FREIE UNIVERSITÄT BERLIN
Abteilung Internationales

DFG Deutsche Forschungsgemeinschaft

The British Museum

UKRI Arts and Humanities Research Council

International Workshop

Craft Interactions in the Ancient World

Freie Universität Berlin, 16-17 April 2026

Programme

Day One – 16 April

12:00-13:30 **Open registration** (coffee included)

13:30-14:30 **Introduction and opening keynote** (**Craft Interactions Project Team**)

14:30-15:00 **Rubina Raja, Aarhus University**
Urban cross-crafting in the Roman Near East: Urban innovations or pure necessities?

15:00-15:30 **Coffee** (included)

15:30-16:00 **Tina Beck, Freie Universität Berlin**
From theory to practice: Materials, forms and functions of wooden figures in ancient Egypt

16:00-16:30 **Johannes Auenmüller, Museo Egizio Turin**
Craftspeople in New Kingdom Nubia: A prosopographical perspective

16:30-17:00 **Georges Verly, University of Geneva**; **F. W. Rademakers**; **A. Bats**; **C. Somaglino**; **P. Tallet**
Water constraints and fuel choices in primary copper metallurgy in the Middle Kingdom: Insights from Ayn Soukhna and Bir Nasib

17:00-18:00 **Panel discussion**

19:00-21:00 **Workshop dinner** for invited guests

Day Two – 17 April

09:15-09:45	**Coffee** (included)
09:45-10:30	**Nisha Kumar, Harvard University;** with **Matthew Adams** Kilning it at Abydos: Faience production during the Old Kingdom
10:30-11:00	**Andrew Shortland, Cranfield University** Blue: Cross-craft interactions in the discovery, development and production of cobalt pigments
11:00-11:30	**Coffee** (included)
11:30-12:00	**Victoria Kemp, Ashmolean Museum** Shadecraft: Black glass in Amarna's radiant age
12:00-12:30	**Thilo Rehren, The Cyprus Institute**; **Henning Franzmeier** Shared knowledge and individual craft specialization in Pi-Ramesses' high-temperature industries
12:30-14:00	**Lunch** (invited guests only)
14:00-15:00	**Panel discussion**
15:00-15:30	**Closing remarks**

Organisers

DFG/AHRC project: *Craft Interactions in a New Kingdom Industrial Landscape (Egypt, 1550–1069 BCE)*

Dr. Anna K. Hodgkinson and Dr. Stephanie L. Boonstra (Freie Universität Berlin)

Dr. Frederik W. Rademakers and Dr. Juliet V. Spedding (British Museum, London)

Funding Bodies

- Deutsche Forschungsgemeinschaft (DFG)
- Freie Universität Berlin (Abteilung Internationales)
- Arts and Humanities Research Foundation (AHRC)

Abstracts

Craft Interactions in a New Kingdom Industrial Landscape (Egypt, 1550–1069 BCE)

Anna K. Hodgkinson and Stephanie L. Boonstra (Freie Universität Berlin)
Frederik W. Rademakers and Juliet V. Spedding (British Museum, London)

Introduction and case studies

This 1.5-day workshop brings together researchers from a variety of disciplines to discuss and exchange ideas on the concept of cross-craft interaction (or -fertilisation) at an urban level.

Although the research project within which this workshop takes place is focused on the Late Bronze Age Egyptian site of Amarna, the thematic, geographic, and chronological scope of the workshop has deliberately been defined broadly. This has been done both to facilitate a more multifaceted exchange among participants and to refine and align the research approach within the project itself.

The topics to be addressed include high-temperature industries (vitreous materials, pigments, metals), approaches from the fields of archaeometry and urban archaeology, linguistics, as well as theoretical perspectives on craft production in the Ancient World. We are particularly interested in how craftspeople organised themselves across different crafts within an urban setting, how they communicated with one another, and how decisions were made, especially regarding the use and exchange of raw materials and finished products.

By creating a dialogue across disciplines and case studies, this workshop seeks to advance our understanding of the mechanisms of cross-craft interaction and their significance for the study of ancient urban societies.

This keynote lecture will present an overview of the ongoing research project as well as some selected case studies. These include the planned excavation of the Hayter-Sherraif Workshop at Amarna, the analysis work on faience moulds in the collection of the Egyptian Museum Berlin, a review of New Kingdom copper alloy production and its importance for other industries, and the latest results on complex metal objects from the British Museum collection.

Urban cross-crafting in the Roman Near East: Urban innovations or pure necessities?

Rubina Raja, Aarhus University, Denmark

Cross-crafting has become a central topic in research on ancient societies within the last decade – and rightly so. Ancient urban sites often provide material evidence, which can help us think around the processes and organizational frameworks in place to facilitate or make possible cross-crafting. And while it is clear – and not only due to research on cross-crafting entering the scholarly debates – that cross-crafting was central to ancient societies – also those under Roman domination, it is often less clear to which degree such processes were organized and took place within frameworks, which were private or public or something in between – also crossing over societal domains. This presentation will focus on case studies drawn from cities of the Roman Near East. Central will be examples from Gerasa, Antioch-on-the-Chrysorrhoas and Palmyra, in the Syrian Desert. These cities, where monumental ruins have survived until today, have most often been researched for their artistic legacies, their monumental architectural landscapes and their thousands of inscriptions. Seldom have crafts and cross-crafting been investigated. But new research undertaken over the last decade has given food for thought on cross-crafting in urban settings and the organization of it and some of these examples and their complexities will be discussed here.

From theory to practice: Materials, forms and functions of wooden figures in ancient Egypt

Tina Beck, Freie Universität Berlin, Germany

The lecture focuses on wooden figures from burial contexts dating to the late Old Kingdom until the Middle Kingdom and is divided into two parts: first theory, then practice. Based on material culture studies, the paper first focuses on wood as a material and formulates theory-based theses on materiality with regard to the manufacturing processes and subsequent funerary use in ancient Egypt. In the second part of the lecture, these theses will be discussed using specific case studies of wooden figures in combination with interdisciplinary research methods for figure and wood analysis. It will be argued that choice of material impacted and impacts construction techniques and ritual functions in the past as well as scientific studies and conservational treatments today.

Craftspeople in New Kingdom Nubia: A prosopographical perspective

Johannes Auenmüller, Museo Egizio Turin, Italy

Prosopography – the systematic 'study of persons' – is a scholarly method that compiles and analyses biographical data from groups of individuals to understand their professions, social status, networks, and local connections. This paper applies prosopographical analysis to craftspeople of various specializations (woodworking, stonemasonry, metalworking, etc.) attested in Nubia during the New Kingdom. The study aims to illuminate the presence and diversity of craft specialists at various sites established as centers of Egyptian colonial administration and resource exploitation. By examining both people and places, this research investigates the spatial and social dynamics of craftspeople within Egyptian-controlled Nubia. The prosopographical evidence will also be compared with material culture remains to explore apparent discrepancies between textual attestations and archaeological evidence, revealing potential gaps in our understanding of craft production and organization in New Kingdom Nubia.

Water constraints and fuel choices in primary copper metallurgy in the Middle Kingdom: Insights from Ayn Soukhna and Bir Nasib

Georges Verly, University of Geneva, Switzerland
Frederik W. Rademakers, British Museum, United Kingdom
Adeline Bats, Centre National de la Recherche Scientifique, France
Claire Somaglino and Pierre Tallet, Sorbonne University, France

The availability of ore is obviously the key factor in primary metallurgical production. However, two other fundamental and closely interlinked parameters are just as important – and sometimes even more so – in determining the implementation of smelting activities: access to fuel and water. Ethnographic data and the spatial distribution of archaeological sites show that the location of smelting areas is often determined by these two resources, even if it means transporting copper ore over several hundred kilometres.

Two case studies dating from the Middle Kingdom, Ayn Soukhna and Bir Nasib (western sector), form the basis of our experimental and archaeological approach. They enable us to assess the impact of fuel choice on the smelting process: either complete smelting without the formation of liquid slag, or the achievement of an intermediate state characterised by the production of cuprite. This work is based on an iterative methodology combining archaeological data, controlled experiments and physico-chemical analyses. This approach has improved our understanding of geochemical changes during smelting and led to a reinterpretation and new translation of a metallurgical term appearing in the Annals of Amenemhat II.

The study of the role of water at these sites reveals its multiple and structuring uses. Water is primarily used to protect metalworkers, both in primary and secondary metallurgy, but also plays a central role in a key stage of the process: the primary hot sorting of the contents of the smelting furnace column, carried out at temperatures of around 800°C (Ayn Soukhna), or the complete shutdown of the decarbonisation process (Bir Nasib).

Sorting in Ayn Soukhna is accompanied by voluntary management of partially carbonised fuel. This is not recycled in the strict sense of the word, but carefully saved according to its particle size so that it can be reused, either in domestic activities (particularly baking) or in secondary metallurgical operations, especially melting, which consumes large amounts of charcoal. It is therefore likely that a significant proportion

of the fuel used in these melting operations comes directly from the smelting furnaces. Water is also essential for removing the fine oxidation particles surrounding the copper prills produced by smelting, which is a necessary condition for their subsequent use in secondary metallurgy. Fuel storage could also be considered for Bir Nasib.

All of these observations highlight the existence of an integrated technical cycle in Ayn Soukhna based on the combined use of various fuels—green wood and donkey dung—in primary metallurgy, their preservation made possible by controlled access to water, and their reuse in carbonised form in secondary activities. This system demonstrates the extensive optimisation of resources, whether local, mobile or imported, and the careful management of the environmental and technical constraints specific to the desert contexts of the Middle Kingdom.

Kilning it at Abydos: Faience production during the Old Kingdom

Nisha Kumar, Harvard University, USA
With an introduction to the historical excavations of the workshop by excavation director Matthew Adams (Freie Universität Berlin).

Ancient Egyptian faience kilns occupy a distinctive position at the intersection of craft practice, chemical knowledge, and socioeconomic organization. Yet despite faience being one of the most recognizable materials of Egyptian craftsmanship, the archaeological record preserves surprisingly few of the kilns used in its production. Scholarly work on Egyptian kilns remains sparse and dispersed, and research on firing installations more broadly is still limited, leaving considerable room for further study.

This paper focusses on new evidence from Abydos, where recent excavations during the Fall 2025 season have expanded our understanding of one of the earliest securely documented faience production zones. The excavations reveal a nuanced workshop landscape at Abydos, where small firing features were used repeatedly and where faience production was closely integrated with the neighbouring settlement. Although hardly any intact kilns can be identified as having been designed as single-purpose structures, a combination of archaeological remains, workshop debris, and experimental reconstructions now allows us to hypothesize how Egyptians fired faience and how firing installations were embedded within broader craft ecologies. By situating the Abydos material within comparative evidence from better-known contexts at Amarna and Memphis, this work argues that faience firing installations were not uniform structures, but flexible technologies adapted to local needs, available resources, and administrative oversight. In turn, faience kilns become critical windows into the organization of labour, the negotiation of technological knowledge, and the political economies that animated craft production in ancient Egypt.

Blue: Cross-craft interactions in the discovery, development and production of cobalt pigments

Andrew J. Shortland, Cranfield University, United Kingdom

Cobalt pigments were first used in Egypt in or around the reign of Thutmosis III (1479-1425 BCE). As far as can be said, they were a unique Egyptian technology, produced and used only in the Egyptian New Kingdom. The colouring power of cobalt was used in three differing technologies: glass, faience glaze, and ceramics. This paper argues that the discovery and use of cobalt pigments involved quite extensive cross craft interactions, which were fundamental to its development. The first part of the paper shows that it is likely that the invention starts with relatively understudied “crafts” such as washing, preservation and dyeing, and the difficulties of studying water-soluble earthy minerals is central here. The crux was the jump across to ceramics and vitreous materials and a possible pathway for this and the subsequent innovation will be delineated and discussed. Secondly, the use of cobalt pigments will be considered and their special, perhaps ritual, use will be considered. An example of this in the production of faience will be given and suggestions for further research in this area debated.

Shadecraft: Black glass in Amarna's radiant age

Victoria Kemp, Ashmolean Museum, United Kingdom

Scientific analysis of ancient Egyptian glass has greatly advanced our understanding of New Kingdom high-temperature technologies, enabling detailed reconstruction of composition, colourants and provenance through major, minor and trace element analysis. Cobalt-blue and copper-turquoise glasses dominated elite consumption during the 18th Dynasty and have come to define its glass repertoire; however, production also encompassed a broader colour range, including black, green, brown and purple. During the subsequent Ramesside Period, these alternative colour groups were more widely manufactured and applied to an expanded range of vessel forms.

Analytical data for these less-studied colours, particularly optically black glass, remain comparatively limited. Nevertheless, combined compositional studies indicate that the Amarna Period marked a transitional phase in the production of secondary glass colours. This paper presents new compositional data from black glass vessels from Amarna, alongside additional data from coloured glasses excavated at Serabit el-Khâdim, a major consumer of Egyptian glass for over three centuries. Together, these data document compositional shifts consistent with technological transfer and experimentation in the production of lesser-produced colours during the peak of glass manufacture in the Amarna Period.

By situating glass production within the broader Amarna high-temperature craft system rather than treating it as an isolated industry, this study considers glassmaking as part of a wider artistic and technological community shaped by shared raw materials, mobile skilled labour and evolving supply networks. Integrating compositional analysis with archaeological context, this research contributes new scientific evidence for New Kingdom craft organisation and highlights the interconnectivity of high-temperature industries operating at both local and international scales within the Late Bronze Age glass system.

Shared knowledge and individual craft specialization in Pi-Ramesses' high-temperature industries

Thilo Rehren, The Cyprus Institute, Cyprus
Henning Franzmeier, American University in Cairo, Egypt

The Ramesside workshops of Pi-Ramesse/Qantir offer a fascinating window into the organisation of Late Bronze Age craft production. The complex has been long recognized as a group of carefully planned and probably well-integrated workshops around the core commodity copper. Building on 40+ years of excavations, work continues to develop a better insight into the spatial and material relationship of bronze melting/casting, faience production, glass making and forming, and Egyptian blue production.

Here, we present our current work-in-progress thinking regarding the general matrix of shared logistics and knowledge systems *vis-à-vis* the much more material-specific specialisations of individual workshop practices. We envisage an overarching organisational framework and potential shared procurement and management of materials and labour, while allowing for spatial separation and craft-specific distinct decisions relevant and appropriate for each material. We will highlight the key issues currently limiting our ability to develop these arguments more fully, such as the sometimes lacking chronological resolution both within and among the individual craft activities, and significant blurring of their spatial relationship within a dynamic urban landscape. However, we believe that an initial outline can be sketched by combining elements of the traditional *chaîne opératoire* concept for individual materials into a more complex three-dimensional interwoven 'fabric' tying together the copper-centred high-temperature industries of Pi-Ramesse/Qantir.