flood at 1920 BCE supports historicity of China's Great Flood and the Xia dynasty"** *SCIENCE*

Wu, Q., Zhao, Z., Liu, L., Granger, D. E., Wang, H., Cohen, D. J., Wu, X., Ye, M., Bar-Yosef, O., Lu, B., Zhang, J., Zhang, P., Yuan, et al

2017; 355 (6332)

● **Identifying ancient beer brewing through starch analysis: A methodology** *Journal of Archaeological Science: Reports*

Wang, J., Liu, L., Georgescu, A., Ota, M., Tang, S., Vanderbilt, M.

2017; 15: 150–160

● **Usewear and residue analyses of experimental harvesting stone tools for archaeological research** *Journal of Archaeological Science: Reports*

Liu, L., Wang, J., Levin, M. J.

2017; 14: 439–453

● **Millet grain morphometry as a tool for social inference: A case study from the Yiluo basin, China** *HOLOCENE*

Walsh, R., Lee, G., Liu, L., Chen, X.

2016; 26 (11): 1778–1787

● **Changing patterns of plant-based food production during the Neolithic and early Bronze Age in central-south Inner Mongolia, China: An interdisciplinary approach** *QUATERNARY INTERNATIONAL*

Liu, L., Duncan, N. A., Chen, X., Zhao, H., Ji, P.

2016; 419: 36–53

● **Outburst flood at 1920 BCE supports historicity of China's Great Flood and the Xia dynasty** *SCIENCE*

Wu, Q., Zhao, Z., Liu, L., Granger, D. E., Wang, H., Cohen, D. J., Wu, X., Ye, M., Bar-Yosef, O., Lu, B., Zhang, J., Zhang, P., Yuan, et al

2016; 353 (6299): 579–582

● **Revealing a 5,000-y-old beer recipe in China** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Wang, J., Liu, L., Ball, T., Yu, L., Li, Y., Xing, F.

2016; 113 (23): 6444–6448

● **Plant-based subsistence strategies and development of complex societies in Neolithic Northeast China: Evidence from grinding stones** *Journal of Archaeological science: Reports*

Liu, L., Duncan, N. A., Chen, X., Ji, P.

2016; 7: 247–261

● **Understanding household subsistence activities in Neolithic Inner Mongolia, China: Functional analyses of stone tools.** *Journal of Anthropological Research*

- Liu, L., Chen, X., Ji, P.  
2016
- **Plant domestication, cultivation, and foraging by the first farmers in early Neolithic Northeast China: Evidence from microbotanical remains** *HOLOCENE*  
Liu, L., Duncan, N. A., Chen, X., Liu, G., Zhao, H.  
2015; 25 (12): 1965-1978
  - **A long process towards agriculture in the Middle Yellow River valley, China: Evidence from macro- and micro-botanical remains** *Journal of Indo-Pacific Archaeology*  
Liu, L.  
2015; 35: 3-14
  - **Identification of starch granules using a two-step identification method** *JOURNAL OF ARCHAEOLOGICAL SCIENCE*  
Liu, L., Ma, S., Cui, J.  
2014; 52: 421-427
  - **A broad-spectrum subsistence economy in Neolithic Inner Mongolia, China: Evidence from grinding stones** *HOLOCENE*  
Liu, L., Kealhofer, L., Chen, X., Ji, P.  
2014; 24 (6): 726-742
  - **When and how did Bos indicus introgress into Mongolian cattle?** *GENE*  
Yue, X., Li, R., Liu, L., Zhang, Y., Huang, J., Chang, Z., Dang, R., Lan, X., Chen, H., Lei, C.  
2014; 537 (2): 214-219
  - **The evolution of millet domestication, Middle Yellow River Region, North China: Evidence from charred seeds at the late Upper Paleolithic Shizitan Locality 9 site** *HOLOCENE*  
Bestel, S., Crawford, G. W., Liu, L., Shi, J., Song, Y., Chen, X.  
2014; 24 (3): 261-265
  - **Paleolithic human exploitation of plant foods during the last glacial maximum in North China.** *Proceedings of the National Academy of Sciences of the United States of America*  
Liu, L., Bestel, S., Shi, J., Song, Y., Chen, X.  
2013; 110 (14): 5380-5385
  - **Archaeology of China: From the Paleolithic to the Early Bronze Age**  
Liu, L., Chen, X.  
Cambridge: Cambridge University Press.2012
  - **Stone tool-use experiments to determine the function of grinding stones and denticulate sickles** *Bulletin of the Indo-Pacific Prehistory Association*  
Fullagar, R., Liu, L., Bestel, S., Jones, D., Ge, W., Wilson, A., Zhai, S.  
2012; 32: 29-44
  - **Were Neolithic rice paddies plowed? -- Usewear analysis of plow-shaped tools from Pishan in the Lower Yangzi River Region, China** *Vestnik*  
Liu, L., Chen, X., Pan, L., Min, Q., Jiang, L.  
2012; 11 (10): 14-28
  - **Plant exploitation of the last foragers at Shizitan in the Middle Yellow River Valley China: evidence from grinding stones** *JOURNAL OF ARCHAEOLOGICAL SCIENCE*  
Liu, L., Ge, W., Bestel, S., Jones, D., Shi, J., Song, Y., Chen, X.  
2011; 38 (12): 3524-3532
  - **Archaeological Soybean (*Glycine max*) in East Asia: Does Size Matter?** *PLOS ONE*  
Lee, G., Crawford, G. W., Liu, L., Sasaki, Y., Chen, X.  
2011; 6 (11)
  - **Pathways to Social Complexity in China** *Archeological Journal of the Catholic University in Lima Peru*  
Liu, L.  
2010; 11: 379-403
  - **Academic freedom, political correctness, and early civilisation in Chinese archaeology: the debate on Xia-Erlitou relations** *ANTIQUITY*  
Liu, L.

2009; 83 (321): 831-843

- **On the provenance of white pottery of the Erlitou site: the significance of Sr isotopic analysis** *2009 Science and Technology on Ancient Ceramics: The 7th International Conference Proceedings*

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2009: 65–70

- **China: State Formation and Urbanization** *The Oxford Handbook of Archaeology*

Liu, L.

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- **The Emergence of Agriculture and Animal Domestication in China** *The Neolithic Revolution in the World*

Liu, L.

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- **State Emergence in Early China** *ANNUAL REVIEW OF ANTHROPOLOGY*

Liu, L.

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- **Wild or domesticated: DNA analysis of ancient water buffalo remains from north China** *JOURNAL OF ARCHAEOLOGICAL SCIENCE*

Yang, D. Y., Liu, L., Chen, X., Speller, C. F.

2008; 35 (10): 2778-2785

- **Evidence for the early beginning (c. 9000 cal. BP) of rice domestication in China: a response** *HOLOCENE*

Liu, L., Lee, G., Jiang, L., Zhang, J.

2007; 17 (8): 1059-1068

- **Rethinking Erlitou: legend, history and Chinese archaeology** *ANTIQUITY*

Liu, L., Xu, H.

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- **Early figurations in China: Ideological, social, and ecological implications** *Image and Imagination: A Global Prehistory of Figurative Representation*

Liu, L.

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Cambridge: McDonald Institute Monographs.2007: 271–286

- **The Chinese Neolithic: Trajectories to Early States**

Liu, L.

Beijing: Cultural Relics Press.2007

- **State Formation in Early China**

Liu, L., Chen, X., Translated by Shim, J.

South Korea: Hakyon munhwasa Press.2006

- **Sociopolitical change from Neolithic to Bronze Age China** *Archaeology of Asia*

Liu, L.

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Blackwell Publishers, Malden, Oxford, and Carlton.2006: 149–176

- **Urbanization in China: Erlitou and its hinterland** *Urbanism in the Preindustrial World: Cross-Cultural Approaches*

Liu, L.

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Tuscaloosa: University of Alabama Press.2006: 161–189

- **The Chinese Neolithic: Trajectories to Early States**

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- 'The products of minds as well as of hands': Production of prestige goods in the Neolithic and early state periods of China *Asian Perspectives*  
Liu, L.  
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- State Formation in Early China  
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- The First Emperor's Mausoleum and the Terracotta Army *Two Emperors - China's Ancient Origins*  
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Melbourne: Praxis Exhibitions Australia.2002: 44–53
- Yangling and Searching for Immortality in the Han Dynasty *Two Emperors - China's Ancient Origins*  
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- China *Encyclopedia of archaeology: history and discoveries*  
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- Chang, Kwang-chih *Encyclopedia of archaeology: history and discoveries*  
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- Ancestor worship: An Archaeological investigation of ritual activities in Neolithic North China *Journal of East Asian Archaeology*  
Liu, L.  
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- Who were the ancestors? The origins of Chinese ancestral cult and racial myths *ANTIQUITY*  
Liu, L.  
1999; 73 (281): 602-613