

MURALS, STONE, AND ROCK ART WORKING GROUP NEWSLETTER

January 2025, No. 2

Editors

Joshua Hill, Valerie Magar and Leslie Rainer

Coordination Team for 2023-2026

Leslie Rainer, Chiara Pasian, Joshua Hill, Abdullahi Abdulkadir and Valerie Magar



Detail of mural painting from Tarquinia, Italy. *Image: Valerie Magar.*

CONTENTS

EDITORIAL	2
NEWS FROM THE FIELD	3
ESSAYS AND PROJECTS	6
RECENTLY COMPLETED THESES	6
RECENT PUBLICATIONS	6
NEW APPOINTMENTS	6
FUTURE CONTRIBUTIONS	7
HOW TO JOIN ICOM-CC AND THE WORKING GROUP	7

EDITORIAL

Welcome to volume 2 of the Murals, Stone, and Rock Art Working Group newsletter. As I write from London, where the days are drawing in, it is a pleasure to share news and updates from our Working Group. This volume includes an account of summer fieldwork in Bosnia and Herzegovina assessing funerary monuments known as stećci (Katharina Fuchs); an update on a project revealing medieval stone adhesives in Norway and elsewhere in Europe (Bettina Ebert); and an introduction to Birnin-Kudu rock paintings of Nigeria (Abdurrashid Ahmad).

Please consider what news, project updates, or essays you might want to share with the group for the next newsletter! For any time-critical notices and announcements please post to our social media (links at the end of this newsletter).

We were delighted to see so many of the Working Group members at our first members' Zoom call on 9th October 2024 and to have such enthusiasm for a place for informal connections. We plan to use these future meetings for both informal updates amongst the group as well as for themed discussions and short work-in-progress presentations. **The next online members' meeting will be in April 2025; watch your inbox for further details!**

It was with great sadness that we learned of the untimely death of Professor Austin Nevin last month. Austin touched the professional lives of many members of the Working Group and leaves a legacy in conservation and conservation science beyond his years. The Courtauld

Institute of Art, where Austin was most recently Head of the Department of Conservation, has opened an online [book of condolence](#).

Looking ahead to the 2026 Triennial Conference in Oslo, Norway, the call for papers is now open with a deadline of 4th April 2025 for submitting paper abstracts. The theme *Cultural Connections in Conservation*, gives plenty of scope for our Working Group; please see the [conference website](#) for full details and be in touch with the Working Group coordination team with any questions as you prepare your abstracts. We are looking forward to a lively and varied session in Oslo.

With warm wishes for 2025,

Josh, on behalf of the Working Group coordination team.

NEWS FROM THE FIELD

News from the field welcomes submissions from our Working Group members to provide updates on activities and events (see below for instructions to submit for this section).

Stone monument ensembles and the climate change impact - STECCI

By Katharina Fuchs and Marija Milchin (University of Applied Arts Vienna, Austria)

The STECCI project, funded by the European Union (HORIZON-CL2-2022-HERITAGE-01), is an initiative focused on the preservation of medieval tombstones known as *stećci*, which are primarily found in Bosnia and Herzegovina, with additional examples in Croatia, Serbia, and Montenegro. Despite the existence of over 70,000 of these monuments, mostly made of local calcareous stone, they have never undergone a comprehensive assessment, nor has a holistic long-term preservation strategy been developed. In 2016, the global cultural importance of *stećci* was recognized when 28 of these sites, containing around 4,000 individual tombstones, were inscribed on the UNESCO World Heritage List.

The STECCI project also aims to better understand the impact of climate change on *stećci* and similar heritage assets, developing sustainable conservation methods. By incorporating expertise from various fields—ranging from practical conservation, conservation science, environmental studies, economics, social sciences, life sciences, and the humanities—the project seeks to address the multifaceted challenges these monuments face. A key focus is to

link the patterns of deterioration observed on the tombstones with specific climatic and environmental conditions, thereby providing a more nuanced understanding of how different factors affect the materials used in these heritage structures. The project also assesses the future of stećci and similar limestone-based monuments under two high-resolution climate scenarios across three specific time periods: 2021-2040, 2041-2060, and 2081-2100. The ultimate goal is to create insights and methodologies that can be applied not only to stećci but also to other monuments across Europe, with reference sites in France, Austria, Malta, and Germany.



Non-Destructive Field Testing at the Necropolis of Križeviči, Bosnia and Herzegovina.
Image: © Institute of Conservation, University of Applied Arts Vienna / Katharina Fuchs.

Central to the project is Work Package 3 (WP3), which focuses on condition assessments of both stećci and non-stećci sites, implementing material sensors to monitor environmental exposure and devising conservation strategies for selected stećci sites. These strategies will be developed and implemented collaboratively by students and staff from various partner institutions.

As part of Task 3.1, from April to August 2024, condition assessments of the reference stone monuments in Austria, Germany, France, and Malta were conducted. In July 2024, the assessments of the stećci sites began. This work is carried out through a partnership between

the University of Applied Arts Vienna (Austria), which also leads the work package, and the Arts Academy, Split (Croatia), the Stiftung Preußischer Kulturbesitz (Germany), the University of Sarajevo (Bosnia and Herzegovina), and Institut Mines-Télécom (France). Together, these institutions aim to develop conservation strategies that will ensure the protection and sustainable preservation of stećci and other monuments facing the evolving threats posed by climate change.

Project details: 101094822 (HORIZON-CL2-2022-HERITAGE-01, HORIZON Research and Innovation Actions); September 2023 – August 2027; Project coordinator: Nusret Drešković (University of Sarajevo, BiH); Project manager: Saida Ibragić (University of Sarajevo, BiH).

Institutions participating in the project: University of Sarajevo, BiH (UNSA); Heritage Malta, Malta; Univerzitet Donja Gorica Podgorica, Montenegro; Universität für angewandte Kunst Wien, Austria; Stiftung Preussischer Kulturbesitz, Germany; Zentrum für soziale Innovation GmbH Wien, Austria; Sveuciliste u Splitu, Umjetnicka akademija, Croatia; Faculty of Sciences University of Novi Sad, Serbia; Institut Mines-Telecom, France

Project website: steccihorizoneu.com



Stećci at the Necropolis Dugo Polje, Bosnia and Herzegovina.

Image: © Institute of Conservation, University of Applied Arts Vienna / Katharina Fuchs.

ESSAYS AND PROJECTS

Our section on Essays and Projects offers space for our Working Group members to share reflections from the field, as well as more in-depth information on ongoing or recent projects with colleagues (see below for specific instructions for submissions).

The Sticking Stones research project – a stone conservation and built heritage project

By Bettina Ebert (University of Stavanger)



Bettina Ebert condition assessing Stavanger cathedral.

Image: © A. Meeks, Museum of Archaeology, University of Stavanger.

This year has marked the start of a new research project directly connected to the field of stone conservation. The Sticking Stones project investigates medieval adhesive use during cathedral construction and repair. The technique of using adhesives for architectural stone repair appears to have been fairly widespread in medieval northern Europe, with evidence currently recorded in Norway, Sweden, Germany, France and the United Kingdom, amongst others. Yet, this advanced craft has been forgotten over the centuries despite being in clear view on numerous medieval stone churches. In this project, we argue the case for taking a closer look at our medieval built heritage, as there is significant knowledge potential hidden within historic stone walls. What can be learnt from medieval craftspeople to help preserve our architectural stone heritage in an uncertain future? Medieval northern European churches are at increased risk of damage due to climate change, and forgotten historic materials and techniques may provide the key to preserving this cultural heritage. By rediscovering a forgotten medieval craft, we aim to provide more sustainable adhesive alternatives for stone repair.

The Sticking Stones project is funded by the Research Council of Norway with 8 million Norwegian kroner and runs from 2024 to 2028 (for further information, see Research Council of Norway 2024). The project is led by Bettina Ebert at the Museum of Archaeology, University of Stavanger, Norway. We are collaborating with international partners including the Getty Conservation Institute, Delft University of Technology, the University of Bergen, and the Norwegian Institute for Cultural Heritage Research. Project participants cover numerous disciplines including conservation, archaeology, art history, materials science, geology, and biology. A PhD candidate based at the University of Stavanger as well as a postdoctoral researcher based at Delft University of Technology will be joining the research group from January 2025.

Stavanger cathedral's Gothic “sticky” phase

The research project grew out of my involvement in a conservation project recently undertaken on a medieval cathedral in Norway. St Swithun's cathedral is located in Stavanger, on the southwestern coast of Norway. Stavanger cathedral is Norway's best-preserved and most authentic medieval stone cathedral (figure 1). It was constructed in the first part of the 12th century using rubble stone for the underlying masonry, and soapstone for all decorative stonework. The original Romanesque nave remains from this early period. Around 1250 AD, a secondary Gothic construction phase resulted in a new choir, vestibule, and towers. Our research has revealed that adhesives were used extensively during the Gothic construction period of Stavanger cathedral (Ebert and Bjelland 2023). In fact, several hundred examples of Gothic repairs and stone attachments using adhesives have now been documented on the cathedral.



Figure 1: Stavanger cathedral.

Image: © T. Tveit, Museum of Archaeology, University of Stavanger.

In preparation for Stavanger's 900-year anniversary in 2025, a large ten-year restoration and conservation project is now reaching its end. This consisted of an international team of craftspeople including masons, stone carvers, conservators and heritage researchers. The Norwegian Directorate for Cultural Heritage required us to follow

principles of processual authenticity in the conservation of Stavanger cathedral, using traditional materials and craft skills where possible. Due to moisture problems and resultant stone deterioration, cement mortar has been removed from the joints and replaced with traditional slaked lime mortar. Deteriorated soapstone has been replaced with new stone where necessary, carved using traditional techniques by our talented stone carvers. Within the context of this restoration project, we currently have no synthetic adhesives that we considered suitable for use on external soapstone surfaces. In addition, synthetic adhesives would not be in keeping with the principles of processual authenticity and were therefore only used sparingly. This conservation conundrum lodged itself in the back of my head and would eventually form one of the underlying reasons for my research project.

While undertaking a condition assessment on the cathedral's facades in early 2021, I discovered an unusual attachment method for a historic stone repair. As a result of cement removal in preparation for the repointing process, a small stone in one of the Gothic choir windows had come loose. Out of curiosity, I turned over the stone repair and discovered a black adhesive layer (figure 2). Since such material had not previously been recorded on the cathedral, I decided to investigate this further. Based on appearance, my initial hypothesis was that we were dealing with a historic resin- or tar-based repair of unknown age. Once I had identified this first adhesive repair and knew what to look for, I was able to identify many hundred more examples of such adhesive repairs throughout the Gothic parts of the cathedral. These adhesive



repairs varied significantly in dimension, from a few millimetres to half a metre in length, and were found both on the inside and outside of the cathedral at all levels of elevation.

Figure 2: Historic adhesive repair on Stavanger cathedral.
Image: © B. Ebert, Museum of Archaeology, University of Stavanger.

Material characterization and dating of adhesive samples

I selected several adhesive samples from different areas of the cathedral, both interior and exterior, and sent them off for analysis and radiocarbon dating. Material characterization revealed a complex mixture consisting of pine tar, with additives including pine resin, beeswax, and inorganic additives or fillers.

Radiocarbon dating indicated that the pine trees used for tar manufacture had a calibrated date of between 1027 and 1217 AD (Ebert 2024). We had discovered a medieval adhesive! In dating pine tar, we must of course take into consideration the “old wood” effect, but we also know that older tree stumps are usually considered suitable for tar production. The dating consequently provides us with a *terminus post quem* for the adhesive of 1217 AD. The medieval Gothic dating is also confirmed through visual inspection of the repairs within their structural context in the surrounding walls. This means that the adhesive was applied to the stone repairs during the construction of the new choir in the 13th century.

Wood tar-based adhesives for architectural stone

In medieval Europe, forests provided crucial raw materials including timber and other by-products such as wood tar. Pine wood tar is produced from the destructive distillation of biomass, and is a complex mixture of hydrocarbon compounds, mainly resin acids and phenols. Dehydroabietic acid is the most abundant resin acid in pine tar. Resinous pine stumps are used in Scandinavia to produce pine wood tar. The traditional distillation process involves simple kilns with a controlled burning system that creates a low-oxygen environment. Pine wood is a resinous softwood, and older tree stumps are used as these contain high amounts of pine resin. First, a simple funnel kiln is constructed. The chopped and dried wood is then tightly stacked, covered in turf and ignited. This is allowed to smoulder over the course of many hours. The tar then runs off via the funnel into collecting containers.

Wood tars have been used extensively throughout prehistory and history as adhesives, coatings and sealants. In fact, it is known that Neanderthals used birch bark tar as glue on flint tools (Kozowyk et. al. 2023). Pine tar was used as caulking material in shipbuilding, and there is archaeological evidence of its use on Viking ships (Hennius 2018). Wood tars were in common use during medieval times, especially in Scandinavia and the Baltic. In many parts of Scandinavia, pine tar is used as a sacrificial coating for wooden buildings. In Norway, for example, traditionally produced pine tar is still used as a protective coating on medieval wooden stave churches. In Sweden, wooden shingle roofs are commonly coated in pine tar (Lindblad et. al. 2021).

Despite extensive archaeological evidence on the many uses of tar throughout history, wood tar as adhesive for architectural stone has never before been studied. However, research within our project indicates that stone adhesives were widely used in medieval northern Europe, not

just in Norway. For example, we have identified evidence in Sweden, the UK and Germany. This demonstrates an extensive knowledge gap that needs to be filled.

Medieval craft skills

When examining the adhesive repairs on Stavanger cathedral, it is clear that the glue was used in numerous different ways. A very wide range of damages and changes that occurred during the carving and construction process were ingeniously repaired using adhesives. This provides us with a unique glimpse into medieval approaches to stone repair. Cracks in the stone, varying in length from a few millimetres up to half a metre, were repaired with adhesive. The glue was also used to attach stone repairs in damaged stone that had to be infilled (figure 3). The scalp of a carved figurative head was adhered prior to carving, and entire blocks of stone holding up the choir's vaulted ceiling were inserted with this medieval adhesive.

One possible reason for the extensive medieval use of adhesives on Stavanger cathedral could be that exploitation of the stone quarry was perhaps nearing its end. This means that sufficient quantities of large high-quality stone blocks were no longer available, and the stone carvers had to make do with what was at hand. In addition, soapstone's heterogenous nature and fracturing characteristics could lead to damages and losses during the carving process. Luckily, the medieval craftspeople had extensive material knowledge to harness the properties of tar and turn it into a suitable adhesive. Given that these repairs have withstood the test of time for 700 years, it is surprising that this successful medieval technology has disappeared from common knowledge. Examinations of these adhesive repairs allow us to reconstruct medieval



craft skills that have been lost over time. In fact, the repair methods employed during the Gothic period are in many ways very similar to modern conservation approaches.

Figure 3: Medieval stone indents attached with adhesive.

Image: © B. Ebert, Museum of Archaeology, University of Stavanger.

Natural alternatives to synthetic adhesives

This historic adhesive technique has significant potential for contemporary stone conservation and built heritage applications. It can help address the current limited availability of suitable stone conservation adhesives beyond synthetic glues such as epoxies and polyester resins. Therefore, we are exploring the possibility of developing an alternative stone adhesive based on the traditional forest product pine tar. Forgotten medieval technology can thus be drawn on to produce alternative bio-based adhesives. The adhesive repairs on Stavanger cathedral have withstood many centuries of adverse coastal Scandinavian climate extremes without failure, demonstrating that medieval craftspeople formulated a complex adhesive mixture that performs well over time.

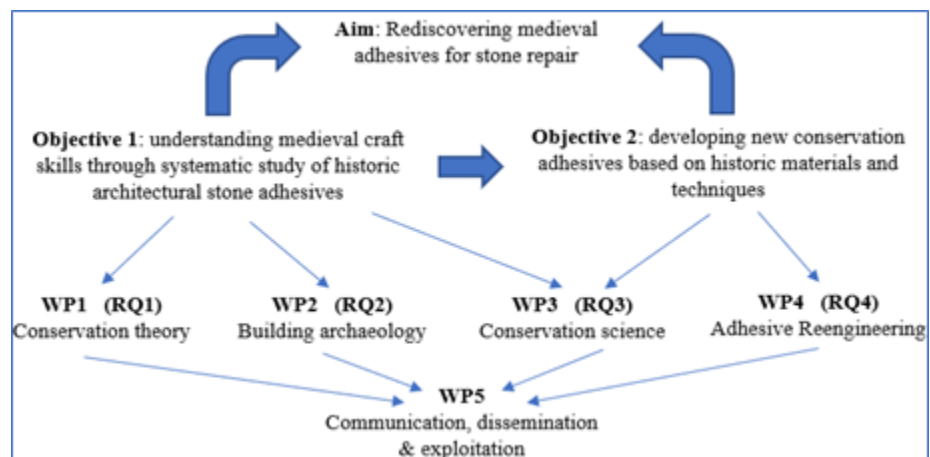
In the scope of our project, the composition of medieval stone adhesives is being examined through extensive material characterization of the organic and inorganic components of historic samples. As the project progresses, the results from different cathedrals across northern Europe will be compared to historical recipes to create an adhesive formula that consists of the best blend of pine tar, resins and other additives. Following lab testing and comparison to synthetic glues, the adhesive will undergo real-life application testing to explore practical adhesive usage. We aim to minimize our environmental impact by reducing reliance on synthetic adhesives and providing alternatives based on natural resources successfully employed in the past. The end-product would also be in keeping with processual authenticity approaches built on traditional craft skills and historic techniques.

Project plans

The project consists of five separate work packages which together address the overarching aim of rediscovering medieval adhesives for stone repair (figure 4). We are supported by an advisory panel consisting of stakeholder representatives including stone conservators, practitioners, and cultural heritage management. In addition, an innovation panel provides support on intellectual property management and product development.

Figure 4: Relationship of work packages to research aim and objectives.

Image: © B. Ebert, Museum of Archaeology, University of Stavanger.



Over the next few years, we will be shedding light on the use of stone adhesives in medieval Europe. We are actively looking for further case studies across northern Europe to compare with our material. In-depth examinations of this centuries-old technology will be undertaken through comprehensive material characterization of historic samples. From a theoretical standpoint, embodied or tacit knowledge is a key concept in understanding the craft skills behind these historic adhesive repairs. In relearning long-forgotten practices, new adhesive formulations based on medieval recipes can potentially be formulated and tested for future use. The rediscovery of wood tar as stone adhesive presents a novel solution for built heritage conservation in the form of alternative forestry-derived adhesives based on historic techniques. Please do get in touch, should you have any ideas, feedback or suggested case studies for the project. We are happy to collaborate with other researchers and practitioners in the field!

Contact:

Dr Bettina Ebert

Associate Professor in Cultural Heritage and Conservation

Museum of Archaeology, University of Stavanger, Norway



STICKING
STONES



Funded by
The Research
Council of Norway

Project 344868

References:

Ebert, B. (2024). Learning from the Past: Rediscovering Traditional Medieval Wood Tar Adhesives for Sustainable Stone Conservation and Built Heritage. *Studies in Conservation*, 69, 63–71.

<https://doi.org/10.1080/00393630.2024.2339728>

Ebert, B. and T. Bjelland. (2023). Stuck like glue: Wood tar as a medieval stone adhesive. In *Working Towards a Sustainable Past*, ed. J. Bridgland. Paris: Intl. Council of Museums. <https://www.icom-cc-publications-online.org/5601/Stuck-like-glue--Wood-tar-as-a-medieval-stone-adhesive>

Hennius, A. (2018). Viking Age tar Production and Outland Exploitation. *Antiquity* 92 (365): 1349–1361. <https://doi.org/10.15184/aqy.2018.22>

Kozowyk, P.R.B., Baron, L.I. & Langejans, G.H.J. (2023). Identifying Palaeolithic birch tar production techniques: challenges from an experimental biomolecular approach. *Scientific Reports* 13, 14727. <https://doi.org/10.1038/s41598-023-41898-5>

Lindblad, L., N. Fredriksson, and A. Källbom. (2021). Challenges in Pine Tar Production and Practices for Sustainable Preservation of Swedish Wooden Heritage. In *Earthen and Wood Vernacular Heritage and Climate Change*, edited by M. Dabaieh, 128–133. Lund: ICOMOS.

Research Council of Norway. (2024). Sticking Stones: rediscovering medieval wood tar adhesives for stone conservation. (website accessed 09.09.2024).

Significance and Challenges of Birnin-Kudu Rock Paintings

By Abdurrashid Ahmad (Rock Art Interpretation Centre, National Museum, Nigeria)

Introduction

The rock art of Birnin Kudu makes up one among the oldest and most extensive in Nigerian records. It shows the very emergence of the human imagination. It is a priceless treasure. Scientists, historians, artists and students must be able to study and understand its significance for decades and centuries to come. Birnin Kudu rock art is the common heritage of all Africans and all peoples. It was a cultural gift from our ancestors that can bring diverse peoples together with pride and a common commitment to share it and preserve it.

In Nigeria, every community has one or more monuments and historic sites, which are regarded as sources of inspiration, memory of heroes and heroines, landmarks of political achievements, governance and societal control. Likewise in Birnin Kudu they have such monumental and historic sites such as: Mesa Rock painting site, Habude Rock painting site and Murufu Rock painting site. The sites are preserved and demarcated by a buffer zone, in order to avoid encroachments. All the sites were inscribed or declared as National Monument sites because of their values since the mid-1950s and 1960s.

What is Rock Art?

Rock art is the artistic work made by earlier inhabitants on rock hundreds and sometimes thousands of years ago. This means that a long time ago, when people wanted to draw or paint in order to express their emotion or feelings, they did it on rocks. There are two types of rock art sites, namely rock art paintings, where paint is directly applied on the rocks, and engravings, created using sharp objects of stone or metal to inscribe the stone surface.

Birnin-Kudu rock painting sites:

Dutsen Mesa rock painting site

Dutsen Mesa rock painting site is one of the three rock painting sites in Birnin Kudu town, located in Jigawa State, in North-west Nigeria. The site comprises rock paintings, rock gong and rock shelter. The paintings contain different styles of domestic cattle, but two main types are depicted:

1. A long bodied, long legged, humpless breed with long spreading shaped horns.
2. A short thick-bodied, short-horned and humpless breed.

Tentatively they have been identified as Hamitic long horned cattle, which are now extinct. The shelter is a long corridor under the rock with two openings, an entrance and an exit used at the time of occupation for defense and escape from danger. The rock gongs are placed inside the shelter, they are rocks that have natural resonance and make a ringing sound when you strike them. They were used as a means of communication, with each sound transmitting different information.

The site attracts local and international visitors and researchers; it was declared a national monument on 16 February 1956.

Painting panel of Mesa rock painting site (Birnin Kudu, Jigawa State, Nigeria).

Image: © Abdullahi Abdulkadir.



Dutsen Habude

Dutsen Habude Rock Painting Site consists of two rock shelters and many paintings of long horned humble cattle. This site is the most spectacular and best preserved rock paintings site in Birnin Kudu. The two rock shelters are on different levels. Two of the paintings of cattle on the ceiling at the upper shelter are the best examples yet known in Nigeria. The site was declared

as a National Monument on 5 August 1964. Some scholars have stated that the painting's age ranges between 2,000 and 7,000 years, though the paintings have not been carbon-dated.



Habude rock painting site (Birnin Kudu Jigawa State, Nigeria).
Image: © Abdullahi Abdulkadir.

Dutsen Murufu

Dutsen Murufu Site has a representation of a short horned bull together with other fainter paintings. It was declared as National Monument on 5 December 1964



Representative painting from Murufu rock painting site at Birnin Kudu, Jigawa State Nigeria.
Image: © Abdullahi Abdulkadir.



Murufu rock painting site,
front view.

*Image: © Abdullahi
Abdulkadir.*

What is the oldest Rock Art in Africa?

According to the Trust for African Rock Art (TARA), Africa's oldest rock paintings were found in southern Namibia in 1969 and they have been carbon-dated to 27,000 years ago. But most experts now believe that the rock art tradition in Africa may go back at least 50,000 years; however the Birnin Kudu rock paintings are expected to be within 2,000 – 7,000 years old.

Who are the Artists?

In West Africa, we know that the earliest art, dating before 7,000 years ago, was made by people who hunted and gathered wild food with no knowledge of writing. Paintings, including those of cattle dating between 7000 and 4500 years ago, may have been made by ancestors of black West African inhabitants, possibly of Fulani people. Much of the art of the last 3,500 years, particularly the engravings in Niger and Mali, was created by ancestors of Berber peoples, particularly of the Tuareg.

People who hunted and gathered wild food, with no knowledge of writing or reading but still had a talent for describing what was in their mind and what they were familiar with and their businesses made Birnin Kudu rock art. This information was gathered from the Rock Art Interpretation Center in Birnin Kudu and based on what we have from the information contained in the painted panels.

Significance of Birnin Kudu rock art to the community

Birnin Kudu rock art allows researchers and historians to construct the historical background of the early settlers of the community. The rock art attracts both national and international visitors. This helps boost the economy of the area because tourists use and buy the local and traditional products offered by the community.

Rock art attracts students across the country, as they visit during excursions and field trips to Birnin Kudu; they sometimes stay for some time in the area buying products from the local producers of the community.

Challenges facing the sites

Birnin Kudu rock art is like that of other countries. It faces a wide range of natural and human threats, such as rock weathering, water damage on surfaces, changes in exposure to sunlight, vegetation, damage by animals such as termites, birds and mud wasps that build nests over rock art panels, and other forces which are difficult, if not impossible, to fully protect against. There are also mining activities that affect the ecosystem that leads to tampering with the natural environment, which generates erosion.

Another major threat to Birnin Kudu rock art is an overall lack of concern from local, regional and national governments. There has been no government leadership to demonstrate what good quality management should look like that includes a strong cultural context and interpretation and a proactive response to sustainable development in areas where there is a rich rock art heritage. Birnin Kudu Rock art is vulnerable to natural impacts and human-related impacts in the following ways.

Natural impacts:

- **Weathering:** Deterioration of stone through cracking, exfoliation and weakening of internal stone structure.
- **Dust and mineral accretions:** Dust particles settling on and bonding with rock surface obscuring rock art, salt deposits and other mineral deposits, which can obscure art.
- **Vegetation growth:** Trees, shrubs and vines growing on or near rock surfaces causing root damage, rubbing surfaces and creating increased fuel for fires, and lichen and algae growing on rocks.
- **Animal impacts:** Insects (such as termites and wasps) and birds building mud nests and mammals living in, digging at and rubbing against rock art.

Human-related impacts:

- **Impacts from economic development:** Including mining, housing and industry directly destroying sites and causing indirect impacts from associated activities.

- **Graffiti, vandalism, looting and theft:** Direct damage to rock art and rock surfaces at sites from graffiti produced by tourists or unsupervised local community members particularly children.
- **Other visitor impacts:** Stone and deposit erosion from foot traffic, dust from foot and vehicle movement, people accessing areas not suitable for visitors, rubbish, crowding, noise pollution, poorly planned and placed visitor access and infrastructure.
- **Damage from feral and domestic animals and plants:** Animals such as cattle and goats causing direct impact on rock art surfaces and archaeological deposits, weed invasion into rock art sites, including weeds introduced by foot and vehicle traffic. Weeds, especially grasses, cause increased risk of damage from fire.
- **Social impacts on rock art custodians:** Lack of recognition of traditional custodial roles, traditional cultural activity being discouraged or displaced, interpretation, which misrepresents cultural information and connections, misuse of indigenous intellectual property.
- **Poorly undertaken research, site protection and conservation:** Unauthorized researches, activities or excavation, poor documentation (of on-site activities, locations and methods used), poor quality attempts at site protection and graffiti removal and inappropriate materials used (The Centre is undertaking all the activities that promote the sites in order for the communities to have full awareness of the benefits and importance of the sites to their communities, and has conserved the heritage sites and paintings we have around).

Conclusion

Birnin Kudu rock art makes up one among the oldest records of ancient peoples in Nigeria; its significance cannot be overemphasized because it gives us information about the human past and the richness of human culture, which is not available from any other sources. It reflects in a very direct way the emergence and flourishing of the human imagination. It provides information about the nexus between human culture and the natural environment.

Recommendation

Birnin Kudu rock art is a highly valuable, but vulnerable Nigerian heritage. We need to cherish and protect this cultural gift from our ancestors by having Indigenous peoples, local communities, governments, researchers, heritage professionals, and the broader community work closely together to create more effective ways to conserve, manage and benefit from protection, preservation and conservation of the rock art and other associated objects.

References:

Agnew, N., Deacon, J., Hall, N., Little, T., Sullivan, S. & Tacon, P. (2015) *Rock Art: A Cultural Treasure at Risk*. The Getty Conservation Institute.

Olarumi, A. (2013) Procedures for declaring National Monuments. Unpublished paper. Dikko, I. (2022) *Birnin Kudu Rock Paintings*. Unpublished paper.

RECENTLY COMPLETED THESES

We are keen to share abstracts of recently completed theses on topics relevant to conservation of murals, stone, and rock art up to 150 words.

RECENT PUBLICATIONS

This section gathers recent publications linked to conservation and management of mural paintings, stone, and rock art. We would also love to receive book reviews from our members!

Recent publications

Haastrup, U. (2024) [*Danske romanske kalkmalerier: Fra 1000-tallet til o. 1200*](#), (Danish Romanesque wall paintings: From the 11th century to around 1200) (in Danish) Aarhus Universitetsforlag

Peñuelas, G. & Schneider Glantz, R. (coords.) (2023) *Decisiones en conservación y restauración. Reflexiones desde la formación y la práctica profesional*. INAH.

Roby, T., Friedman, L. Alberti, L., Carbonara, E. & D'Andrea, A. (2024) *Bulla Regia Mosaic Conservation Project: A Model Field Project of the MOSAIKON Initiative*. The Getty Conservation Institute.

Sabik, A. & Aslan, A. (2023) *Restoration project at El-Dor Archaeological Temple (Emirate of Umm Al Quwain, United Arab Emirates)* (in Arabic). ICCROM.

Vehoeven G.J. & Schlegel, J. (eds.) (2024) *disseminate|analyse|understand graffiti-scapes. Proceedings of the goINDIGO 2023 International graffiti symposium*. INDIGO.

NEW APPOINTMENTS

We are happy to publicize new appointments in the Murals, Stone, and Rock Art community!

[Jorien Duivenvoorden](#) has been appointed Assistant Professor in Conservation of Historic Interiors at the University of Amsterdam. Jorien received a BSc in Chemistry from the University of Amsterdam and an MA in Conservation of Wall Painting from the Courtauld Institute of Art in London. She recently completed her PhD research entitled “Transport and behaviour of water in oil paint” which was performed at the Rijksmuseum and van’t Hoff Institute of Molecular

Sciences at the University of Amsterdam under the supervision of prof. dr. Katrien Keune and dr. Joen Hermans. Her future research will focus on Dutch medieval wall painting, environmentally induced material degradation and condition monitoring. In addition, Jorien will teach in the MSc Program Conservation and Restoration of Cultural Heritage at the University of Amsterdam.

[Joshua Hill](#) has been appointed as Aldama Scientific Fellow at the National Gallery, London. There he will be working on the technical examination of paintings with a focus on the use of scanning X-ray Fluorescence Spectroscopy.

[Chiara Pasian](#) has been appointed to the permanent position of Senior Lecturer in Conservation at the Department of Conservation of the University of Gothenburg, Sweden. She holds a PhD from the Courtauld Institute of Art and taught at the University of Malta between 2017 and 2024. At the University of Gothenburg, Chiara teaches, among other subjects, conservation of wall paintings and stone at the BSc in Conservation of Cultural Heritage Objects and at the MSc in Conservation. Her research interests include design and testing of repair materials for wall paintings and stone, and technology of Swedish wall paintings, from medieval to contemporary.

[Gesa Schwantes](#) has been appointed to a tenure-track position at the Institute for Conservation-Restoration (IKR) of the Academy of Fine Arts Vienna in the core area of 'Mural Paintings/Architectural Surfaces'. Gesa graduated from the Bern School of Arts (HKB) in Switzerland in 2006 with a specialisation in Conservation and Restoration of Architectural Surfaces and Interior Decoration. Following her growing interest in conservation in Asia, she moved to Hong Kong in 2010. She graduated with an MSc in Architectural Conservation from the Faculty of Architecture at the University of Hong Kong in September 2011, after which she founded the HKU Architectural Conservation Laboratory (ACLab). In September 2017, Gesa received her Ph.D. in Architectural Conservation from the College of Architecture and Urban Planning CAUP at Tongji University, Shanghai. In August 2020, Gesa was appointed Associate Professor at the Institute of Cultural Heritage Conservation at Shanghai University, where her research focuses on the conservation of earthen structures. In her new role in Vienna, she will be responsible for teaching building survey, architectural finishes research, conservation strategy development and project supervision of the Institute's mural conservation projects. Her research interests include the challenges of in-situ conservation under the pressure of climate change and decision-making for conservation interventions in the light of different cultural contexts.

FUTURE CONTRIBUTIONS

If you would like to publish with our Newsletter or have ideas for the Newsletter please get in touch!

We welcome texts in English, French, Spanish or Italian.

Please send contributions to: joshua.hill@ntu.ac.uk

We plan to publish the Newsletter in May and in November of each year. Contributions for the newsletter should be sent by **1 April** for the May volume and by **1 October** for the November volume.

All submissions must be sent in Word format and may be accompanied by images (*.jpg or *.tiff format with a resolution of 300 dpi and a minimal size of 1.5MB). Use only images for which you have permission to use and publish. Add a caption for the images, including the credit for the image. All submissions are subject to review by the editors.

- **News from the field:** 300-500 words and maximum two images
- **Essays and projects:** 2000-3000 words, including references (APA format) and maximum five images
- **Recently submitted theses:** abstracts of up to 150 words as well as the name of student, Institution, and course
- **Book reviews:** 300-500 words
- **New appointments:** 200 words and a photograph

CALL FOR PAPERS

The Call for Papers for the next ICOM-CC Triennial Conference, to be held in Oslo in September 2026, is now open. The theme for the 2026 Triennial Conference is **Cultural Connections in Conservation**. See the [conference website](#) for full details and the timeline below for contributions.



HOW TO JOIN ICOM-CC AND THE WORKING GROUP

In order to join ICOM-CC, you need to join ICOM itself. This is done through the ICOM National Committee in your country of work and residence. The cost of ICOM membership varies from country to country - enquire with your National Committee. Once an ICOM member, select ICOM-CC as your official International Committee via your National Committee.

Some of the benefits of joining ICOM and ICOM-CC are:

- The ICOM card which grants free (or sometimes reduced rate) entry to most museums around the world.
- Reduced registration fees at ICOM-CC Triennial Conferences and Working Group Interim Meetings (where applicable).
- Priority consideration for paper/poster acceptance at the ICOM-CC Triennial Conferences.
- The possibility to join any Working Groups you like and receive regular updates, news and announcements.

For those of you who are already ICOM-CC members but without an ICOM-CC web account, all you need to do is request an online account at www.icom-cc.org and then choose Murals, Stone, and Rock Art as one of your Working Groups. If you already have an ICOM-CC web account, then go to the Murals, Stone, and Rock Art Working Group webpage and click on the “Join This Working Group” button. For anyone with an institutional ICOM membership please contact Joan Reifsnnyder (secretariat@icom-cc.org) if you are interested in becoming a designated representative (there can be a maximum of three per institutional membership).

Please make sure to join the Murals, Stone, and Rock Art Working Group as the majority of communication will only go to members.

Join us on social media:



Disclaimer: This newsletter is copyrighted, published and distributed by the International Council of Museums - Committee for Conservation (ICOM-CC). The views expressed do not necessarily reflect the policies, practices, or opinions of ICOM-CC. Reference to methods, materials, products, or companies does not imply endorsement by ICOM-CC.

ICOM-CC © 2025