

XIV CONFERENCE OF THE INTERNATIONAL COMMITTEE  
FOR THE CONSERVATION OF MOSAICS (ICCM)

24-28 OCTOBER, 2022  
PLOVDIV, BULGARIA



The conference was made possible thanks to the support of



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The Getty Conservation Institute





**PLOVDIV  
2022**

**The 14th ICCM**

**Triennial International Conference Program**

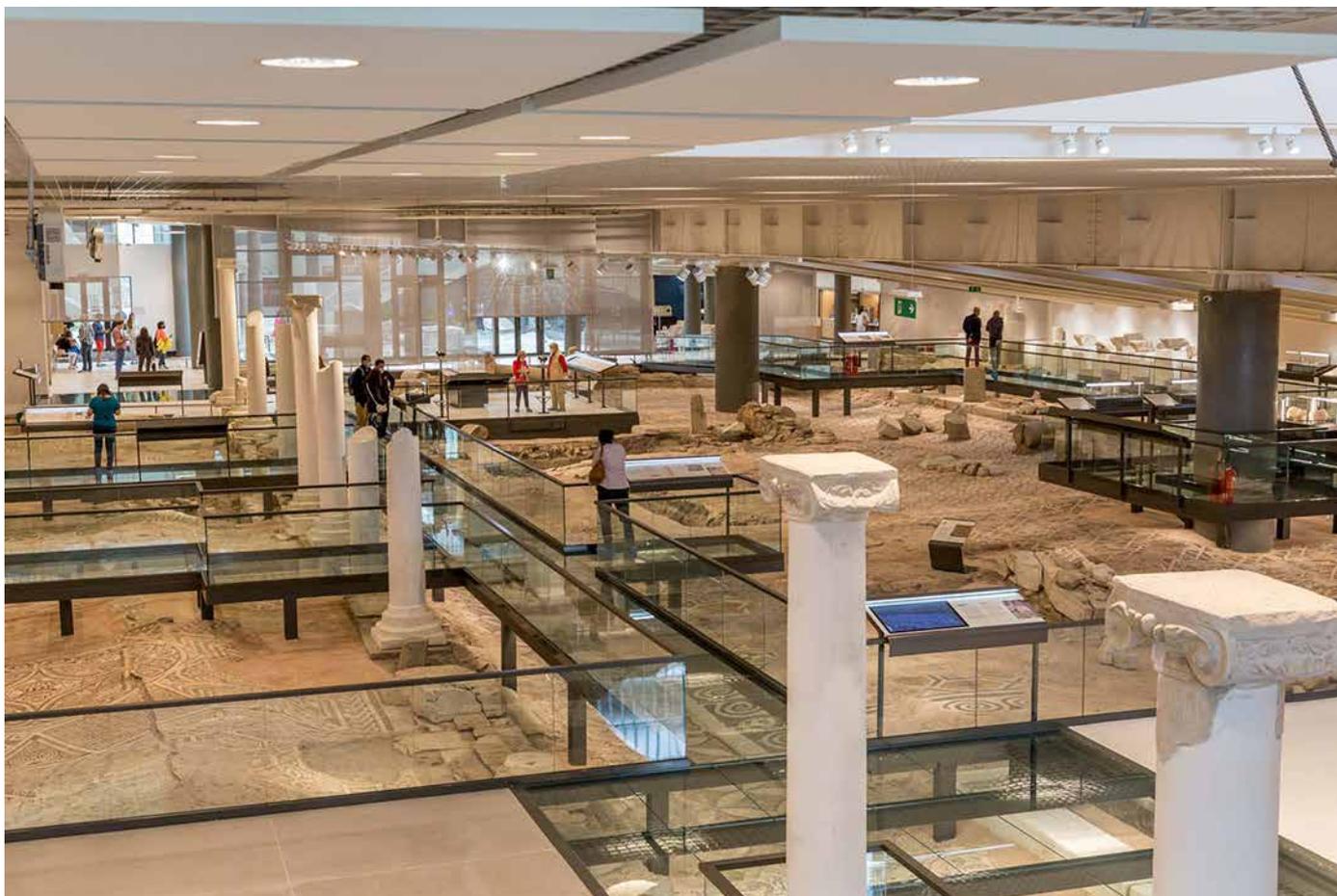
**24th-29th October 2022  
Plovdiv**

**House of Culture Boris Hristov  
15 Gladston str.**



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23th October  
19:30 Conference opening  
20:00 Welcome dinner



The Bishop's Basilica of Philippopolis  
Bul. *Knyaginya Maria Luiza*, 2,  
4000 Tsentar, Plovdiv

offered by  
**the Municipality of Plovdiv**

## **ICCM Foundation**

### **International Committee for the Conservation of Mosaics**

The ICCM, International Committee for the Conservation of Mosaics, was established in 1977, during a meeting on mosaic conservation organized by Gaël de Guichen at ICCROM in Rome. On that occasion, eleven professionals, including conservators, archaeologists and art historians, decided to found the Committee, and volunteered to act as its first Board. Since then, the Board, which is now elected every three years, has continued to function on a voluntary basis and to consist of specialists from different disciplines. The International Committee for the Conservation of Mosaics has been instrumental in promoting the conservation of mosaics as a field of its own within the larger domain of archaeological conservation.

The Committee's objectives include the preservation of mosaics through the promotion of studies on the technology of mosaics and practices of their conservation, maintenance and presentation; the encouragement of international exchange of experience in the field of mosaic conservation; and the provision of advice to scholars and professionals interested in mosaic conservation.

The ICCM has been promoting the broader evolution in the philosophy and practice of heritage conservation in the field of mosaics. Most importantly, the in situ conservation of mosaics, as opposed to lifting, which was one of the first Recommendations of the Committee, has now become more or less the rule in mosaic conservation. The Committee has also played an important role in emphasizing the essential role of preventive conservation and maintenance in the preservation of mosaics.

Since 2015 ICCM is a Foundation: this new status strengthens the activities and makes the organization even more influential in the field.

In its 45 years of life, the ICCM can look back at 13 International Conferences around Europe and North Africa, and a number of Round Tables.

The presents international Conference held in Plovdiv, Bulgaria, is the number 14th. All conference proceedings have been published, along with eleven Newsletters. These volumes constitute today a point of reference in the field and have been instrumental in advancing the study of mosaic conservation. In this way, the ICCM has contributed significantly to the improvement of the quality of literature on mosaic conservation.

## ICCM International Conferences

1977, Rome, Italy  
1983, Aquileia, Italy  
1986, Soria, Spain  
1989, Palencia, Spain  
1992, Faro and Conimbriga, Portugal  
1996, Nicosia, Cyprus

1999, Saint-Romain-en-Gal et Arles, France  
2002, Thessaloniki, Greece  
2005, Hammamet, Tunisia  
2008, Palermo, Italy  
2011, Meknès, Morocco  
2014, Alghero, Italy



2017, Barcelona, Spain

## MONDAY, OCTOBER 24<sup>TH</sup>

9:00

Registration

9:00

COFFEE BREAK

10:00

Opening Panel  
Welcoming remark

10:40

Opening speech by  
**Roberto Nardi**  
ICCM president

11:00

ICCM Price

### SESSION 1

## MOSAICS IN URBAN ENVIRONMENT AND SHELTERS

Chair:  
**Stefania Chlouveraki**

11:20

**Elena Kantareva-Decheva**  
The Episcopal Basilica of Philippopolis Project Conservation and Display of the Mosaic Floors

11:40

**Krassimir Todorov, Milena Krachanova**  
Visitor Center of the Bishop's Basilica of Philippopolis – Shelter on archaeological site in urban environment. Research and Presentation of the early Christian archaeological site and the mosaics.

12:00

**Vojin Nikolic**  
Challenges of maintenance and conservation of mosaics in the urban environment in the example of the modern mosaic from the center of Belgrade

12:20

**Ihab Haj Daoud, Mohammad Diab**  
The Protective Shelter for the Mosaic Floor of the Great Bath at Hisham's Palace – Jericho

12:40

Questions and discussion

13:00

LUNCH BREAK

### SESSION 2

## CONSERVATION AND MANAGEMENT 1

Chair:  
**Theocharis Katrakazis**

14:30

**Helen Moody, Sara Williams**  
Preserving Chedworth Roman Villa's in situ mosaics – understanding and managing moisture, salts and visitor access

14:50

**Mishko Tutkovski**  
History of Mosaic Conservation in Stobi: Changing Practices and Policies over the Past Century

15:10

**Elena Kantareva-Decheva Vania Popova**  
Mosaic Art in Bulgaria from the Roman Period to the Present-Day

15:30

**Francesca Guiducci**  
Conservation for preservation, conservation for access: in situ management of mosaics at Aphrodisias, Turkey

## PROGRAM

15:50

**Kristian Schneider Sara Iovine**  
Saving the Despoiled-conservation and accessibility of an area with mosaic pavements in critical conditions

16:10

Questions and discussion

16:30

COFFEE BREAK

16:40

OPENING POSTER SESSION

18:00

Closure

18:30- 19:30

Concert of Underground Cello Quartet & Cocktail

House of Culture  
**Boris Hristov**

Address:  
Ul. Gladston 15,  
4000 Tsentar, Plovdiv

offered by the  
Balkan Heritage  
Foundation



## TUESDAY, OCTOBER 25TH

### SESSION 3

#### CONSERVATION AND MANAGEMENT 2

Chair:

**Will Reynolds**

**9:00**

**C. Maris,**

**A. M. Guimier Sorbets,  
S. Chlouveraki, T. Vakoulis**

Towards the establishment of value assessment tools for the floor mosaics of Delos

**9:20**

**D. Cassio, R. Cassio**

The *Cassio technique* for detachment and restoration of mosaics: origin, development and main applications

**9:40**

**Basem Al Mahamid,  
Hanadi Altaher**

The Rehabilitation Project of Madaba Cathedral

**10:00**

**Franco Sciorilli**

Rihab, ancient Jordan site restoration.

A project to create jobs in the preservation of heritage

**10:20**

**M. Franković, Branislava Lazarević Tošović**

Mosaics of the Southeast Europe: a view through SEE Mosacis database

**10:40**

Questions and discussion

**11:00**

**COFFEE BREAK**

### SESSION 4

#### MODERN ERA MOSAICS 1

Chair:

**Alessandro Lugari**

**11:20**

**John Fidler  
Christina Varvi,  
Maria Mohammed**

Saving *Streamline Moderne*: conservation/restoration of gold-glass mosaic at the 1939 May Co. Building, Los Angeles

**11:40**

**K.Colonna Preti,  
M. Pugès Dorca**

My neighbourhood's mosaic, 2017 - 2022

**12:00**

**Nantia Kalamvoka  
Yanna Doganis**

The restoration of early 20th century monochrome tile floors in two secondary chambers of the Hellenic Parliament Building, Athens Greece

**12:20**

**Varvi Christina**

Moving a Monument: The Relocation of Extending Arms of Christ at Houston Methodist Hospital

**12.40**

Questions and discussion

**13.00**

**LUNCH BREAK**

### SESSION 5

#### MODERN ERA MOSAICS 2

Chair:

**Angela Pancheva**

**14:30**

**Nini Palavandishvili**

Iconography of the Soviet period mosaics in Georgia

**14:50**

**Nikifor Haralampiev,  
Laura Melpomeni Tapini**

*Caring for the Next Generation.* Emergency Measures for the Buzludzha Monument Mosaics

**15:10**

**Blaž Šeme**

Conservation of socialist era mosaics in Slovenia

**15:30**

**Keen Dennis**

Documenting Soviet-era Mosaics in Kazakhstan

**15:50**

**Jan Vojtechovsky**

Conservation of glass mosaics in epoxy bedding

**16:10**

Questions and discussion

**16:30**

**COFFEE BREAK**

**16:40**

**OPENING  
VIDEO SESSION**

**18:00**

Closure

**19:00**

Dinner  
**Restaurant Yuzen Polah**

*Address:*  
ul. *Volga* 1,  
Park *Bunardjik*  
4000, Plovdiv

offered by GCI

## WEDNESDAY, OCTOBER 26TH

SESSION 6

### DOCUMENTATION

Chair:

**Kutalmis Gorkay**

**9:00**

**Anjo Weichbrodt**

Documenting in situ mosaics with open source photogrammetry.

**9:20**

**Sherigul Yeşil Erdek**

Monitoring of Reburial Systems in Environment of Perge (Antalya, Turkey)

**9:40**

**D. Makris, S. Chlouveraki, S. Akpek**

Medical technology and 3D imaging in the service of mosaic conservation

**10:00**

**Georgis Karagiannis**

Holistic approach for the tomographic reveal and documentation of covered mosaics and tesserae using x-rays and ultrasonics

**10:20**

**T. Šaina, A. Gluhan**

Effects of salt on mosaics on the coast of Croatia – research and protection

**10:40**

Questions and discussion

**11:00**

**COFFEE BREAK**

SPECIAL SESSION 7

### MOSAIKON

Chair:

**Aicha Ben Abed**

**11:20**

**Jeanne Marie Teutonico**

The MOSAIKON Initiative: Building and Sustaining a Community of Practice for the Conservation of Mosaics in the Mediterranean

**11:40**

**Mustapha Atki**

MOSAIKON in Morocco: success story of a training program on good conservation practices

**12:00**

**M. Abbad, A. Abdelhamid, Y. Ameziane, F. Bechouche Z. Cherdouh, A. Djellilahine M. Hakim Reda, H. Rihane**

The Conservation of the “Eveque Alexander” mosaics, in the National Museum of Alger

**12:20**

**Samar Karam, Myriam Ziadé**

Mosaikon in Lebanon: a further step of a successful story

**12.40**

Questions and discussion

**13:00**

**MOSAIKON**

**Alumni Event**

Lunch offered by GCI

**14:30**

**ICCM Board**

**Candidatures presentation**

**15:15**

**ICCM Board Elections**

**16:00-18:00**

**Plovdiv sightseeing tour**

The Roman Forum & Odeon, The Roman Stadium, The ancient Theatre, “Klianti” house, The house of Veren Stambolyan, St. Konstantin & Elena Church, The Eastern Gate of Philippopolis, The Small Basilica

**18:00 – 18:30**

**Wine tasting event**

**Small Basilica**

Bul. *Knyaginya Maria Luiza* 31

4000 Tsentar, Plovdiv offered by the Municipal Institute of “Ancient Plovdiv”

**19:30- 20:30**

**House of Culture Boris Hristov**

*Address:* Ul. “Gladston”, 15, 4000 Tsentar, Plovdiv

Trakia Ensembl: dance performance  
State Folklore Ensemble Trakia (est. in 1971) has been an innovator in music and dance forms. It performs within the framework of the traditional concerts and in a very unique way disclose the vast folklore from all ethnographic areas of Bulgaria.

Offered by Municipality of Plovdiv

## THURSDAY, 27TH OCT

Excursion day  
(in groups)

with packed lunch  
offered by ICCM

**Buzludzha Monument  
Kazanlak**

*The Valley of the Thracian Kings:*

Kazanlak Tomb (replica),  
Golyama Kosmatka Tomb,

Tombs in the mounds:  
Shushmanets, Griffins,  
Helvetia

**Stara Zagora**

Regional Museum of  
Stara Zagora & Roman  
mosaics in situ:  
*Spring of Life* & Mosaic in  
the Post Office.

## FRIDAY, OCTOBER 28<sup>TH</sup>

### SESSION 8

#### CASE STUDIES

**Chair:**  
**Fadi Bala'awi**

**9:00**

**Nuno Proenca,  
Alessandro Lugari,  
Maria Joao Revez,  
Paola Coghi**

Scaling-up: Using mosaic conservation techniques to lift and reposition a pavement of river pebble in Loulé, Portugal

**9:20**

**Anna Kagiadaki**

Restoring pebble mosaics on North Aegean islands during the European migrant/ refugee crisis (2016- 2018)

**9:40**

**Gabriele Gelatti**

The restoration of the XVI pebble mosaic of the Chartreuse of St. Bartholomew

**10:00**

**Alessandra De Natale,  
Francesca G. Romagnoli**

The "new" pebbles mosaic of Mozia: the restoration work and first technical data

**10:20**

**A. Lugari, F. Rinaldi,  
F. Boldrighini, F. Spósito,  
M. Chawbah**

Risk mapping of the musive and marble paving surfaces in the Archaeological Park of Colosseum, Rome

**10:40**

**Questions and discussion**

**11:00**

**COFFEE BREAK**

### SESSION 9

#### CASE STUDIES

**Chair:**  
**Maria Mertzani**

**11:20**

**I. Ruiz de Torres Moustaka,  
M. Paz Pérez Chivite,  
J. Serrano Rodríguez**

Previous studies in the Cosmogonic mosaic of Mérida, Spain

**11:40**

**Roberto Nardi**

The Restoration of the Identity of the Al Fadel Minaret in Manama, Bahrain

**12:00**

**Mouid Hani**

Conservation-restoration and development of the mosaics of the district of the roman villas of Carthage

**12:20**

**Fadi Bala'awi**

The Mosaic Heritage of Jordan

**12.40**

**Questions and discussion**

**13.00**

**LUNCH BREAK**

### SESSION 10

#### CASE STUDIES

**Chair:**  
**Jeanne Marie Teutonico**

**14:30**

**Reneta Atanasova  
Karamanova-Zlatkova**

Mosaics from Stara Zagora exposed in urban environment

**14:50**

**Fryni Hadjichristofi**

First Interventions on the Mosaics of the Villa of the Hippodrome at Akaki, Cyprus

**15:10**

**Evelyne Chantriaux,  
Cecile Giroire**

The Mosaic of the Seasons from Antioch conserved in the Louvre Museum: a new restoration conducted by the « Atelier de restauration de mosaïques et d'enduits peints »

**15:30**

**M. Mertzani,  
M. Deliprimi,  
F. Getimoglou,  
M. Krini,  
N. Tolis**

From pieces to floors: reversing past practices

**15:50**

**Questions and discussion**

**16:10**

**COFFEE BREAK**

**16:20**

**Gaël de Guichen  
Conference review and  
sum up**

**16:50**

**New Board Presentation  
and Conference Closure**

**18:00**

**Closure**

**20:00**

**Dinner & Closing Party**

**Grand Hotel Plovdiv  
Address  
ul. Zlatyu Boyadzhiev 2  
4003 Karshiaka, Plovdiv**

**offered by ICCM**

11:20

**Elena Kantareva Decheva**

Associate Professor in the Faculty of Fine Art at the Academy of Arts in Plovdiv, Bulgaria  
 ekantareva@yahoo.com

**The Episcopal Basilica of Philippopolis Conservation and Display of the Mosaic Floors**

The project for the sheltering, conservation and display of Episcopal basilica of Philippopolis took place in 2015-2020 upon the initiative and with the financial support of the America for Bulgaria Foundation and the Municipality of Plovdiv. A team of architects, conservators and archaeologists united their efforts in research, conservation, interpretation, display and integration of the archaeological site into the modern urban environment.

The Episcopal basilica of Philippopolis dating from the 4th-6th centuries A.D. was discovered in 1983-85 in the center of Plovdiv. Until 2002 about half of the building was investigated and in 2016-2017 it was fully unearthed.

It is a richly decorated three-nave one-apse building with a narthex and an atrium surrounded by porticos. All of the rooms discovered have two polychrome mosaic floors laid on top of each other that are preserved in situ; altogether more than 2000 square meters.

This paper presents an overview of the conservation project of the mosaic floors, which involved detachment of some of the upper mosaic layer, unearthing the lower one underneath, conservation of the in situ preserved mosaics, reburial and preservation of mosaics during construction, display of the detached and in situ mosaics into the newly built on site Museum. The results of the stratigraphic research and technical analysis of tesserae and mortar are discussed.

11:40

**Krasimir Todorov**

Architect, heritage expert and practitioner, leading architect at "Atelie DUO" LTD, Plovdiv, Bulgaria. Project manager and leading designer. Director of National institute for immovable cultural heritage, Sofia, Bulgaria  
 office@ateliieduo.com

**Milena Krachanova**

Architect, heritage practitioner. Centre for Cultural Heritage and Architecture, Sofia, Bulgaria; Project manager and leading designer of various cultural heritage projects.  
 m.krachanova@abstracta.bg

**Visitor Center of the Bishop's Basilica of Philippopolis – Shelter on archaeological site in urban environment. Research and Presentation of the early Christian archaeological site and the mosaics**

The Bishop's Basilica of Philippopolis is the largest 4th-6th century basilica in Bulgaria. It is unique in architecture and decoration and is one of the most representative early-Christian sites. In 2018 the Bishop's Basilica was listed on the UNESCO World Heritage Tentative List.

The initiative "Sheltering, Conservation and Display of the Episcopal Basilica of Philippopolis" brought together various specialists and scientists during the process of archaeological excavation, research and conservation of the site and the mosaics, which cover total area of over 2000 sq.m. The final goal of the initiative is building a Shelter on archaeological site: "Visitor Center of the Bishop's Basilica of Philippopolis". The project's main objectives are: integration in the urban tissue; exterior and interior access strategies; exposition of the two mosaic layers; climate control strategies and lighting strategies for the archaeology and the mosaics; presentation and public communication as an essential part of the cultural heritage conservation process.

12:00

**Vojin Nikolic**

Chief Engineer of Technology, Institute for the Protection of Cultural Monuments of Belgrade, Serbia

beka965@gmail.com

**Challenges of maintenance and conservation of mosaics in the urban environment in the example of the modern mosaic from the center of Belgrade**

The lecture will show all the challenges of maintenance and conservation of mosaics in the urban environment in the example of the modern mosaic from the center of Belgrade. It is a copy of the mosaic of Peacocks from the baptistery of the archeological site Stobi that North Macedonia gave as present to City of Belgrade prior to the Non-Aligned Summit in 1989.

The value of the mosaic, speaks the fact, that the motive of this mosaic decorates one of the banknotes of Northern Macedonia. Mosaic was devastated during the 2009 renovation of the building and repurposing it to the hotel for its new owners.

Construction works were stopped by a quick reaction from Institute for the Protection of Cultural Heritage of Serbia, and thanks to the information from a random passer-by. Mosaic was preserved and a devastated parts were reconstructed. This case is an example of the problems that conservators of mosaic come in contact with in city centers.

Illegal construction, change of owners of facilities, lack of understanding of cultural heritage, poor legislation, as part of the constant changes in the cities affected by the transition greatly affect the cultural heritage and care for it.

12:20

### Ihab Haj Daoud

Architect, Vice Director General of Conservation and Sites Management, Ministry of Tourism and Antiquities, Palestine  
*ihdaoud2@yahoo.com*

### Mohammad Diab

Engineer, Director of Restoration Department/ Directorate of Conservation and sites Management, Ministry of Tourism and Antiquities, Palestine  
*diabmoh2000@gmail.com*

### ***The Protective Shelter for the Mosaic Floor of the Great Bath at Hisham's Palace – Jericho***

The mosaics of the great bath of Hisham's Palace is one of the largest early Islamic mosaic floor in the world (cir.825m<sup>2</sup>), decorated with 38 different mosaic carpets. This significant mosaic floor was not presented to visitors and was covered with a layer of soil as a protection measure. Since 2002, various failed attempts were undertaken to construct a protection shelter above it.

In 2015, a new protection shelter project, funded by the government of Japan, through JICA, was being prepared. This project aims to achieve both protection and exhibition of the mosaics through constructing a protective shelter above the mosaics and the surrounding remains covering (2311m<sup>2</sup>), and a visitor walkway. We, at the Ministry of Tourism and Antiquities and the Japanese Consultant (Matsuda Consultants International Co.) developed the design of the project following the international protective conservation measures. The project had been completed and finished in August 2021. Now the site is open and visitors can enjoy viewing the mosaics. Many challenges and obstacles faced the project during the design and implementation process. Our presentation will focus on the methodology, challenges, management, measures and monitoring system.

12:40

### QUESTIONS AND DISCUSSION

Ancient Theatre, Plovdiv



14:30

**Helen Moody**

Regional Conservator, National Trust SW region, United Kingdom  
[helen.moody@nationaltrust.org.uk](mailto:helen.moody@nationaltrust.org.uk)

**Sara Williams**

Senior Collections and House Officer, Chedworth Roman Villa and Lodge Park, United Kingdom  
[sara.williams@nationaltrust.org.uk](mailto:sara.williams@nationaltrust.org.uk)

**Preserving Chedworth Roman Villa's in situ mosaics – understanding and managing moisture, salts and visitor access**

Chedworth Roman Villa, owned by the National Trust, is an important 4th Century site featuring many mosaics preserved in situ. Much of the present conservation management is based on research and decisions made before the construction of a new shelter building over part of the site in 2012, and many of these conservation maintenance tasks are carried out with the help of volunteers. We are now reviewing the performance of the shelter building and the methods of care we employ. Furthermore, we are looking at the affect that changes in climate and visitor patterns may be having on our ability to effectively manage in situ mosaic conservation. Within these constraints, we will be reviewing the overall presentation standard we aim to achieve; considering the state of age and wear we should portray. To this end we are currently updating our data and commissioning new analysis of materials, surface excretions, and moulds with a view to further research on best new practices. We hope this research will increase our understanding of the chemical and physical forces at work on the site and allow us to either confirm the effectiveness of the techniques presently used and/or trial and evaluate new techniques.

14:50

**Mishko Tutkovski**

National Institution Stobi, Republic of North Macedonia  
[mishko.tutko@gmail.com](mailto:mishko.tutko@gmail.com)

**History of Mosaic Conservation in Stobi: Changing Practices and Policies over the Past Century**

This presentation reviews a long history of mosaic conservation and research conducted at the archaeological site of Stobi in Macedonia.

From the first excavations during the First World War until recent times, mosaic conservation, documentation and maintenance at this site have been highly influenced by the ever changing political systems and socio-economic circumstances, which affected the institutional and legislative frameworks. In this sense, during the past 100 years, the archaeological site of Stobi was managed by different institutions that belonged to the governing countries at the time, with monarchical, socialistic and democratic political systems, and has survived the devastation of the two World Wars. Every aspect that influenced the development of mosaic conservation in Stobi since the beginning of the 20th century until present days will be elaborated in this presentation.

15:10

**Elena Kantareva Decheva PhD**

Ass. Prof. Faculty of Fine Art, Academy of Arts Plovdiv, Bulgaria. [ekantareva@yahoo.com](mailto:ekantareva@yahoo.com)

**Vania Popova PhD**

Associate Professor, Bulgaria

**Mosaic Art in Bulgaria from the Roman Period to the Present-Day**

The mosaic art from the contemporary Bulgarian lands can be traced mainly during the Antiquity, in the Medieval times, in the modern period after 1878, and finally in the 60s and 90s of the XX century.

I. **The mosaics from the Antiquity.** The majority of monuments relates to the Roman (1st-3rd century) and the Late Antique period (end of 3rd, beginning of 7th century), comprising generally of more than 130 mosaic pavements, and also of about 20 separate fragments from wall and vault mosaics. Stylistically, the mosaics from Bulgaria belong to the known already styles of the Eastern Mediterranean, with greater influence of Rome and Italy to the North and Northwestern Bulgaria, while the south areas and the Black Sea littoral reflect the influence of Greece, Constantinople and Asia Minor.

II. **Medieval mosaics.** The mosaics from the First (681-1018) and Second (1185-1396) Bulgarian Kingdoms are represented by fragmentedly preserved floor and wall mosaics part of tomb and church interior.

III. **Modern mosaics.** After the constituting of the Third Bulgarian Kingdom (1878 -1944) the mosaic art decorates facades and interior of religious and representative residential buildings. Between the 60s and 90s of the XX century the mosaic was one of the most used decorative and monumental techniques in Bulgaria. This is the period of mature socialism and in this sense, together with other monumental techniques, it serves the ideology and aesthetics of the socialist state. During this time, two principles were characteristic in the artistic construction of mosaicworks, figurative (pictorial) and decorative, both, subordinated to the ruling socialist realism at the time. Some of the most prominent artists in Bulgaria work in this technique.

15:30

### Francesca Guiducci

freelance conservator, Italy  
francesca.guiducci.14@gmail.com

#### **Conservation for preservation, conservation for access: in situ management of mosaics at Aphrodisias, Turkey.**

Aphrodisias is a UNESCO World Heritage Site in south-western Turkey. Ongoing excavations are led by New York University and Oxford University, under the aegis of the Turkish Ministry of Culture and Tourism.

Among the impressive buildings adorning the ancient city is the Civil Basilica, decorated with mid-4th century polychrome mosaic floors. A major project is currently under way to open visitor access to the Basilica. Conservation activities pursued two aims: ensuring the physical survival of the mosaics in a permanent reburial environment, and enhancing their legibility to allow detailed photographic documentation. Conservation interventions in summer 2018 and 2019 involved an area of about 150m<sup>2</sup> of mosaics, a part of which had been excavated and then reburied in 1970-71 and as a result was in far worse conditions than newly excavated areas. Work was undertaken alongside excavation, a challenge requiring management of time, resources and responsibilities. The project was an opportunity to train young Turkish conservators and American students. This paper aims to present the challenges faced in managing mosaics in situ, ensuring their long-term preservation as well as opening new public routes to the site, balancing the different needs of all stakeholders.

15:50

### Sara Iovine

Parco Archeologico del Colosseo, Italy  
sara.iovine@cultura.gov.it

### Kristian Schneider

Consorzio Kavaklik Restauro, Italy  
k.schneider@kavaklik.com

#### **Saving the Despoiled – conservation and accessibility of an area with mosaic pavements in critical conditions**

In the context of Villa dei Quintili, one of the sites of the Archeological Park of Via Appia Antica, an area excavated just 2018 is facing rapid decay; once richly decorated it has been systematically spoiled already in antiquity, its mosaic and opus sectile floors beside tiny exceptions have been reduced to their preparation layers. Extreme weather conditions – wind undoing the protective coverings, heavy rain literally flooding the whole area right during the current project, high temperatures contributing to the rapid ageing of synthetic materials used during a prior intervention, together with the inherent fragility of archeological remains exposed to outdoor conditions are taking a hefty toll on the remains.

Which conservation-restoration treatments to adopt, if or how to keep the site accessible and at which cost: a project set up and financed by the administration of the Archeological Service running the park, carried out – in close cooperation – by a private company is trying to answer these questions with practical solutions, a partial reburial strategy and a maintenance plan – a work that by all means must be considered in progress.

16:10

QUESTIONS AND DISCUSSION



**Christos Maris**

Ephorate of Antiquities of Cyclades, Hellenic Ministry of Culture & Sports, Greece  
*cmaris@culture.gr*

**Anne-Marie Guimier Sorbets**

Prof. émérite Université Paris Nanterre, France  
*anne-marie.guimier-sorbets@parisnanterre.fr*

**Stefania Chlouveraki**

University of West Attica, Greece  
*schlouve@uniwa.gr*

**Themistoklis Vakoulis**

Ephorate of Antiquities of Cyclades, Hellenic Ministry of Culture & Sports, Greece  
*thvakoulis@culture.gr*

**Towards the establishment of value assessment tools for the floor-mosaics of Delos**

When dealing with large numbers of in situ mosaics, conservation decisions are rather challenging, especially when resources are limited. Value assessment has been recently introduced in the decision-making process and becomes highly influential in guiding decisions and determining priorities, yet bearing some degree of subjectivity. In order to moderate the inherent subjectivity, a series of criteria have to be thoroughly considered. The outcome of this process lies on the establishment of those criteria, and the expertise of the team undertaking the task. Criteria have to be shaped according to the nature and the characteristics of the subject under study. This presentation discusses the specific criteria which can be utilized in the value assessment of the mosaics of Delos, aiming to reach effective and sustainable practices for their conservation and management, and their enhancement and enjoyment by the public. The mosaics of Delos, dating to 130-69 BC, are mostly preserved in situ and constitute a special assemblage of mosaics renowned for its richness both in number (more than 300) and quality. Located, in a remote island site, listed in the world heritage, this assemblage offers a great model for the identification and the assessment of the values and their role in the conservation decision-making process.

**Roberto Cassio**

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**Davide Cassio**

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**The “Cassio technique” for detachment and restoration of mosaics: origin, development and main applications**

During a major conservation project in the Caracalla Baths in Rome, in 1959, Antonio Cassio tested and implemented for the first time his “small pieces technique” for detachment of mosaics. The original idea was coming from the family’s tradition of mosaic-making, based on two main principles: production in small pieces later reassembled, and composition on the front side over a temporary support. These elements were developed into a conservation and restoration technique that, over the following 60 years, has been applied to many different projects by Antonio Cassio himself and later by his son Roberto Cassio. This paper aims to draw an overview of the “Cassio technique”, its roots into the artistic mosaic-making tradition, and its main applications from the 1960s to today. Particular attention is given to projects that demonstrate the high level of flexibility of the technique, its suitability to different contexts and its effectiveness in technically challenging situations. In a fast changing world, this technique, born from traditional processes, is still evolving and being relevant in both restoring the visual appearance of mosaics as well as conserving their significance.

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**The Rehabilitation Project of Madaba Cathedral**

The project of Madaba Cathedral is part of the Restoration Project of Mosaic Floors in the city of Madaba. Madaba Cathedral complex is located south of Madaba Tell and is dated to the sixth century AD. It hosts rich, coloured mosaic floors the most important of which are the Saint Theodoros mosaic, decorated with fishing scenes, birds and animals and the mosaic of the Baptism. It is undertaken by Department of Antiquities of Jordan, which aims to rehabilitate and present the Cathedral to visitors, starting with the evaluation of the site in terms of state of conservation of the buildings and the mosaic floors, then the required intervention works, and the management of previous excavations and dump areas. The work included an inventory of all the architectural elements which were scattered around the site in order to be organized and displayed in the front courtyard as gallery, consolidation and light restoration works of the walls, restoration of one column of the cathedral, and documentation and conservation of the mosaic floors. Finally, an interpretation plan for trails, access as well as interpretative panels and signboards were prepared. In this presentation, we will report the stages of the works and the overall condition of the site before and after the rehabilitation work.

10:00

### Franco Sciorilli

Restorer, Jordan

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### **Rihab, Ancient Jordan site restoration. A project to create jobs in the preservation of heritage**

Implemented by UNESCO with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), in cooperation with the Department of Antiquities, "Employment opportunities for cultural heritage safeguarding in Jordan" the project involves the rehabilitation of three churches in two archaeological sites of the village of Rihab in the Governorate of Mafraq. Safeguarding the Jordanian heritage is becoming a daily necessity, this project, which for the first time involves local communities and Syrian refugees, is proposed as an educational and professional means at the same time, the aim is to create local workers and the conservation of a heritage such as that of the Byzantine mosaic, the training course, in situ, addressed all the problems of conservation, analysis, planning and stabilization interventions of degradation. Three mosaic churches (The Church of St John the Baptist, The church of Bishops Sergio and Probos, Church of St Mary) all with different conservation problems, have been secured, and covered with earth and sand. A roofing project is underway for St Mary's Church to make it accessible to local and foreign visitors.

10:20

### Maja Frankovic

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### Branislava Lazarevic Tosovic

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### **Mosaics of the Southeast Europe: a view through SEE Mosacis database**

The paper will present update of the survey "Mosaic Conservation and Training of Conservators in Southeast Europe" ten years after first launch of database that was made within the SEE Mosaics project. Survey conducted in 2011 involved 44 institutions responsible for mosaic preservation from: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Serbia and Slovenia. Given that the activities regarding mosaic conservation increased significantly over the past years, it was necessary to review data collected in 2011, enter necessary changes and include new museums and sites. Data on mosaic heritage in SE Europe, their state of conservation, availability to public, as well as professional capacities, systemized in the database, give a clear picture of the capacities and the needs for the conservation and presentation of mosaic heritage in SE Europe. Online availability of the database enables clear data comparison. The update makes possible to estimate volume of the work done over the last decade and help identify directions in which SEE Mosaics activities could help in further advancing the practice. Realisation of the SEE Mosaics project in the past 10 years led to establishing contacts with professionals and institutions involved with mosaic heritage. This network of specialists contributed to more efficient information exchange and considerably facilitated data gathering in the process of database update, confirming the benefits of fostering good relations and collaboration.

10:40

QUESTIONS AND DISCUSSION



11:20

**John Fidler**

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**Christina Varvi**

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**Maria Mohammed**

S.E., Project Engineer, Structural Focus Inc., USA

***Saving 'Streamline Moderne':  
conservation / restoration of  
gold-glass mosaic at the 1939 May  
Co. Building, Los Angeles***

The May Company department store in Los Angeles was built in 1939 to the 'Streamline Moderne' designs of architect A.C. Martin. Clad in limestone and granite, the building's principal corner feature is a five-story hemicylinder clad in Venetian gold-glass mosaic. The wall mosaic suffered early cracking caused by concrete substrate shrinkage, poor preparation over concrete pour cold joints, and diagonal racking motions during Los Angeles' earthquakes. But much of the feature's distress was caused by lack of thermal movement joints for its many curved facets on a southwest facing corner in California's desert climate. The glass mosaic also suffered delamination, loss of adhesion, alkali hazing, heavy traffic pollution and bird dropping soiling. Previous patch repairs used over-sized and low carat gold non-matching tesserae. Now becoming part of the new Academy Museum of Motion Pictures in a project of adaptation and new build development designed by Renzo Piano at a cost of \$388m, the mosaic has been conserved by John Fidler Preservation Technology Inc., working with RLA Conservation, engineers Structural Focus and contractors to clean, stabilize, repair and restore the mosaic and its substrate – saving 65 percent of the original construction and installing new matching tesserae from the original Venetian factory.

11:40

**Fadi Bala'awi**

Director General of the department of  
Antiquities of Jordan  
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***Mosaic conservation: challenges  
and opportunities: Jordan as a  
case study***

Jordan is blessed with valuable archaeological sites; also Jordan is very rich in mosaics which are varied from simple to intricate mosaics.

This richness needs delicate treatment and conservation plans for their protection to protect to future generations, this presentation will discuss the main challenges and opportunities in preserving the Mosaic in Jordan, it will also present the main achievements of mosaic conservation in Jordan as a case study, Furthermore, the future plans of Mosaic conservation and preservation in Jordan to ensure their sustainability.

12:00

**Nantia Kalamkova****Yanna Doganis**

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***The restoration of early 20th  
century monochrome tile floors  
in two secondary chambers of  
the Hellenic Parliament Building,  
Athens Greece***

Originally built as the royal residence in 1836 by Bavarian architect Friedrich von Gaertner, the monument's fate is inextricably related to the evolving fate of the Hellenic Republic. In 1930, during a large retrofitting program by Greek architect A. Kriezis, ochre-colored small (1,8X1,8X0,6cm) ceramic tiles made by Villeroy & Bosch, were laid on the two floors in question in complementary tones giving a textured effect within a band of meanders delineated in black tiles. Originally the tiles must have been laid in sections of tiles adhered to wide cloth strips with a cement mortar. Multiple repairs, infills with glass or ceramic tiles over time resulted in downgrading the overall effect of the floors both due to the contrast of new tiles and difficulty in laying with straight joints. As similar ceramic or stone tiles could not be procured, the missing tiles were cast with a white Portland cement mortar, in 9 color tones in two different textures with fine and medium grained aggregates in order to approximate the original palette. The mortar's characteristics and properties including friction and hardness were assessed and are quite comparable to commercially available ceramic tiles. Approximately 14000 infill tiles were cast in silicone molds, the surface was abraded and protected with a water repellent treatment. In order to lay the missing sections, the grid of authentic tiles were recorded on PVC sheets to a scale 1:1. Despite the meticulous work required at every stage, the end result is aesthetically compatible to the original without compromising durability.

12:20

### Cristina Varvi

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12:40

### QUESTIONS AND DISCUSSION

#### ***Moving a Monument: The Relocation of Extending Arms of Christ at Houston Methodist Hospital***

Extending Arms of Christ is a 96' L by 16' H mosaic created in 1963 by Bruce Hayes for the façade of Houston Methodist Hospital in Texas. Consisting of 3 large panels of Italian glass tesserae on a concrete bedding over metal lath, it is distinctly modern in character. It features Christ at the center of a geometric abstract background punctuated with stylized imagery of medical equipment, doctors, and historical figures.

RLA was contacted to determine if the mosaic could be relocated into a 50' H atrium within the hospital's addition. Over time, the mosaic had become obscured by trees and a porte cochere addition. Relocating the mosaic would allow it to be showcased once again for patrons and the community.

Moving an artwork of this size is always challenging but was further complicated by its location over the hospital's main entrance along a busy street in the 4th largest city in America. It was also next to the emergency room driveway, which barred the use of a crane or blocking the street. Preclusion of the crane meant that it had to be cut into relatively small panels so they could be lowered by a gantry and moved by hand.

Ancient Theatre with view, Plovdiv



14:30

**Nini Palavandishvili**

Freelance conservator, Georgia  
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**Iconography of the Soviet period mosaics in Georgia**

The Soviet period mosaics became such an indivisible part of our daily visual culture that we do not even notice them any more, or neglect them to the extent that without any respect we paint or glue adverts over them. The monumental-decorative art of the Soviet period is mostly linked to the ideological propaganda, such as friendship of nations, the victory of the proletariat in the struggle for socialism, expansion of industrial society and urbanization. Specific theme of the mosaic predominantly was determined by the function of the building it was attached to. Though the iconography of mosaics in Georgia provide an example of how the standards, set for characters and themes were treated locally, away from the regulating center. Iconography of cultural, educational, industrial or some independent structures are saturated with pictorial presentation of commonly familiar or national symbols and depict saints, heroes, fables and symbolic representation of similar themes. Currently, many of them are facing the threat of destruction and obliteration. Some have been already destroyed. Unfortunately, we cannot talk about political will in broader sense, any deliberation from the professional community, or a big public interest with regards of conserving them.

14:50

**Nikifor Haralampiev**

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**Jonas Roters,**

Bern University of the Arts, Switzerland

**Nadia Thalgueter,**

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**Caring for the Next Generation. Emergency Measures for the Buzludzha Monument Mosaics**

The Buzludzha Monument is one of the most iconic and significant buildings of post-war modernism in Bulgaria and in Europe. It was built in 1981 to be a symbol of Bulgarian communism, which was the reason to be abandoned in the 90's. In addition to its unique architecture and dynamic engineering, Buzludzha contains a real gem of almost 1000 square meters of precious mosaics. Such a recent mosaic artwork, in such endangered condition and at such a scale, is a challenge for every conservator-restorer. While deliberating custom-made solutions and sustainable methods among the team of experts, students of graduate programs in conservation and restoration in Bulgaria and Switzerland were trained. According to them, this was a life-changing experience. Furthermore, this mosaic project involved the broad public in the process with activities on-site such as volunteers' workshops and a music festival.

Additionally, all actions were made transparent, understandable and accessible to the broad public through active media and social media campaigns. For the first time, the mosaics of the late 20th century were a central topic in the Bulgarian news. This project not only stabilized Buzludzha's endangered mosaics but created understanding, involvement, and appreciation of modern mosaics and dissonant heritage.

A very large part of the Buzludzha's mosaics were seriously endangered. However, thanks to the dedication of the team and despite the extreme working conditions, all mosaics from the inner and outer ring were secured by applying the necessary and appropriate emergency conservation measures.

Sensible solutions were used according to the specific needs of the mosaics such as temporary facing, edging repair, punctual grouting, bedding mortar and sinopia treatment, re-attachment of loose tesserae, and counterforce systems. To protect the mosaics from the elements, a temporary shelter was built. It is structurally independent and consists of a wooden structure, metal roofing, and sidewalls from a water-repellent but air-permeable textile. Several climate control devices have been installed. They remotely and digitally document the conditions on-site.

Thanks to this project Buzludzha's mosaics are stable enough to avoid progressive damage, and above all, gained time for further multidisciplinary decision-making processes until the building will be finally preserved.

The careful, deliberate solutions for the mosaics, based on the premise of minimal and mostly non-invasive intervention, can be used as a best practice model for similar cases since all the phenotypes of damage patterns can be found in their most extreme forms at the Buzludzha Monument.

15:10

### **Blaž Šeme**

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### **Conservation of socialist era mosaics in Slovenia**

In the first decades after the Second World War, a number of wall paintings and mosaics were created in Slovenia. Some of the earliest and more ambitious mosaics are in the style of socialist realism with figurative depictions of national liberation struggle and post-war development of the working and peasant class. In the 60's, also depictions that are more abstract began to emerge. The most typical and monumental communist/socialist era mosaics are in the former Tito's residence in Bled (1948), the Workers' Home in Trbovlje (1957), the Slovenian Parliament in Ljubljana (1958, 1960), the Monument to the battle in Dražgoše (1976) and the Primary school in Kostanjevica na Krki (1982), the latter considered the largest mosaic in Slovenia. The mosaics were designed by various authors (Pengov, Pregelj, Debenjak, Šubic, Ciuha, Spacal, Seljak Čopič) and mostly made by mosaicist Alfio Tambosso from Udine. The mosaics are in good condition, regularly maintained and some were recently conserved-restored. Recently, a mosaic from 1962 in the Ljubljana Municipal Savings Bank was conserved-restored by the Department of Restoration at the University of Ljubljana. Our intervention represents the first example of modern mosaics detachment and transfer to a new support of larger dimensions in Slovenia.

15:30

### **Dennis Keen**

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### **Documenting Soviet-era Mosaics in Kazakhstan**

In the period from 1965-1985, more mosaics were made in the republics of the Soviet Union than anywhere else on earth. These artworks were a distinctive component of Socialist Modernist architecture, a bold and experimental style now gaining international attention. Yet the existence of thousands of monumental mosaics in the former Soviet republics, and the issue of their preservation, has remained relatively unrecognized. With the project Monumental Almaty, the American scholar Dennis Keen has documented hundreds of mosaics throughout the Central Asian nation of Kazakhstan, in addition to advocating for the preservation of these works in the former capital of Almaty. Many of these artworks are in threat, as public buildings have been privatized and new property owners disregard the artistic legacy they've inherited. Conservation programs in the country focus on reviving national Kazakh landmarks and Silk Road ruins, disregarding Soviet-era heritage that is now in jeopardy. Sharing his project Monumental Almaty, Keen argues for the importance of these artworks and the urgency of their preservation.

15:50

### **Jan Vojtechovsky**

Faculty of Restoration, University

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### **Conservation of 20th century glass mosaics embeded in epoxy bedding**

The paper focuses on the conservation of glass mosaics from the second half of the 20th century embedded in epoxy resin as a part of their original technology. The study was conducted on mosaics located in the north of the Czech Republic, which, in the communist era, was quite a rich area as there were brown coal mines. The advantage was that the outcome of this mosaic technology was lightweight, easy-to-transport structures (panels). Various materials were used for the base of these panels, such as steel framework, aluminium plates or chipboard plates.

Over time, the epoxy bedding proved to be unstable, especially when exposed to the weather conditions, where it often degraded or completely disintegrated. Therefore, it was necessary to consider replacing the original bedding material with a new one. The replacement of the support is illustrated in the examples of three mosaics, namely a cut-glass mosaic, which is an example of an epoxy-coated mosaic with an embedded metal structure, and two mosaics of casted tesserae (half industrial) glued with epoxy resin to the chipboard. For both types of the mosaics, a brand new, more stable mosaic embedding system was developed but, at the same time, bearing in mind the original idea.

9:00

**Anjo Weichbrodt**

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**Documenting in situ mosaics with open source photogrammetry**

Photogrammetry has become an important tool for the cultural heritage sector, allowing for quick and inexpensive 3D digitization, the creation of elevation models, and the extraction of distortion-free basemaps to only mention the most obvious. In this paper, the authors discuss the photogrammetry workshop of the Plovdiv conference to illustrate the potential of photogrammetrical documentation in general and in the context of in-situ mosaics through providing examples from international literature and their own experiences. As part of the paper, adapted workflows will be discussed starting from image acquisition and preprocessing over the usage of the Open Source photogrammetry solution MicMac, to the contextualization and storage of the deliverables.

9:20

**Şehrigül Yeşil-Erdik**

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**Monitoring of Reburial Systems in Environment of Perge, Antalya-Turkey**

A new test method has been designed for monitoring of reburial systems, in terms of water/moisture, temperature, acidity, salinity and plant formation, which are the key parameters in the deterioration of mosaics. Field tests were carried out on the mosaic pavement in the monumental hall identified as basilica thermarum of Southern Baths in Perge (Antalya).

Based on a comprehensive literature review, mostly on annually published archeological, archeometric and survey reports in Turkey since 1980's, six reburial systems to be tested has been determined. 18 test modules with size of 2x3 m in length and 30 cm depth, consisting of three repetitions of each reburial systems have been installed on the mosaic pavement. Subsequently a monitoring station has been set up, which can be accessed remotely via internet to follow moisture content and temperature changes beneath the test modules by soil measurement sensors and climatic measurements by meteorological station. In 2017-2018, hourly data was continuously collected. Additionally archaeometric analyses and vegetation studies were conducted. The advantages and disadvantages of the reburial systems are tested according to the environmental conditions of the ancient city of Perge can be compared and some suggestions that can contribute to practical development are presented.

9:40

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**Dimitrios Makris**

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**Sergin Akpek**

American Hospital of Istanbul, Turkey

**Medical technology and 3D imaging in the service of mosaic conservation**

Examination and documentation is undoubtedly a critical process in the decision making for the conservation of cultural materials. A wide range of advanced nondestructive and non-invasive techniques is reported in the literature, which offer unlimited opportunities to investigate and understand the nature of the objects under treatment. The methodology and extent of investigation is case specific and is determined by the questions arising on the course of the examination. This presentation demonstrates the advantages of the use of medical instruments and 3D imaging hardware – software in the study of portable mosaics. The application of computed tomography (CT Scan) has provided two and three-dimensional views of the inner structure of the panel mosaic icon of Pammakaristos, which reveal new and unexpected information that has completely changed our perspective and approach towards its conservation and future use. The acquisition protocol was based on both active and passive radiance capturing methods. Three-dimensional optical laser combined with Photogrammetry has provided an accurate and measurable 3D model, ortho-photos as well as topographic information, which comprise a comprehensive record of the present state of preservation and a valuable tool for the documentation of future interventions. The integrated digitization workflow and analysis provide a fruitful decision support framework for conservation inspection and intervention. It further provides insight into the range of scholarly and public accessibility, dissemination and communication applications.

10:00

**Karagiannis Georgios**

Technical-scientific manager of the Ormylia Foundation, Greece  
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**Holistic approach for the tomographic reveal and documentation of covered mosaics and tesserae using x-rays and ultrasonics**

In the present work novel technologies and instrumentation of the OMRYLIA Foundation mobile lab are presented that provide the possibility to sense mosaics covered by "thick" layers of mortars are presented. This is a holistic approach providing the possibility to documents not only the existence of the mosaic but also reveal the state of each of the tesserae involving technologies based on X-Ray and Ultrasonic tomography. The X-Rays tomographic imaging provide high efficiency and resolution of the topography of the mosaic, penetrating structures of the order of centimeters while the ultrasonics appear to have higher attenuation, demanding various frequencies of operation either for higher penetration depths with lower resolution or lower penetration depth with higher resolution. The acquisition of high-response tomographic images is achieved using one element transducers or linear array through the efficient control of their phase characteristics both in transmit and receive modes. The operation is supported by robotic arms in order to move the excitation sources with high fidelity resulting to the acquisition and the reconstruction of the 3D volume for both the mosaic in a region of interest as well as for each one of the tesserae of the mosaic as individual object subjected to documentation.

10:20

**Toni Šaina**

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**Antonija Gluhan**

Senior conservator-restorer, M.A., Croatia  
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**Effects of salt on mosaics on the coast of Croatia – research and protection**

Mosaic deterioration caused by harmful effects of salt is equally present in mosaics inside buildings and in outdoor environments. This paper draws attention to the causes and types of damage with an emphasis on the harmful effects of salt by examining two remote sites on the Adriatic coast, mosaics from thermal complex on the island of Vis and mosaics from the cathedral in Pula.

In Pula, research has shown that salt migrated through the foundations to the walls and floors of the cathedral. In porous materials, salt moves depending on environmental conditions, temperature and relative humidity. Increased moisture and salt deposited in the floor and on the surface, as well as previous interventions, led to an almost complete deterioration of the original mosaic materials.

Mosaics from the baths in the Roman town of Issa on the island of Vis are presented in situ without a temporary or permanent shelter, which is why they are constantly exposed to various causes of decay. The specific climate of the island of Vis, proximity of the sea and the effect of vegetation have caused significant damage to the surface of the mosaics and other archaeological material. Research based on monitoring the condition of the site over the years, along with laboratory analyses of archaeological material and comparisons with other sites, has helped us determine causes of decay and types of damage.

10:40

QUESTIONS AND DISCUSSION



11:20

**Jeanne Marie Teutonico**

Associate Director, Strategic Initiatives and Publications, Getty Conservation Institute, USA

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**The MOSAIKON Initiative: Building and Sustaining a Community of Practice for the Conservation of Mosaics in the Mediterranean**

MOSAIKON is a collaborative, strategic initiative of the Getty Conservation Institute, the Getty Foundation, ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) and the ICCM (International Committee for the Conservation of Mosaics) that was launched in 2008 to improve the conservation and management of archaeological mosaics in the southern and eastern Mediterranean region. To achieve its aims, the initiative has focused on training, developing locally sustainable conservation practices, strengthening the professional network, and promoting the dissemination and exchange of information.

More than a decade later, MOSAIKON has trained over two hundred people, created replicable models of best practice at several important sites in the region, produced free publications and didactic materials in four languages, and helped to create a number of national mosaic conservation workshops, as well as a strong and dynamic regional network of professionals.

MOSAIKON entered its final phase in 2019 with a focus on transitional activities that would reinforce its achievements to date and assist the partner countries in sustaining outcomes in the longer term. Planned activities included support for the most promising participants through advanced field schools and training in leadership and fundraising; the development of sub-regional hubs for training and exchange; and,

perhaps most importantly, various efforts to support and sustain the MOSAIKON network.

Though the pandemic has created additional challenges and caused some delays, the initiative has moved forward with this final phase (now intended to conclude at the end of 2022) and found ways to support and grow the community of practice that will be its enduring legacy.

This paper will report on MOSAIKON's final phase activities and discuss what is needed to ensure the long-term sustainability of outcomes in the face of current challenges. The paper will also reflect more generally on the importance of building a community of practice in order to achieve lasting change.

11:40

**Mustapha Atki**

Ass. Professor, Faculté des Lettres et des Sciences Humaines Ain Chock , Casablanca, Morocco

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**MOSAIKON in Morocco: success story of a training program on good conservation practices**

The objective of this contribution is to present the results of the MOSAIKON program in Morocco over the past 10 years and the future perspectives aimed at consolidating the achievements and launching new projects for the conservation of mosaics in Morocco.

MOSAIKON had a very positive impact on the conservation work of archaeological sites in general and those with mosaics in particular. The services concerned in Morocco were made aware through this program on the importance of good conservation practices and the usefulness of supporting qualified human resources in this area. Morocco's involvement alongside MOSAIKON's partners to achieve the objectives set, opens the doors today to interesting initiatives in the field of mosaic conservation.

12:00

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Conservators, Laboratory of Conservation and Restoration of Ancient Mosaics in Tipasa, Algeria

***The Conservation and Restoration of the "Eveque Alexander" mosaics, in the National Museum of Antiquities of Algiers***

The two mosaics panels of évêque Alexander come from the archaeological site of the city of Tipaza in Algeria, represent two different themes "mosaic of dedication and epitaph of the évêque Alexander" Now they are preserved in the national public museum of antiquities of Algiers in Algeria, the mosaics mounted on a plaster support and they hang on the wall in a museum display room.

Due to poor state of conservation and water infiltration in the museum, the Minister of Culture of Algeria with the cooperation of the American embassy in Algeria, commissioned the Centro di Conservazione Archeologica (CCA) to disassemble and restore the two mosaics with modern scientific standards.

The restoration operation will take place with the team of Algerian restorers now work in the antique mosaic restoration workshops in Tipaza and who have benefited from several training courses as part of the Mosaikon project, and from a grant from the JM Kaplan Fund.

12:20

**Samar Karam**

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Directorate General of Antiquities of Lebanon

***Mosaikon in Lebanon: a further step of a successful story***

Lebanon was one of the first countries to join the Mosaikon program in 2010 and has since focused on gaining adequate experience in this field through participating to several trainings organized by Mosaikon. Moreover, the Directorate General of Antiquities (DGA) created the Mosaikon Management Unit (MMU) to establish a strategy for mosaics' conservation in Lebanon. This resulted in the setting up of a specialized well equipped laboratory as working base. Also, in order to keep developing the skills of its staff, the MMU started coordinating adapted trainings presenting practical and sustainable applications for mosaics' management and conservation. Currently, two trainings are taking place in Lebanon. The first one is with the Getty Institute and Iccrom Sharjah for the management of the storages in Sidon which contains more than 800 square meters of mosaics stored on wooden panels without any backing. The second one is with the CCA and the Getty Foundation aiming at having an independent homogeneous Lebanese team able to take suitable conservation decisions. A recently discovered mosaic in Beirut and its preparation to be exhibited in the Beirut Museum, which is under construction, is a case study of a successful experience that can be duplicated.

12:40

QUESTIONS AND DISCUSSION



9:00

**Maria João Revez, Paola Coghi**

Conservator-restorers, Nova Conservação, S.A., Portugal. [mariajoaorevez@ncrestauro.pt](mailto:mariajoaorevez@ncrestauro.pt)

**Nuno Proença**

Conservator-restorer, Nova Conservação, S.A., Portugal [nc@ncrestauro.pt](mailto:nc@ncrestauro.pt)

**Alessandro Lugari**

Conservator, Parco Archeologico Colosseo, Italy. [alessandro.lugari@beniculturali.it](mailto:alessandro.lugari@beniculturali.it)

**Scaling-up: Using mosaic conservation techniques to lift and reposition a pavement of river pebbles in Loulé, Portugal**

The archaeological remains of a 12th century Islamic Bath complex (hammam) of Portuguese and Iberian significance were recently discovered beneath the grounds of a 15th century noble house in Loulé. The importance of this finding demanded an excavation programme that entailed the removal of a 15th century pavement of river pebbles, laid following an ingenious decorative stereotomy – a rare example of its type and a relevant testimonial of the noble house period. Since the pavement had to be lifted to access the hammam structures, the Islamic Baths musealisation project contemplated the preservation of its design and global configuration as records of the 15th century layer. This goal was made possible by the use of mosaic conservation techniques, including documentation, lifting, and resetting methodologies throughout the phases of: removal; transportation; temporary remounting in a deposit; sectioning; transportation to the museum; and final remounting. The sheer size of the pebbles, some reaching 25cm in thickness, required these techniques to be employed at a remarkably large scale. Throughout the process, thorough records and mappings were essential to guarantee the preservation of the stereotomy and thus ensure that the pavement, assembled in the 21st century, exactly follows the 15th century layout and design.

9:20

**Anna Kagiadaki**

Hellenic Ministry of Culture and Sports, Service of Modern Monuments & Technical Works of North Aegean, Greece  
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**Restoring pebble mosaics on North Aegean islands during the European migrant/ refugee crisis (2016– 2018)**

Pebble floor mosaics are an important group of decorative constructions that often define architectural features on Greek islands.

They have been in use since ancient times as during their construction simple and easy-to-find materials are used – such as small polished stones from the sea and rivers. They are mainly used to decorate luxurious public and private buildings, but also more modest, ordinary houses.

The presentation focuses on 19th and 20th century pebble mosaics restored by the Conservation Department of Modern Monuments in Mytilene, through the years 2016-2018.

Initially a layout of traditional techniques as found in Lesbos and Chios is presented, which define the decision-making processes regarding the maintenance interventions. Following that, different examples of restoration are examined.

The above projects were carried out in places that have been reopened after years of relative neglect to welcome new “residents”, as a result of the European migrant/refugee crisis and decisions regarding interventions were made in relation to the function and specificities of each site.

As any large population influx immediately shifts priorities and monuments in use can inevitably be found exposed to risks, we were faced with dilemmas and challenges that will be summarily stated and opened to discussion.

9:40

**Gabriele Gelatti**

Pebble mosaic artisan, MA Genoa University, Italy  
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**The restoration of the XVI pebble mosaic of the Chartreuse of St. Bartholomew (Certosa di S. Bartolomeo), Genoa, Italy**

The mosaic of “Certosa”, neglected after long time, is daily frequented as a social area in the part of Genoa that suffered from the fall of the motorway Morandi bridge in 2018.

The 760 sq. meters floor, framed by 36 columns of the early XVI century cloister, are entirely covered by drawings of black and white pebbles from nearby shores.

The mosaic alternates within 36 squares geometry and mythology, daily life and symbology, displaying the date “1572” by the entrance of the church and an the date “1546” lately rediscovered in a fragment inside the Chartreuse, attesting it as the oldest dated pebble mosaic of the modern epoch.

In XVI century culture of the merchant aristocratic families of the Genoese Republic, the pebble mosaic became fashionable, as also witnessed by multi-material mosaics of ninfei and grottos.

Since then, the pebble mosaic became a traditional art of Liguria decorating gardens and churchyards. The “opera prima” of Genoa Certosa, with its uncertain origins (from the Greek world?) and its possible transmission to Andalusia, witnesses the living tradition of pebble mosaic in Mediterranean area.

The restoration is produced by the meeting of a professional restorer (Caranza) with the last traditional master artisan (Gelatti).

10:00

**Alessandra De Natale**

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**Francesca Gaia Romagnoli**

Italy  
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**The “new” pebbles mosaic of Mozia: the restoration work and first technical data**

The recently carried-out restoration of the precious pebbles mosaic of Mozia has brought to light a new, large portion of pavement, nowadays only partially known thanks to some previous cleaning tests but never subjected to conservative interventions due to the high state of instability and decay. The extraordinary iconographic and decorative panorama that has just been discovered, which includes 8 new figured panels and a framework with a sequence of fish, seems to be clearly detached, both technically and iconographically, from the rest of the pavement despite the physical “continuity” of the two parts.

The restoration work and particularly the complex and – to an extent – “experimental” consolidation intervention were technically and methodologically organised following extremely preservative criteria, in order to alter the conservative history of the floor as little as possible – at least in its morphological and technical components – and at the same time to operate effectively from a structural point of view.

Furthermore, the discovery of the new still unaltered portion of pavement, was an incentive to meticulously collect photographic, technical and stratigraphic data with the aim of analysing and understanding, at any rate in a preliminary way, the complex history of this magnificent mosaic.

10:20

**Alessandro Lugari**

Conservator, Parco Archeologico Colosseo, Italy

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**Federica Rinaldi**

Archaeologist, Parco Archeologico Colosseo, Italy

**Francesca Boldrighini**

Parco Archeologico Colosseo, Italy

**Francesca Sposito**

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**Maria Chaoubah**

Directorate General of Antiquities, Lebanese Ministry of Culture, North Mount Lebanon and Byblos

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**Risk mapping of the musive and marble paving surfaces in the Archaeological Park of Colosseum, Rome**

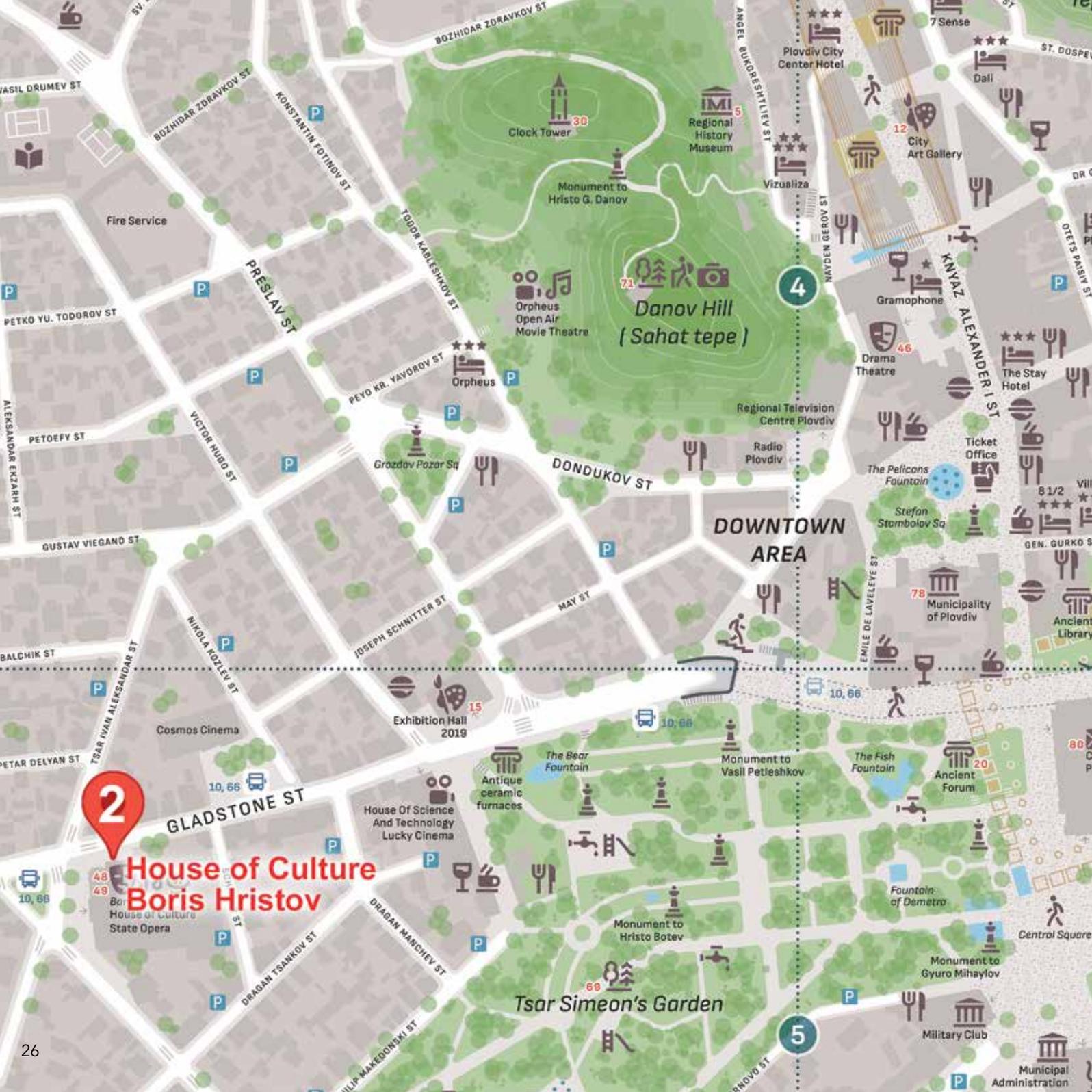
The project is developed on a three-year basis through a planned maintenance plan and enhancement of the mosaic heritage of the central area of the Roman-Palatine Forum (250 pavements). The objectives of the project are linked both to the need to protect ancient floor coverings and to the opportunity to increase the cultural offer of the area, with new itineraries for visits and knowledge of less frequented archaeological categories.

The feasibility of this project depends on an essential action of recovery / maintenance of the floors, their contextual cataloging / mapping (mostly already existing), then by targeted interventions of survey and geo-referencing, up to the insertion into paths dedicated.

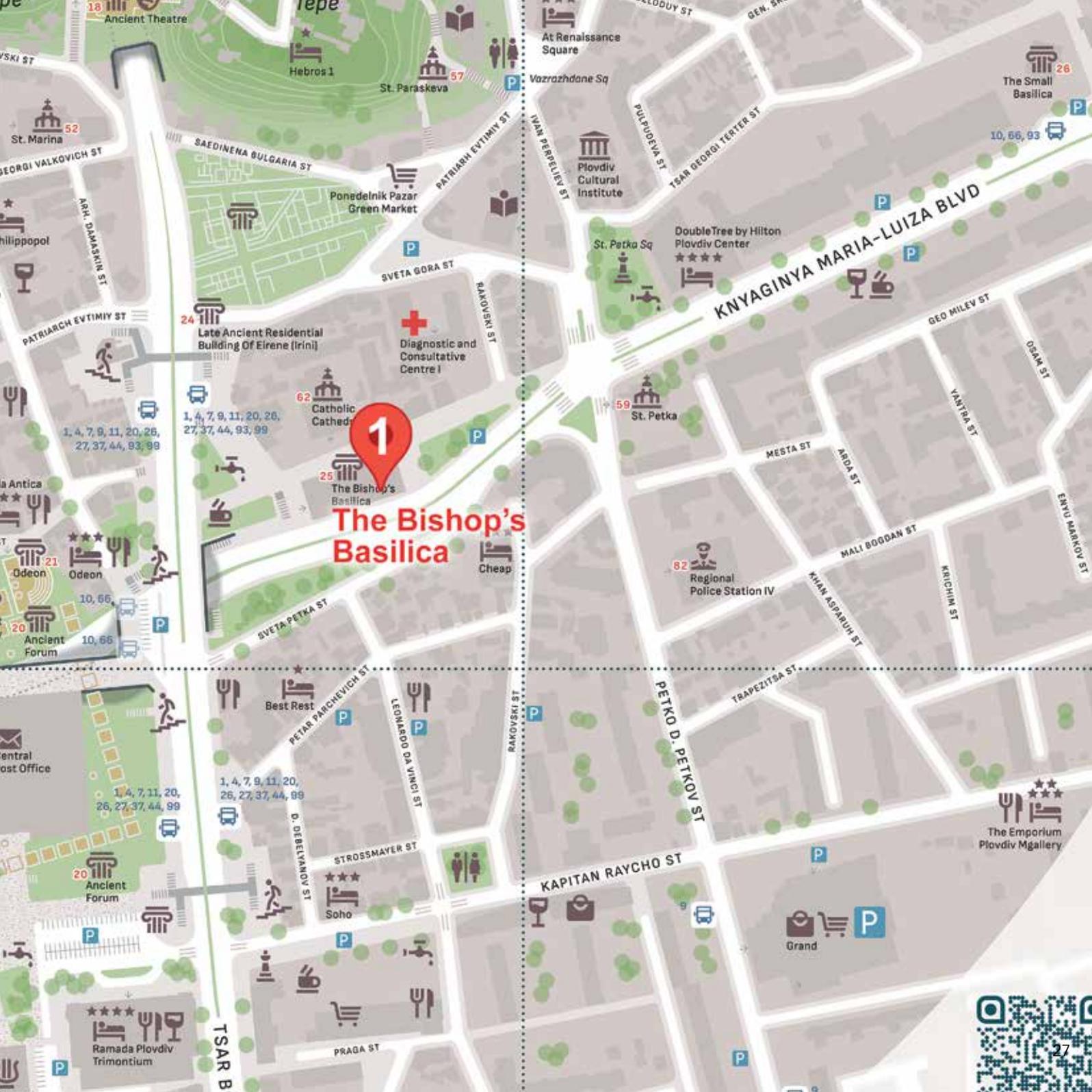
11:00

QUESTIONS AND DISCUSSION





**House of Culture  
Boris Hristov**



**1**  
**The Bishop's Basilica**

Map labels include: Ancient Theatre, St. Marina, St. Paraskeva, Ponedelnik Pazar Green Market, Plovdiv Cultural Institute, DoubleTree by Hilton Plovdiv Center, St. Petka, KNYAGINYA MARIA-LUIZA BLVD, Late Ancient Residential Building Of Eirene (Irini), Diagnostic and Consultative Centre I, Catholic Cathedral, The Bishop's Basilica, Regional Police Station IV, Odeon, Ancient Forum, Best Rest, Soho, Ramada Plovdiv Triontium, St. Petka, The Small Basilica, St. Petka Sq, St. Petka, Regional Police Station IV, The Emporium Plovdiv Mgallery, Grand, and Central Post Office.



11:20

11:40

12:00

**Ioanna Ruiz de Torres Moustaka  
Maria Paz Pérez Chivite**

Conservator-restorer, Department of Conservation, Consorcio Ciudad Monumental de Mérida, Spain

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**Jesús Serrano Rodríguez**

**Previous studies in the  
Cosmogonic studies of Mérida,  
Spain**

We present the results of an extensive study on the Cosmogonic mosaic in Spain. It is a very emblematic and exceptional piece known to all. This work has been carried out this year, and it is an example of a working model. The objective was to analyse all the conservation parameters before starting out a restoration. And for the first time, without financial constraints.

The methodology has been exemplary:

- with studies in situ :
- historical and graphic documentation, applying photogrammetry and Geographic Information Systems for the maps.
- Materials and construction technology
- Exhibition systems
- Non-destructive laboratory analysis,
  - on original mortars and cements, (8 samples)
  - glass and stone tesserae with a variety of colour and composition (22 samples)
- Treatment tests:
  - Cleaning
  - Consolidation and protection of tesserae
  - Reintegration tests

The results objectively show all the components of the mosaic, especially highlighting the rich variety of Roman glass. And at the conservation level, we clarify the accumulated deterioration due to the use of cements and bad practices, and we present the new reintegration proposal.

**R. Nardi**

Centro di Conservazione Archeologica, Roma, Italy.

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**The Restoration of the Identity of  
the Al Fadel Minaret in Manama,  
Bahrain**

For some decades, since it was built in 1936, the minaret Al Fadel in Manama, Bahrein, has been the tallest building on the Arabian Peninsula. It has been the reference point for sailors and caravans. His image, polychrome and sparkled in the sun, has materialized the very nature of the place for generations of Manama inhabitants and travelers.

Over the years, some accidental events have completely changed the appearance of this monument, and today the minaret appears as an anonymous intruder in a foreign habitat.

In 2019, the Bahrain Authority for Culture and Antiquities launched a campaign to rehabilitate the neighborhood surrounding the Al Fadel Mosque and commissioned the Centro di Conservazione Archeologica of Rome (CCA) to restore the minaret's image and historical identity. This paper describes the cultural process that determined the technical decisions, describes the technical details and presents the results of the project implemented.

**Mouid Hani**

Tunisia

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**Conservation-restauration et  
mise en valeur des mosaïques  
du quartier des villas romaines à  
Carthage**

Carthage, un site inscrit sur la liste du patrimoine mondial de l'Unesco, est composé de plusieurs localités visitables dont le quartier des villas romaines où se concentre la plus grande collection de mosaïques du site. Des pavements se trouvent encore in situ, et d'autres ont été déposés, reposés sur du ciment et du fer et stockés dans la maison du cryptoportique. Ce riche ensemble souffre malheureusement d'une dégradation continue. Nous allons donc présenter un constat d'état de conservation de ces mosaïques ainsi qu'un diagnostic avec des actions de restauration et de mise en valeur.

Un projet complet a été donc planifié et sera bientôt mis en œuvre grâce à un budget conséquent qui a été alloué. Il englobera la restauration des mosaïques et de leur contexte par une équipe de techniciens formés par le Getty Conservation Institute ainsi que des actions de mise en valeur pour tout le quartier. Nous présenterons donc également ces différentes interventions qui auront lieu cette année (2022) dont une action qui sera une première en Tunisie et concerne la construction d'un abri sur la fameuse mosaïque aux chevaux, un pavement de facture et de technique raree en Afrique réunissant l'opus sectile au tessellatum.

12:20

12:40

### Fadi Bala'awi

Director General of the department of Antiquities of Jordan

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### QUESTIONS AND DISCUSSION

#### **Mosaic conservation: challenges and opportunities: Jordan as a case study**

Jordan is blessed with valuable archaeological sites; also Jordan is very rich in mosaics which are varied from simple to intricate mosaics. This richness needs delicate treatment and conservation plans for their protection to protect to future generations, this presentation will discuss the main challenges and opportunities in preserving the Mosaic in Jordan, it will also present the main achievements of mosaic conservation in Jordan as a case study, Furthermore, the future plans of Mosaic conservation and preservation in Jordan to ensure their sustainability.

Small Basilica, Plovdiv



14:30

**Reneta Atanasova Karamanova-Zlatkova**

National Archaeological Institute with Museum, Bulgarian Academy of Sciences, Bulgaria  
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**Mosaics from Stara Zagora exposed in an urban environment**

Many ancient buildings with mosaics have been discovered in the territory of ancient city of Augusta Trayana. Some of the mosaics were preserved in situ, others were transferred and exposed in the museum or in other public buildings, or stored in a museum depot. Interesting examples of exposed mosaics in urban environment are a mosaic of Gen. StoletoV Blvd., a mosaic from the Post Office and fragments of a mosaic from Graf Ignatiev St. The mosaic of StoletoV Blvd found in 1955 is situated in a specially designed building under the modern boulevard. This is the first in situ exposed mosaic in the city. The mosaic from the Post Office, discovered in 1983 during the construction of the post office, has been preserve and expose it in situ, in the lobby of the building. Access to the mosaic is free, there is a ramp in the north of the room. The mosaic is also visible from the terrace on the second floor of the building. One fragment of mosaic from Grag Ignatiev was exhibited in the Cultural Information Center, two fragments in the lobby of a bank and several fragments were exhibited in a meeting room in Stara Zagora Municipality.

14:50

**Fryni Hadjichristofi**

Department of Antiquities of Cyprus  
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**First Interventions on the Mosaics of the Villa of the Hippodrome at Akaki, Cyprus**

Excavations at the villa of the hippodrome, situated at the locality Pigadhia in an area north of the village of Akaki in Nicosia District, started in 2013. So far, the excavation revealed the remains of a building, probably a rural villa, dating from the 4th century AD and bearing an exquisite floor mosaic, measuring 26 x 4 m. The seven panels included in the pavement depict a hippodrome, the nine Muses, the Philosophers and rich geometric patterns. The walls of the villa are in a poor condition due to the fact that they were found at a small depth below the ground surface and due to the constant ploughing of the area. On the contrary, the mosaic pavement, that covered the south portico of a basin, situated at the center of the excavated area, has been preserved in a rather good condition as it was protected by the earthen road that crosses the fields. The aim of this paper is to present the different measures undertaken since 2018 by the Department of Antiquities of Cyprus, for the conservation and protection of the mosaic pavement.

15:10

**Evelyne Chantriaux**

Directrice (de 1980 à 2021) Atelier de restauration de mosaïques et d'enduits peints, Musée et site gallo-romain de S. Romain en Gal, Vienne, Département du Rhône (ARM MRG), France  
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**Cecile Giroire**

Conservateur en chef du patrimoine au Musée du Louvre, directrice du Département des Antiquités grecques, étrusques et romaines, France  
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**The Mosaic of the Seasons from Antioch conserved in the Louvre Museum: a new restoration conducted by the "Atelier de restauration de mosaïques et d'enduits peints Musée gallo-romain de Saint Romain en Gal"**

This mosaic was discovered in 1935 during the Franco-American excavations that were carried out on the site of Daphne, residential area of Antioch. It owes its name to the huge figures of seasons which spring from a sumptuous acanthus scroll. Dated from the 4th century AD, it decorated a vast room, perhaps an open-air courtyard, in the *Constantinian Villa*. Transported to the Louvre in 1939, the mosaic was restored for its display and has become one of the masterpieces of the Department of Greek, Etruscan and Roman Antiquities. The new restoration, ordered to ensure its preservation and to enhance its decor, was entrusted to the *Atelier de Saint Romain en Gal*. After its lifting in 2018, the mosaic was rebacked on new supports replacing its previous reinforced cement base, followed by extensive surface operations including treatment of the many missing areas. The mosaic was reinstalled in the Louvre in November 2019. The entire work, conducted in close collaboration with the curator of the Louvre responsible for the pavement, mobilized more than five conservators during 18 months. The purpose of our paper is to show how this operation has improved the knowledge of this mosaic and allowed to rediscover its rich composition.

15:30

### Montserrat Puges i Dorca

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### Kusi Colonna Preti

External collaborator, Barcelona Archaeological Services, Spain  
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### Mosaic del meu barri 2017-2022

Barcelona's mosaic heritage covers a wide chronological lapse and comprises productions that are representative of various historical periods. Works made of mosaic can be found in museums or historical buildings but also in civil buildings. Conscious of the importance of this heritage, City council of Barcelona undertakes a project through the website called "El mosaic del meu barri".

Its aim is to highlight and promote awareness of mosaic heritage and offer the citizens the possibility to collaborate in its conservation. Five years after launching the website it's time to evaluate the results from the different main topics of the website: "participatory inventory", mosaic techniques "what is a mosaic?", "conservation tips", "itineraries" and "interviews".

Nevertheless, the project is dynamic and permanently renewed so it led us down unexpected but also interesting roads. Our contribution intends to be a critical review of the project and its evolution so that it may be assessed as a tool for heritage conservation.

15:50

### Maria Mertzani

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### Maria Deliprimi

### Foteini Getimoglou

### Maria Krini

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### Nikolaos Tolis

Hellenic Ministry of Culture, Directorate of Conservation of Ancient and Modern Monuments, Greece

### **From pieces to floors: reversing past practices**

Reversing past practices is a demanding but rewarding process. This is the case of six roman mosaic pavements brought to light in a series of rescue excavations during the years 2005-2009, detached in pieces and left in oblivion for almost 10 years. In 2015, the local archaeological unit included their exhibition on the yard of a new museum and asked the Directorate of Conservation of Ancient and Modern Monuments for assistance. Responding to this request, a team went on Kefalonia to examine the mosaic pieces and to put forward a conservation and exhibition program. This challenging project included the location and association of the detached upside-down mosaic pieces that were kept in three different storage areas, their safe packaging and transportation in Athens, where a tailored laboratory was assembled at our department for this purpose, their treatment and finally their travel back on Kefalonia for their installation at the archaeological museum yard. This paper will follow the track of the mosaics from discovery to abandonment and from revisiting them to their final exhibition. This project, in cooperation with the local Ephorate of Antiquities, although it was implemented within a tight schedule and with a limited budget, it enabled us to create a new laboratory infrastructure, to activate a conservation team, to examine the best possible materials and methods and finally to promote the reversion of the previous interventions as a strategic choice.

16:10

### QUESTIONS AND DISCUSSION



### Ali Akin Akyol

Gazi University, Faculty of Fine Arts, Department of Conservation and Restoration of Cultural Proper-ties, Ankara, Turkey  
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#### **The Archaeometrical Analyses of Late Roman Mosaics From Hadrianoupolis in Anatolia**

Hadrianoupolis is on the principal western route from the Central Anatolian Plain through the moun-tains to the Black Sea in Anatolia. It was a small but important site, controlling this major route and dominating rich agricultural, enclave in Roman Paphlagonia. The remains of at least fourteen buildings at the site were identified by the field surveys and excavations since 2003. Among them were the late Roman period Bath Buildings A and B, Early Byzantine Church B and Late Roman villa buildings with mosaic floors that were analysed by archaeometric methods.

The physical, petrographical and chemical properties of the mosaics including preparatory and tessellatum layers were mainly determined by petrographical thin section optical microscopy and XRF analyses. The analyses showed that the lime mortar of rudus and nucleus layers of the Baths A and B were rich in coarse aggregates and brick particles.

The Late Roman Villa and Church B were made of a mortar with fine aggregates in homogeneous lime matrix. The tessellatum layers of the geometric patterned mosaics composed of white, black, red and green coloured limestone tesserae (about 1 cm) in bedding layers. XRF analyses pointed out three different lime origins for the preparatory layers of the mosaics.

### Iman Albaaini

Directorate General of Antiquities and Museums, Damascus  
 Syria  
*imanalbaaini@hotmail.com*

#### **Restoration project of Al Rayyan mosaic pavement- a new cadres training initiative**

Ten years of war in Syria, the Directorate General of Antiquities and Museums has lost a large number of restorers who have been trained in training programs inside and outside Syria. And the next stage requires the presence of a number of restorers who are able to assume responsibility towards the mosaic heritage in Syria.

We who have trained at the hands of restoration experts in CCA, and at the hands of restoration experts within the Mosaikon program, we must pass on what we have learned to the new cadres. The training was on a mosaic dating back to the fifth century AD discovered in 1950 in the site of Al-Rayyan in the north of Syria.

### Firas Al-Haj Ali

National Museum of Aleppo, Syria  
*firasalali22@gmail.com*

#### **Mosaic of Allenbgh**

Monastery is located northeast of the city of Aleppo is about 100 km in the area of Wadi Assajoor near the village of Allenbgh in the area Jarablos on the summit of Mount average height and very rugged with stones basaltic and 5 km from the right bank of the River Assajoor, and extends the mountain of hand Aghandorh to hand the shepherd along the Turkish border. It has been discovered the site by accident in an area known archaeological where it is located one of the most important quarries ancient stone known that was used basalt for the manufacture of statues in many historical periods, has seen a number of huge statues at the site Saxler Alveabad about 7 Kman site

(Allenbgh) newly discovered, have talked about this quarry archaeological researchers Beaunez Guy and Stephanie Mazzoni.

2 - Description of the painting:

Painting rectangular dimensions up to 945 × 500 cm and no room within the east-west direction, and the door to the south, carried a small painting Bmkaabat 6-8 Mmhumicaddh color gradient between dark color and the detector. Where the artist across the old Syrian religious faith and the environment surrounding it and his philosophy are perceived by the things and the universe and the animals and plants and objects onshore and offshore. The painting surrounded by walls of basalt stones small display where 75 cm is covered with a layer of plaster and there is two degrees on the eastern side of the painting to another room to perform their function. The painting can be divided into four sections: Geometric scene; landscape; Write Syriac; Framework.

A. The first scene: a scene geometric.

B. Scene II: scene of the natural environment:

C. Frame: Two frames, the first external surrounds the whole

D. Syriac inscriptions: no texts in Syriac at the top of the plate

The problems of the painting: efflorescence; incrustation; cracks complex; lacunas and lost of tesserae.

### Firas Al-Haj Ali

National Museum of Aleppo, Syria  
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#### **The Mosaic Pavement of St. John Monastery (Al-Nabghah)**

Syria offers a rich range in Byzantine mosaic floors, mostly decorating churches, especially in the northern and central regions. Here many mosaic pavements of Byzantine churches were discovered, around Aleppo like (al-Nabgha), Tell al-YamÁrana mosaic, Deir Qansrin, Zamka, YElif Biskê, YUqlat al-Bwydr, Tell Bajer. They were discovered between 2000-2011 by archaeologists from

the Directorate of Antiquities and Museum of Aleppo in cooperation with foreign archaeological missions. The mosaics offer a variety of different iconographies, some of them primarily geometrical.

This poster will intend here concentrate on the study and analysis of figurative mosaic and their iconographies recorded in the mosaic pavement of the al-Nabghah site which was most likely the pavement of St John's monastery, dating back to the fifth or sixth century AD. It was surrounded by the remains of walls approximately 75 cm wide, which consist of three courses of black basalt stone of different sizes, their preserved heights reach 50 cm. These stones may be covered with a layer of Plaster because its surface is uneven from the inside and because there are remnants of it on the edges of the floor.

### **Badr Albireeki**

Libya

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#### **Mosaic of the Libya Palace**

How to deal with mosaics and ways to preserve them. Of course, dealing with mosaics according to the situation before us from the damage done to them, so we decide how to preserve the mosaic and the steps necessary for the ruins of the mosaic, which begins with the following steps

- 1 Photo and paper documents using forms
- Two steps of cleaning and removing all the surface of grass, dust or anything else in two stages: cleaning without water, cleaning with water and then evaluating the mosaic
- 3 Collect the cubes on the surface
4. Select mortar in terms of color in terms of quality to be similar to the old mortar with experiments  
Adjust the quantities of raw materials and lime.
- 5 Direct overlap on the mosaic from the protection of the edges with mortar and

return cubes and fill the gaps and fill the joints between the cubes and documented in the form of continuous or direct intervention.

### **Emilija Apostolova Chalovska**

University "Ss. Cyril and Methodius" – Skopje  
Republic of North Macedonia  
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#### **Towards the study of several middle-byzantine opus sectile pavements from Macedonia: origin, influences, state of conservation**

Opus sectile, a mosaic technique whose roots date back to antiquity, was widely spread throughout Byzantium's sacral decorative art. Based on the ancient traditions, as well as on mosaic pavements from the early-Christian basilicas, the floor arrangement in the byzantine medieval churches developed a rich vocabulary, comprising of various motifs and decorative elements, organized in a composition which reflects the architectural structure of the church, as its horizontal projection. Several examples of mosaic pavement in Macedonia, dating from the XIth century – marked by the intense building spree of the middle-byzantine period – have been partially preserved to this day: St. Sophia in Ohrid, the cathedral church of the Ohrid archbishopric, the remains of which have been recently controversially covered by new marble floors with floor heating system; the archaeological remains of the episcopal basilica in Morodvis and the catholicon of the Virgin Eleusa in Veljusa, whose opus sectile mosaics are located in situ. This paper aims to address their similarities and differences; the contemporary and older mosaic pavements from the most prominent artistic centers of the empire: Athos and Constantinople, which influenced their appearance; as well as the threats, and challenges they face and their current state of conservation.

### **Asharaf Aqeelah, Badr Albireeki**

Department of Antiquities of Libya, Mosaic Restoration, Benghazi, Libya  
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*baadr66@yahoo.com*

#### **How to deal with mosaics and ways to preserve them**

Of course, dealing with mosaics according to the situation before us from the damage done to them, so we decide how to preserve the mosaic and the steps necessary for the ruins of the mosaic, which begins with the following steps

- Photo and paper documents using forms
- Two steps of cleaning and removing all the surface of grass, dust or anything else in two stages: cleaning without water, cleaning with water and then evaluating the mosaic
- Collect the cubes on the surface
- Select mortar in terms of color in terms of quality to be similar to the old mortar with experiments
- Adjust the quantities of raw materials and lime
- Direct overlap on the mosaic from the protection of the edges with mortar and return cubes and fill the gaps and fill the joints between the cubes and documented in the form of continuous or direct intervention.

### **A. Farhan Mohammad Al-Amayrah, Amjad Mohammad Awad**

Madaba Institute for Mosaic Art & Restoration, Madaba, Jordan  
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#### **The conservation of the mosaic floor of the Martyr Theodore church, Madaba – Jordan**

This paper aims to describe the conservation of the mosaic floor in the chapel of the Martyr Theodore in Madaba-Jordan, which is one of the remaining byzantine mosaics in the Cathedral church in Madaba. The

mosaic was discovered in 1968. Since then the mosaic floor has been exposed to the different deterioration forms such as, swelling, depressions, incrustation, lacunae, salt efflorescence, detachment between preparatory layers, and biological activity. The study confirms that it is necessary to conserve the mosaic floor in order to avoid further damage. The conservation activities carried out on the mosaic floor included documenting the mosaic by photographs and drawings, mechanical cleaning, replacement the cement from lacunae and filling lime mortar, consolidating the mosaic edges and the preparatory layers with lime mortar.

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**Madaba Institute for Mosaic Art & Restoration and its role in restoration of mosaic floors Projects through corona pandemic (COVID -19)**

The purpose of this paper is to introduce Madaba Institute for Mosaic art and Restoration (MIMAR) which established in 2007 as a result of joint collaboration between Jordanian department of antiquities and the Italian government and the USAID. MIMAR is considered the only institute in the region that offers a diploma program specialized in scientific methods of production and restoration of mosaic art in the region.

This paper will introduce the pioneering role for (MIMAR) in training and teaching students to qualify them to work in this field. The paper will highlight the role of the Institute in restoration of mosaic floors projects through corona pandemic (COVID-19).

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**Comparison of the Tessellata of Some Roman Mosaics and Their Provenance Areas between the Archaeological Sites of Volubilis and Lixus (Morocco)**

Most of Roman archaeological sites in Morocco contain many mosaics, it offers significant pavements decorated with the majority of architectural buildings components different archaeological sites of Morocco. Petrographic and mineralogical analyses of tesserae coming from some of Roman mosaics in Volubilis, and Lixus, archaeological sites have revealed the petrographic nature of the rocks used in the decoration of different tessellata. The knowledge of petrographical characteristics of these tesserae represents an essential step to understand mechanical properties of the used materials, their weathering processes and the location of their origin. This comparative study carried on natural materials used in roman mosaics tessellata in some archaeological sites give us ideas about the provenance of building materials and the movement of materials in Morocco and in the Mediterranean region. This study will also provide solutions to guide professionals in the choice of interventions related to the restoration and conservation.

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**Mosaics of the underground archaeological area of Saint John Lateran, Rome**

The Lateran area, and specifically the sector in proximity to Saint John Basilica, may be defined as one of the most interesting underground archaeological areas of Rome. The remains of the ancient buildings, preceding the Christian Archbasilica, are buried about 6m. below the current Basilica and cover a surface over 5.000 m2 wide.

Several mosaics dating to the Roman period have been found in the archaeological area. The floors, of high historical significance, are preserved in different conservation condition. Conservation intervention started in 2010, and it has involved sections of the area where stone mosaics with black and white geometrical patterns are preserved.

This paper will present the methodologies applied in the intervention, chosen according to the different levels of deterioration. When possible, conservation in situ was undertaken as primary option; instead, in cases where both the tassellatum and the preparatory layers were highly deteriorated, detachment was necessary. After lifting, the mosaics were reapplied either in situ on a new bed of lime mortar, or on Aerolam panels shaped to fit the perimeter of the rooms and placed back in the original position. In every circumstance, the focus of the intervention was on preserving the original context of the mosaics.

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**Glass tesserae from the early  
Christian wall mosaics of Panagia  
Kanakaria in Lithrankomi, Cyprus:  
com-position, technology,  
provenance**

A collection of twenty glass tesserae samples from the 6<sup>th</sup> century A.D. wall mosaic of Panagia Ka-nakaria in Lithrankomi Cyprus, were studied in order to document their manufacturing technology and deterioration features. The samples cover the whole chromatic spectrum that was identified in the repatriated fragments of the mosaic of the apse, which was smuggled between 1974 and 1976. The aim of this study was to identify the raw materials, colorants and opacifiers through non-distractive analyses. Optical microscopy (OM) and scanning electron microscopy (SEM) combined with energy dis-persive spectroscopy (EDS) were employed.

Chemical analysis showed that the majority of the samples are silicate soda-lime glasses and lead glasses. Five samples rich in calcium phosphate (P 2 O 5 ) concentrations, suggest its use as an opacifi-er. In green and yellow tesserae the coloring and opacification was obtained by lead-tin oxides. The main metal oxides used as colorants are FeO and CuO in

a variety of concentrations. Gold leaf tesserae consist of a high purity Au and Ag alloy sheet (av. 5,6 wt%) applied on a translucent base glass. The conclusions of the present study provide insights on the manufacturing technology and provenance of the glass mosaic of Kanakaria and contribute to the understanding of early Byzantine glass production and trade.

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**Archaeological site Mediana  
in Nis, Serbia: renovation of  
museum with focus on a new way  
of presen-tation of mosaic floors**

Archaeological site Mediana is located in the Southern Serbia on the territory of modern city of Niš. It represents residential complex built by the Roman Emperor Constantine the Great at the beginning of 4th century. The site has become famous to visitors for its outstanding mosaic pavements (around 1.000 m<sup>2</sup>). Museum was built in 1936 with aim to protect the excavated mosaics in the dining room but also to serve for displaying of archaeological artifacts. Building was closed for public in 2013 due to a series of interventions carried out inside and outside the building that disabled possibility for presentation and access to building. In order to resolve this situation and create adequate conditions for the presentation of mosaics Museum of Nis organized design competition for renovation of build-ing in 2017.

The winning project was implemented in the period from 2019 to 2020 and its main characteristics are design of a transparent platform-gallery with its simple form and contemporary ma-terials that equally respects the structure and elements of the existing museum, while allowing the mosaic to be fully viewed. Access to the museum building is also a transparent structure, which allows the original archaeological layers to be viewed in total.

**Murat Cura**

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**In the repair of Hagia Sophia  
dome mosaics a detection on the  
use of injection mortars**

Although the mosaics of antiquity differ according to their periods and geographies, the construction layers of all mosaics are for the purpose of exhibiting tessellatum. Classifications can be made in some similar categories, although separate investigations are required for each artifact in mosaic distortions. One of the disruptions we mentioned is the separation between the layers of construction.

The distortions can be due to the loss of their bonds between the layers (with the deterioration of the material structure) or the effect of physical factors (earthquake, humidity, landslide etc.). The problems identified as layer separations appeared in our works in the Hagia Sophia dome mosaics be-tween 2002-2004. Especially the surfaces observed in the dome, roof and partially wall mosaics, with separation problems have been taken under temporary protection against the tendency to break and fall with the laws of gravity. Afterwards, the gaps formed in these areas were strengthened by filling them with injection mortar. The distortions we mentioned were detected

in our own work areas with different instruments and diagnostic methods. In the detection of the gaps, we entered the appropriate parts with an endoscopy tool, and the view we saw pushed us to quite different thoughts about strengthening with injection. Putting forward our experiences and suggestions for the solution of these problems and discussing them on Hagia Sophia will contribute to the solution of such problems in similar cultural assets.

### Prolet Decheva

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### **Searching for Late Antique Mosaics online**

During my own research on the depictions of late antique personifications of abstract ideas, i.e. Ktisis ("Foundation"), Kosmesis ("Adornment") and Ananeosis ("Renewal", "Renovation"), I was surprised to find examples which seem to have not been discussed or published at all. In this paper I will try to examine and evaluate the tools for searching for images of late antique objects online that have proven to be the most fruitful. The results can be very different from what is to be found on scientific databases and in printed publications. While the internet is widely used for a variety of purposes in all aspects of life, it also turns out to be an enriching tool especially for the study of late antique iconographies, for discovering unknown subject material and for furthering archaeological and art historical research in general. I will also try to touch on the question of the disproportional dispersion of images of late antique mosaics, as well as of their contemporary reception. From a methodological point of view images of late antique object, in this case mosaics, found on the internet are to be viewed with a certain degree of skepticism. They will very

often lack vital information such as correct dating, localization and contextualization. Their authenticity could also be questionable. Their mere existence is however not to be ignored.

### Rayna Decheva-Uchkunova

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### **Mosaics of Plovdiv artists from the 70s and 80s of the 20th Century - Technical and technological aspects**

Wall mosaics were a regular part of Plovdiv's art life in the 70s and 80s of the 20th century. For the purposes of this study all preserved mosaics in Plovdiv have been sought out and inventoried. Several selected works are studied in terms of their technical and technological aspects and state of preservation.

### Abdelilah Dekayir

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### **Contribution of GIS in the management of roman mosaics data in Volubilis archaeological site (Morocco)**

In Volubilis, Roman mosaic conservation and restoration are an integral part of site management and require a detailed inventory and cataloging of the different mosaics and the compilation of related data (documentation relating to each mosaic, history of interventions, geometry, mineralogy, etc.) in easily manageable databases.

The database of Volubilis mosaics was built on Access software. It allows the storage of all useful information from the mosaic

scale (documentation, types of pavement, weathering, soil etc.) to the archaeological site scale. Geographic Information Systems (GIS) allow the visualization of these mosaics in space (that is to say on the scale of the site) and the interrogation of the coupled documentation at the same time. The IT tool used (databases under Access and spatialization under ArcGIS software) is of primary use in managing this heritage and helping conservator and restorer in decision-making.

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### **Ultrasonic and GPR investigations of Ephebe Roman Mosaic in Volubilis archaeological site (Morocco)**

Volubilis is the most important archaeological site in Morocco, listed on World Heritage List in 1997. It holds beautiful on-site Roman mosaics. These mosaics, although conservation efforts, suffer from weathering and physical degradations such as erosion, cracking and collapse.

In this study, Ultrasonic testing and Ground Penetrating Radar were applied to Ephebe mosaic known as the most altered and problematic mosaic in order to assess its healthy state and stability. UST investigation using 54 KHz transducers has led to explore the bedding layer state and mapping the P-wave velocity. The whole average velocity is very low. The constructed Vp tomography gave a quantitative and precise map of the weak and vulnerable areas. These results have been confirmed by signal attenuation map. GPR prospecting was very successful in high resolution imaging of the studied mosaic, specially the armed structure of its pavement. The wire mesh is located around 5 cm depth. It seems in a good state and

regularly spaced, but shows many clusters of densely rebars, steel reinforced zones due probably to late interventions.

A good diagnosis has been established in order to access the degradation conditions, its stability and to improve also the methodological approach to optimize restoration interventions.

### Ibrahim H. Dural

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#### **Gordion Mosaics**

Gordion is an important cultural and political centers of the ancient world in today's Turkey. Occupies a strategic position on all ancient trade routes between the Mediterranean and the near east. Settlement started at Gordion in the Early Bronze Age (ca. 2500 BCE) and city became prominent especially after Phrygian settlement in the 12th century BCE. Habitation still continues in the today's village of Yassihöyük. In 1956, a monumental two room hall megaron; "Megaron 2", dating to the early Phrygian period (ca. 850-800 BCE) was discovered. With prominent feature of a fantastic pebble mosaic floor, which is one of the earliest example of its kind in the world. Arrangements of red, blue-gray, and white stones formed a kaleidoscope of geometric motifs. In 1963, the best preserved parts of the floor were cut out and lifted as 33 panels, on concrete panels with iron bars and installed in an out-door display at the Gordion Museum, inadequate to protect and exhibit this world-class historical work. Overgrout, dislocation, micro-flora, moisture staining, guano, disintegration of the concrete, spalling of concrete, pebble loss are today's problems and new protective measures should be taken. This study focus on problems and protection suggestions on Gordion Mosaics.

### Layla Es-Sadra

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#### **The conservation and management of in situ Mosaics of Volubilis – Morocco**

After their discoveries in the first half of the last century, almost all the complete or fragmentary mo-saics of the Volubilis site were restored and placed in situ in the same rooms they decorated in the Roman period. This choice made by the authorities of the French protectorate in Morocco, offers both one of the rare opportunities for visitors to admire authentic soils in situ, but threatens these mosaic floors on several levels. Indeed, the nature of the materials and supports used in the restoration, and the fact that these mosaics are not covered; complicates their conservation conditions and contrib-utes to their degradation despite the multiple consolidation and clean-up efforts provided by the con-servation of the site.

I will discuss in my contribution, after a brief introduction on the interest of Volubilis' in situ mosaic collection, the nature of the materials and supports used in their restoration and the problems they suffer from these mosaics left in direct contact with the different types of alterations. I will end my intervention with the proposed solutions for the safeguarding and management of such national and global heritage.

### Anna Fialová, Irena Kučerová

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#### **Graffiti removal from glass mosaic by microemulsion system – case study**

Graffiti removal not only from glass substrate is usually done by means of common organic solvents and/or commercial graffiti removers. Both organic solvents and commercial removers are potentially environmentally unfriendly and sometimes ineffective. Moreover, alkali removers could be harmful to cleaned glass. Therefore, new materials such as cleaning microemulsion systems are tested. When us-ing these microemulsion systems, the most important thing is to choose suitable application method and combination of organic solvent and surfactant. Laboratory tests showed that the mixture of ethyl acetate and propylene carbonate is more effective than other tested solvents, especially when combined with sodium dodecyl sulfate (anionic surfac-tant). Repeated short-term application of soaked poultice seems to be more efficient than one long-term application. In both cases, the final mechanical cleaning with cotton swab or cloth should come after the poultice removal in order to remove swollen paint layer. Prepared microemulsion system was used for the cleaning of glass mosaic called "Duha" (Rainbow). Surface of this mosaic was covered by graffiti of three different colours and different age. Microemul-sion system applied in form of soaked cellulose pulp poultice was more efficient than pure organic solvents and was able to remove almost all paint from the glass surface.

**Raffi Gergian**

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**Conservation and presentation challenges under harsh climate conditions: The mosaics of Anjar, Lebanon**

The poster reflects the rescue operation of forgotten mosaics in the Omeyyad baths located in the World Cultural Heritage site of Anjar (8th century). Knowing that the city of Anjar is situated in the Beqaa valley and facing unsteady climate changes such as daily thermal fluctuations, the mortar used during the operation couldn't resist these conditions which led to their decomposition. This matter motivated me to participate in the Mosaicon Course (2014) and made me adopt other solutions for the conservation and presentation of the mosaics in situ. After the consolidation of the tesserae, some mosaics were reburied while the main mosaic that attracts tourists was protected by a seasonal mobile shelter with a true scale picture of the mosaic on it which made him survived. It is necessary to mention that the reburied mosaics are still waiting for a new work strategy in order to be conserved and presented in situ without defecting the archaeological site.

**Romeo Gheorghiu**

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**Preliminary research regarding the in situ state of conservation of the ancient wall and the polychrome pavement mosaic at the Roman edifice of Tomis-Constanța, Romania, IV-VI century AD**

The Roman Mosaic is registered at the Ministry of Culture of Romania on the list of historical monuments since 2004 and it belongs to the Ancient City of Tomis – Constanța Peninsula, an archeological site being dated from IV-VI centuries AD, the Roman era. The research project included aspects regarding the ongoing regular monitoring of the historic site and the preventive conservation measures applied. The poster-presentation presents general and detailed information about this monument such as: general historical data, location, its historical and artistic importance, technical aspects of the construction of the Roman mosaic in Constanța, its discovery, interventions and additions made over time. Furthermore, the study presents the results of the research concerning the causes and sources of degradation of the archaeological site; the current state of conservation of the ancient wall and the mosaic pavement; general suggestions for research and conservation, general protective measures for the building with mosaics, the archaeological site, and the proper microclimate for the mosaic-protection building. The presentation ends with the conservation-restoration methodological proposals, possibilities and limits of interventions.

**Russell David Hendrix, Jr**

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**Seen and Unseen: The Current Situation of Istanbul's Mosaics**

Istanbul is famous for its Byzantine mosaics, from Hagia Sophia and Chora to the Great Palace Mosaic Museum. The recent conversion of Hagia Sophia has caused some confusion, particularly regarding the state of its figurative mosaics. This is further complicated as two different organizations being responsible for its conservation. Some of the mosaics, including the Theotokos in the apse, are usually covered, while the galleries are currently closed to the public. However many other mosaics are fully on display, including the recently restored mosaic of John V Palaiologos on the eastern arch of the dome. Two former Byzantine churches, Fethiye Museum (connected to Fethiye Mosque) and Vefa Church Mosque, recently had their mosaics restored. In the past decade, a mosaic floor was excavated at a lesser-known archaeological site, Damatris Palace, on the Asian side of Istanbul. Certainly the most impressive mosaic floor was discovered in Zeytinburnu, located outside the Theodosian Walls near the Marmara Sea. This Late Antique mosaic floor, which is largely geometric in design, perhaps belonged to a seaside villa. It was found in a 19th-century building, leading to an excavation outside the building to uncover the rest of the mosaics.

**Aglia Ikonomova**

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**Emergency lift of antique mosaics from private terrains**

The lifting /detachment from the terrain/ is a last resort in the conservation and restoration of mosaics. This is necessary in certain cases.

When excavating for private construction in areas with ancient heritage, it often happens that ancient floor mosaics are encountered. In most of these cases it is impossible for them to remain in place. The solution is to lift the mosaics and transport them to museum depots.

This report examines several examples of emergency lifting of mosaics in private terrains.

**Filip Jankovic**

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**Re-conservation and restoration in situ mosaic from Archeological site Felix Romuliana**

The following presentation will show the re-conservation in situ mosaic on Archaeological site Felix Romuliana near Gamzigrad. The previous conservation and restoration was done in 80's. Gamzigrad is archaeological site, positioned near Zajecar in east Serbia, of antic roman royal palace Felix Romuliana, which is on UNESCO world heritage list since 29th of June 2007.

Archeological research and conservation-restoration works in Gamzigrad begun in 1953. Mosaic carpets which covered palace floors present highest domain of mosaic art at that time and renaissance of mosaic art of post-Hellenistic era. In the 80's conservation and restoration of floor mosaic had been done. Mosaic is round shaped and is located in the lobby between three-roomed and

four-roomed room. Due to non-adequate preservation conditions, atmospheric opportunities and other influences conservation and restoration had been done again in 2014. Due to time limit for works to be completed as well as weather conditions re-conservation was completed in shortest time frame and in best possible manner.

**Knut Joachimsen**

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**A Medusa mosaic from the LVR State Museum Bonn. Documenting and developing measures for un-treated war damage**

In 1904, an almost complete Roman mosaic of a Medusa head was found during drainage work in the area of the former Roman military camp in Bonn, Germany. After it was recovered and restored, this special find, the only Roman mosaic found in Bonn to date, was presented to the public at the former Provincial Museum in Bonn. But 40 years after its recovery, the mosaic was destroyed in an air raid in December 1944 during World War 2. After the war, attempts to conserve and restore the mosaic were abandoned and it was finally declared a war loss in 1951. Different-sized pieces and fragments went unnoticed in the storage room of the museum for more than 60 years before they were found again in 2013. Detailed documentation about the destroyed object was produced for this first time and measures to conserve and restore the mosaic were developed so that the mosaic could be presented at the new exhibition of the LVR State Museum Bonn. This work as well as the documentation process started simultaneously back in 2017 and are still ongoing.

**Christen Jones**

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**Annual Photogrammetry as a Tool for Monitoring Mosaic Condition and Conservation: A Case Study of the Mosaic Floor from the House of Parthenius at Stobi**

The mosaic floor in the House of Parthenius at Archaeological Site Stobi was first discovered during excavations from 1927-1930, and uncovered again in the 1970s. Preventive conservation treatments, including edge repair and lacunae filling, were undertaken during both campaigns but no suitable technical and photographic documentation was completed. In 2017, the mosaic was reopened and proper photogrammetric documentation was done before conservation activities. In the following years, three short conservation campaigns were undertaken including complete photogrammetric documentation before and after the interventions. Photogrammetry solves the problems that are associated with technical mosaic documentation and is becoming the standard for high quality recording. By producing a complete georeferenced 3D model of the mosaic and its environment, the dense 3D data can be used as the basis to extract several types of technical and analytical information about the mosaic surface including high resolution georeferenced orthophotos, conservation planning, detecting and monitoring change, and even tesserae-by-tesserae mapping all at a scale of 1:1 in the co-ordinate system of the site. Repeating photogrammetric documentation yearly before and after conservation interventions provides a stable method of monitoring the state of the mosaic from year to year and for assessing and prioritizing future conservation needs.

**Mikal Kindt**

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**Chasing the history and the origin of a mysterious green stone of the 19th century mosaics of Belgium, Italy, France and Spain**

This ongoing research reveals misconceptions about the nature of a green stone, used in 19th century mosaics in different countries, often deteriorated in moisture-loaded condition. The stone can geologically be described as a volcanic tuff or ignimbrite. It is currently not possible to know whether the observed differences are due to the intrinsic variability of the same stone type or whether they indicate the use of different stone types, and areas of origin.

The degradation mechanisms are described, starting with the weathering causes, followed by the external factors related to the environmental conditions. The intrinsic properties of this type of stone lead to different behaviors in the surrounding environment, entail different types of degradations and hence specific conservation needs.

The aim is to prevent using a material with comparable physical properties in the restoration.

An attempt to trace its history, origin and use in different countries, starts with the archival research, supported by petrographic studies and using a non-destructive method for handheld XRF analysis to obtain geochemical data at various sites.

Finally a replacement stone will be developed for places where the porous, original stone, cannot provide a sustainable solution.

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**The national survey on the lifted mosaics of Greece a decade after: tracing the change**

A national survey on lifted mosaics in Greek museums and archaeology departments was conducted in 2010, aiming to estimate the quantity and condition of mosaics in storage and exhibition, to map infrastructures and procedures in mosaic conservation, to reveal strengths and weaknesses, and finally to motivate the development of sustainable preservation strategies. The outcome of this survey was presented at the 11th ICCM Conference in 2011.

In view of the significant changes that have taken place at the Hellenic Ministry of Culture, over the last decade in terms of administrative structure, as well as human and financial resources, a number of questions arise as to how these changes have affected the mosaic conservation approach and the strategic planning for conservation. Have the administrative and managerial changes influenced mosaics' preservation and conservation programs? Have the results of the survey affected the decision-making procedures at a regional and national level? Did our approach towards mosaics conservation have an impact on the conservation practices at regional level?

Ten years after, a review of the survey and its impact on mosaic conservation planning is essential as a self-assessment tool before proceeding to the next major step, which is the national survey of in situ mosaics. This presentation discusses the results of a new supplementary questionnaire that has been distributed to all responsible parties as a follow up of the first survey, with an attempt to 'trace the change'.

**Irena Kučerová**

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**Czech mosaics – topographic survey of exterior mosaics**

Mural mosaics made of glass, stone, ceramics and combinations of these materials can be found in the territory of the Czech Republic. While the best-known of them, the medieval mosaic of the Last Judgement on St Vitus Cathedral in Prague, received much care in the past, hundreds of other mosaics have been outside professional attention until recently. These works were coming into existence from the late nineteenth century for exteriors and interiors of both public and private buildings and also as a decoration of demanding funeral architectures. The earliest of them, implemented in the late nineteenth and early twentieth centuries, are works of foreign mosaic companies. A comprehensive line of domestic mosaic production can be observed in the Czech Republic's territory from the 1930s, culminating with mosaics of the socialist workshop in the second half of the twentieth century. A systematic archival and topographic survey revealed not only the richness of the mosaic fund but also great losses of works of art. The survey has resulted in a map offering an overview of both preserved and vanished mosaics in the

whole territory of the Czech Republic. Each individual mosaic record combines information about the mosaic and photographic documentation.

### Irena Kučerová

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#### **Czech glass mosaics – typology of mosaic glass**

The presentation will offer a comprehensive overview of all types of glass tesserae that were produced and used for mosaic production in the territory of former Czechoslovakia during the twentieth century. Smalti was produced on the Czech territory from the 1930s. Czech smalti differ from Italian material in colouring and since the second half of the twentieth century also in the character of the tesserae. After the middle of the century, Czech tesserae had a considerably irregular shape and size. Apart from smalti, which was exported from Bohemia also to the countries of the former Eastern Bloc, artists used also prefabricated tesserae that were produced for building purposes (tiles). They included prefabricated tesserae produced by rectilinear and rotational pressing, casting and sintering. Other material such as rod, flat glass and glasswork waste was also used. The production of the national company Železnobrodské sklo alone included also prefabricated tesserae intended for art production. From the 1950s, a workshop concentrating on art mosaic from prefabricated glass was part of the company. The presentation will briefly describe the development of this workshop, from mosaic pre-fabricates to a unique technology consisting in the glueing of prefabricated tesserae to glass, mirror and aluminium sheet.

### Brigitta Maria Kürtösi

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#### **Investigation of in situ regeneration possibilities of cartellina in case of modern gold glass tesserae**

Concerning some outdoor mosaics it is known that metal foiled tesserae can start to lose their structural unity. Firstly micro-cracks occur in the thin covering glass, then it can detach from the gold, which becomes very sensitive. In the second step the gold can be damaged and only the supporting glass remains embedded; thus the tessera loses its original character. Mechanical deformation of the supporting building structures can be responsible for the alteration. The open joints can lead to the continuous ingress of rain, and not only frost, but the periodic movement of the water soluble salts are also a factor in the deterioration. The salts rise to the surface and the crystallized forms accelerate the detachment of the cartellina. In the intermediate phase the surface looks discolored and the re-refraction of light alters. Other causes can originate from the different chemical composition of the glass materials which leads to changes. Under the same conditions some tesserae retain their general state, but some of them, which can be randomly situated, alter. The goal of the ongoing research is to prolong the life of these types of tesserae in their original location, instead of substituting them completely during the conservation process.

### Brigitta Maria Kürtösi

Freelance painting conservator and researcher, Hungary  
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#### **Challenging and risks of the restoration of a turn-of-the-century glass mosaic**

The case of an outdoor gold and glass mosaic originally executed by the Róth workshop in 1905, which went through an in-situ treatment in 2006 became a good example concerning the problem of the so-called retreatability. The almost four-square-meter large mosaic decorates the main entrance of the Fasori Lutheran Church in Budapest. In the past, following the sinking movement of the building a nearly vertical structural crack was generated and appeared on the surface. The continuous soaking of the porticus structure activated the salt movement from the deep behind of the mosaic and caused damages and losses. The previous operation cannot solve the problem but accelerated it by a not mentioned but used hydrophobic coating on the surface of the mosaic, which made it practically impossible to execute the later urgently needed treatments. By the results of the examinations the organosiloxane coating chemically became the unremovable part of the glass tesserae. Thus, during our restoration completed in 2021, no traditional procedures could work and a completely new protocol was needed for the detachment, the reattachment on new support. The main challenge was to select materials and treatments whose benefits far outweigh the losses they may cause.

**Maher Jbaee,  
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**Mosaic construction techniques in Philippopolis (Shahba) in Syria**

Syria has a huge legacy of antique mosaics, and Philippopolis mosaic collection is considered to be the most beautiful one in Syria and in the Near-East. All the previous studies concerning to the ancient Syrian mosaic pavements in general and those of Philippopolis in particular, focused only on the artistic and historical aspects, and neglected the technical sides which are important factors and deserve a scientific research. The primary goal of doctoral research in progress is to know more about the methods of preparation of the foundation layers under these mosaics which can promote their conservation and preservation focusing on the nature of the materials used to produce them, on the characteristics of the tesserae and their availability at the sites. The results are suitable to compare with those of some other sites, which can lead to find important information about the workshops.

**Ahmed Lachhab**

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**Integration of Three Non-Destructive Techniques in the restoration of Roman Mosaic of Volubilis, Mo-rococo**

In this study, three non-destructive techniques were used including, 1) a Laser Leveling System (LLS), 2) a small Unmanned

Aircraft Vehicle (sUAV) and, 3) Ground Penetrating Radar (GPR). The integration of these methods was applied to the mosaics of Dionysos and the four seasons, the Diana and her bathing Nymphs, and Bacchus and the four seasons. The LLS was used to accurately survey the microtopography of the mosaics and assist in the calibration of the three-dimensional (3D) photogrammetry models. The sUAV was used to collect multiple images, which together create 3D orthomosaics models to inspect surface features and to accurately measure spatial dimension. The third method focused on GPR to collect both 2D profiles and 3D diagrams of concrete slabs beneath the mosaic floors. While LLS and sUAV have shown to be effective in identifying surface features such as fissures, vertical land motion, and restoration patches, the GPR has however revealed more information on the concrete slab, rebar conditions and all sublayers beneath the mosaics. Even though the GPR has proven to be the right tool for this exploration, the study presented herein has shown that the integration of all 3 methods was necessary in the assessment of the actual state of these mosaics.

**Jamel Lazid,  
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**Mosaics deposited and exhibited in a museum: case study of the museum of Sfax-Tunisia**

The beginnings of the 19th century were marked by a series of diggings, which led to a large number of mosaics, many of which were deposited and reassembled on new supports to either expose them in museums

or store them in storehouses.

The process of separating the mosaics from their original locations did not take into account the climatic conditions, thanks to them they were preserved for several centuries and which helped them to remain in a good conservation state today.

In this poster we will try to study the impact of the spatial framework change on the mosaics and the effects of climatic, physical, cultural and economic changes in their new location which does not often meet the conditions of preservation in order to receive those mosaics because of the lack of vision and strategy for their long-term preservation. In this context, we will take the museum of Sfax -Tunisia as an example to study the mosaics' conservation methods in a new context and the main challenges that face the specialists.

**Sate Massadeh**

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**Latest archaeological discoveries in southern Ghor sub-district and challenges**

Karak Governorate is located 120 km south of the capital, Amman, The province is distinguished by its rich cultural heritage, from prehistoric times to the Ottoman period. In 2001, the Department of Archeology at Mutah University began conducting archaeological excavations at the site of Western Shaqira, which resulted in the discovery of one of the largest and most beautiful mosaic pavements in the province, which was characterized by beautiful artistic carpets and a good state of preservation. The mosaic pavement, measuring 22.40 x 10.67 m., with a total area of ca. 239 m<sup>2</sup>, was laid in the initial Umayyad phase of construction. The harmony and coherence observed in the construction and artistic styles of the mosaics indicate that the pavement was a production of a single cultural undertaking.

The Shuqayra mosaics belongs to that genre called "Opus Tessellatum" which consists of small, well-shaped stone cubes set beside each other to form a larger artistic composition. There are two main themes depicted in the extant carpets: geometric and floral. The second example relates to mosaic floors that were discovered in the Southern Jordan Valley on the eastern shore of the Dead Sea, the lowest place on Earth. Two mosaic floors were discovered, the first in 2016 in the Qaizun Church, and the second in 2019 in Khirbet Sheikh Issa, and their general condition is medium and they need further study and conservation work, and they were buried until the start of conservation work.

### **Camilla Mauri**

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### **Luigi Guerricchio's mosaic frieze: a work of art in evolution with its city**

Luigi Guerricchio, (Ginnetto), is one Matera's most representative artists: he might be considered a symbol of the spirit of Lucania. This mosaic, the object of a dissertation at Istituto Centrale per il Restauro, was made in 1964 on commission from the Banca Popolare del Mezzogiorno, currently BPER. A customer entering the bank would find that artifact in the hall; he would admire the allegory of work, represented as a shield and a weapon, as a means of improvement, and a method to obtain social justice. The needs of a modern society change fast, and the bank had to adapt accordingly. In the 90's the mosaic was moved to a new location, not accessible to the public, on account of the new security laws. The video aims at retracing the history of Ginnetto's work, through the voices of those who took part in its making. The interview and the images narrate the story of an artifact that was forgotten for 30 years and today, thanks to the cooperation

between the Istituto Centrale per il Restauro and the BPER bank (Banca Popolare dell'Emilia Romagna), is being returned to the local community. Those who were born and raised in Matera remember that large and colorful mosaic. They are fond of it and they feel it represents them.

### **Adel Othman El Mayer**

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### **Recent mosaics floors restorations in Cyrene**

Amongst the archaeological area of the ancient city of Cyrene (Shahat), there are various sites that contain mosaic floors. Most of them were uncovered more than half a century ago by the foreign missions, but the majority of these sites were neglected and left without any protection, preservation or regular maintenance and restoration. The condition of these mosaic floors has deteriorated over time and the exposure to humans, animals and the environment contributed to this. Since the spring of 2012 the restoration team within the Department of Antiquities (DoA) of Cyrene commenced work of maintenance and restorations on some sites that contain vital and beautiful mosaic floors. Such works were developing slowly due to the lack of capabilities in both materials and tools, but despite the difficulties, the restoration team managed to carry out some undertakings in 2012, 2016, 2017 & 2019. In 2020. The restoration team managed to conduct some maintenance and restoration works on four sites in different locations in the archaeological area of the city which we list them in this brief paper.

### **Moutaz Mohammad Ashlaieb**

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### **Mosaics from Berhlaya –Sub-Damascus, Syria**

Syria has a large legacy of mosaics, and every year new mosaic pavements are discovered. In 2013, the directorate general of antiquities and museum of Syria (DGAM) received a report from the local people of Berhlaya town in the countryside of Damascus about a mosaic pavement has been found there. Although the town was under the control of the rebels and the dangerous situation there during the Syrian crisis that started in 2011. DGAM cooperated with the local community to save this mosaic, a team of experts has been sent there, they detached the mosaic and brought it to the laboratory of mosaic conservation in Damascus for restoration works.

The mosaic measured 6x7m, dated back to the late Roman age (mid of the 4th c. AD). In 2017, another mosaic measured 610x800m discovered by coincidence within the same area of the previous mosaic according to the information sent to DGAM by the antiquities department of Damascus countryside. As stated by the locals, this mosaic discovered before two years by illegal excavation and hid by soil without any reporting to the authorities. The mosaic has been damaged before in some parts, but the general design and condition is in good status.

**Maryam Ouali**

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**Conservation conditions of mosaics in the Archaeological Museum of Sousse**

The Archaeological Museum of Sousse is known to be one of the largest museums dedicated to mosaics in Tunisia. The production of Roman mosaics, which are exhibited in the museum, covers a period from the 2nd to the 4th century A.D. These panels are the result of expeditions and excavations carried out since the 20th century on the entire coastal Byzacene; Sousse, El Jem, Enfidha, Moknine, El Alia, etc.. These mosaics provide valuable information about the city. The country's political and socio-economic crises, supported in particular by the Arab Spring which dates from 2011, have led to a neglect of the cultural sector, thus endangering the museum's collections. Among other things, we can notice an accumulation of mosaic panels abandoned in the open air in the backyard of the museum for more than 30 years. These have suffered chemical deterioration in contact with humidity, wind and heat. No one can attest to their provenance or even to their date of entry into the museum. The dysfunctioning of the mosaic workshops is due in particular to a lack of communication between the curators and the National Heritage Institute, whose mission is to undertake research, safeguarding and protection of the heritage.

**Konstantinos Politis**

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**Preserving the Mosaics of Early Byzantine Zoara**

Excavations in modern Ghor as-Safi in Jordan (Byzantine Zoara) have revealed a dozen mosaic pavements during the last two decades. All of these have been found in precarious locations, some by bulldozing activities (and consequently partly destroyed). After an international training programme, local Jordanians have been able to successfully conserve these mosaics. But the situation of some of these in urban and agricultural settings has made their long-term preservation uncertain. This necessitated for some to be moved into the local museum. The floor mosaics in the diocese of Early Christian-Byzantine Zoara were made exclusively for churches. The fact that eight of them were inscribed in Greek, naming bishops and other church officials, and three dated, signifies their historical importance. At least one was made in AD 691 verifying Christian continuity during the early Islamic period. Furthermore, vivid floral and figurative images (some suffering iconoclastic damage) provide interest for non-specialist visitors. In two cases, coloured glass tesserae have also been found which indicate more costly wall mosaics for key churches.

The author is currently engaged in a research programme at Ionio University (Corfu) to study and publish the mosaics of Zoara. Simultaneously he is collaborating with the Jordanian Department of Antiquities to preserve these mosaics.

**Marijana Protic**

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**Challenges of Conserving Mosaic from baptistery at the Acropolis on the archaeological site of the Caricin Grad**

The presentation will demonstrate the problem of re-conservation of in-situ mosaics in the case of the baptistery at the Acropolis on the archaeological site of the Caricin Grad near Lebane. Mosaic from the Baptistery was discovered in 1937, detached from the original site in 1979 and returned in-situ in 1981, immersed in a reinforced concrete foundation. Conservation was conducted by Mabrouk Ham-rouni conservator restorer from the site of El Jem in Tunisia. Due to the devastating impact of weathering over the years, mosaic and decorative mortar suffered further damage. Besides this, mosaic was devastated by unauthorized excavations in 2010. Limited funds, a short time to perform extremely complex conservation and restoration works, weather conditions and other factors affected the choice of methodology and the numerous compromises so that the works could be completed in time. The conservation and restoration work on the baptistery is an example of various problems faced by conservators-restorers of mosaics when it comes to re-conservation in-situ, but may also provide some solutions of the same problem in an acceptable way.

**Erjona Qilla**

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**Documentation and maintenance of the mosaic floor at the north room of Gymnasium, Butrint**

The mosaic of the north room at the Gymnasium was discovered in year 1989 by the Albanian Institute of Archaeology during the excavation of the north-west area of Gymnasium. The geometric mosaic was probably part of the rooms which facing the Forum. The excavation report mentions that the mosaic is opus tessellatum. We are not sure about the colors and densities but probably the colors used were white, red and black. From the time of the discovery up to today this mosaic has been covered and never displayed. Nowadays, exist only an old copy of mosaic's drawing showing only a part of the floor. For many years this mosaic has been seasonally below the present water level of the lake and in the middle of a forest of laurel tree.

For this reason the first phase of the project is to documenting the mosaic with new plan and photographs, to diagnose the current state of preservation and the damaged parts, reburial with new and appropriate materials.

**Rodica-Mariana Ion**

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**Compositional, structural and morphological aspects of mosaic from Roman Edifice of Constanta county, Romania**

Mosaic is the art of creating decorative images through the assemblage of small colored pieces of stone, glass or other materials. The materials in contact with micro and macro-environment or because of human intervention, supported different

alteration and degradation phenomena, some of them irreversible. In Constanța, in 1959, an impressive Roman edifice was discovered on the site of the ancient port Tomis. This Mosaic building was built at the beginning of the 4th century and covered an area of approximately 2000 sqm, it fell into ruin at the end of the 6th century following an earth-quake. The small tesserae contain colored marble and other colored materials (red but also ochre, black). A study of some selected mosaics from Mosaic Museum of Constanta, the diagnosis of the general state of the mosaics, identified degradation forms (voids or gaps, loss of adhesion between the tesserae and the mortar, scaling, encrustation, efflorescence) have been put into evidence by optical microscopy, mineralogical and petrographic characteristics, XRD and XRF for elemental analysis, DTA-TGA for the quantification of calcite/organic matter, intervention stages (cleaning, consolidation), micro-morphological and micro-structural, chemical analysis in small area (SEM-EDS) and detailed in the paper.

**Abdalsalam Sadoun**

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**Save the mosaic floor from the wrong burial Restore and bury it in a correct way**

The floor is located in the south of the Demeter temple in the city of Cyrene for the early classic period. Its area is 5x9m. It contains an undisclosed part after the wrong burial operation that was performed incorrectly and did not follow the correct scientific steps due to the wrong burial. Then they put kaolin directly without cleaning, removing plants and collecting scattered cubes. Steps and interventions performed on the floor:

1. Collect the loose and scattered cubes on the floor;
2. Removal of herbs, roots and soil on earth;

3. Dry cleaning;
4. Clean with water;
5. Preparing the materials used for restoration;
6. Return the cubes to their original position, repair the edges, and fill in the blanks;
7. The documentation process.

**Salah El Masekh**

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**Ptolemaic Bath (Tholos) In the front of Karnak temples**

In 2012, the Supreme Council of Antiquities (SCA) started excavations west of the first pylon at Karnak Temple whose aim was to plan and develop the area located between the temple and the Nile River and to remove the all houses, the Slums the old Cars park in the front of the temple because all this things closed the area and covered the view of the temple, they want from that project to protect the Archeological places. The excavations uncovered many ancient structures that include the Port of the Temple and this excavations project changed our ideas and the top plane of kanak temples in different periods especially in new kingdom and Greco Roman time.

A Late Period Ptolemaic and Early Roman Period settlement, at the north we found a beautiful Ptolemaic bath, this bath consists of two Circles Room of the seats (tholos) and a beautiful decorations in the mosaic floor with the animals from the sea and the animals from the Nile river and used gravels and lied metal for the decorations is dating back too Hellenistic time

and some basins with Canalizations system for the supply the water and to take the waste water out side of the bath and during the work in that site is revealed a pottery Jar full of Coins, pottery Jars and a lot of artifacts dating back to Ptolemaic period 3rd century AD.

**Eman Mohsen Ahmed Shahawy**

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**A virtual museum of mosaics in Egypt**

According to the importance of the art of mosaics in Egypt through the eras, but due to the limited of what was shown of it. Whether in sites or museums, we see that a virtual museum must be made through a website or through the application on a mobile phone whose goal is to serve professionals and scholars as well as Ordinary visitors, to raise archaeological awareness and introduce mosaics from ancient eras to the present day. Through icons inside the site of the museum as follows:

The first icon: it displays the history of mosaics and the various methods of its implementation and the most famous workshops and artists, materials, and tools used in it in addition to the essential modern workshops, atelier and modern materials used in its implementation currently.

The second icon: the essential mosaic Pavements discovered in Egypt and comprehensive information about them, with mention of similar around the world in addition to all the sources and references that I talked about.

The third icon: Connecting virtual tours to realistic tours through the Skype program, where a specific date is specified for those who want to get to know the mosaic of Egypt on the site such as the site of the villa of birds in Kom Al-Dikka in Alexandria, or in the museum as the Ismailia Museum, or any arti-fact related to the elements of the mosaic pavement, such as The panel of Berniki II Displayed in the Alexandria National Museum and what are its statues displayed in the same museum or Their coins, and so on. The fourth icon: Designated for kids by making mental games related to The mosaic

such as puzzle games and collecting mosaic panels through them and An incentive is created for them so that every child who succeeds in assembling the mosaic board in Puzzle wins a virtual tour of (the second or third icon), or the implementation of a floor through its different layers. Through the above, we can say that we have achieved the goal of the virtual museum, which is:

1. The educational aspect is to serve the specialists and scholars through the second icon.
  2. The entertainment side is represented by the puzzle games, the implementation of the floor layers, and the assembly of mosaic board elements through the fourth icon.
- Thus, the virtual museum of mosaics in Egypt will be a platform for everything related to this art, which helps to preserve the cultural heritage of mosaics for future generations and help specialists in studying this art and linking the old to the modern, especially since this craft is still present in our time.

**Yasar Selcuk Sener**

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**Restoration of the early byzantine period Oludeniz Hisaronu church and its mosaics**

Hisaronu Church, also called St. Demetrius Church (Oludeniz, Fethiye, Turkey) were uncovered by the Fethiye Museum with the archaeological rescue excavations in 2010. The Church, which is dated between 4-6th centuries AD, has survived to the present day with its walls and floor mosaics that are approximately 1 m height from the ground. The church has an atrium with a pool to the west, a central basilica plan consisting of an apse in the east and side naves in the north and south of it. The floor of all places except the pool and bema section is covered with mosaics. The conservation of the church were

carried out through project and covering it with a modern roof (2011-2017), and then through the restoration and conservation treatments (July-August 2017). Restoration interventions include practices that serve the cleaning, consolidation, strengthening of the architectural remains and floor mosaics and their display of the site.

Restoration interventions include applications that serve the cleaning, consolidation, strengthening of the floor mosaics and architectural remains and their display of the site. This study is an example of preserving both the architectural remains and mosaic flooring of a building unearthed by archaeological excavation.

**Mishe Tutkovski**

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**The Hood Method: Technique for In Situ Mosaic Conservation**

The name of this method originates from the automobile industry. The hood is a movable part of the car that is covering the engine. Whenever we need to fix some problems, the hood can be opened and secured with a metal rod, thus allowing us to work without obstacles. Similar method, where the hood is associated with the mosaic tessellatum, can be used for in situ mosaic conservation.

The aim of this presentation is to show the successful use of this technique during conservation processes of several mosaics from the archaeological site of Stobi. The hood method is applicable when the problems are located in the nucleus of the mosaic, when it's deteriorated or completely destroyed, or it has lost the adhesion with the upper layer. This problem could be solved by injecting consolidants or liquid mortar, but when those methods are not helping, mosaic detachment is usually performed. With the hood method we can

avoid mosaic detachment and simplify the activities by "opening" the mosaic as a hood, solving the problems under the layer of tessellatum (cleaning, consol- idation, mortar replacement...) and then "closing" the mosaic without causing additional problems and without disordering its authenticity.

### **Ivan Vanev**

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### **Conservation of Roman floor mosaic from Augusta Traiana, Bulgaria**

The mosaic was discovered in 2016 during rescue archaeological excavations in Stara Zagora. In 2017, the uncovered parts of the mosaic were removed from the terrain and transferred to the Regional History Museum's depot. Regrettably, this drastic and risky conservation operation is becoming increasingly frequent in recent years in Bulgaria and is related to the flaws in the national legislation relevant to cultural heritage. In addition to the problem of finding funding, another major problem relevant to the mosaics excavated in private properties is the impossibility to preserve them in situ. In most of the cases, the mosaics revealed in the recent decades have remained inaccessible to the public.

The mosaic once covered the floor of the reception room of a rich private dwelling (first half of 4 c. AD). The southern part of the room remain uncovered by archaeologists.

In the process of Association of Conservator-Restorers in Bulgaria work (2019), commissioned by the Regional Museum of History in Stara Zagora with the financial support of the Ministry of Culture, our team was faced with complicated conservation problems related to the severe condition of the frag-ments. The mosaic is now displayed in Stara Zagora's Regional Museum of History.

### **Elena Vasić Petrović,**

### **Adriana Lubenova,**

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### **Pebble Mosaic Pavement of the St. Roman's Monastery in Serbia: Research and Documentation**

St. Roman's Monastery, situated in the central part of Serbia, dating from 14th century BC, is very well known for its healing water springs, but also as a sanctuary for mental patients in the distant past. Unique in many ways, it has been a subject of different research and conservation activities for more than 50 years, but unfortunately its beautiful mosaic pavement was left out of this campaigns as more recent legacy of the monks probably inspired by the Serbian Orthodox Monastery of Hilandar at Mount Athos (Greece), who wanted to bring a peace of the Holy Land to their new home. Our paper deals with in-situ research and documentation of this pebble mosaic pavement, situated between the church of St. Roman and the monastic residential buildings, but also with its possible analogies in Serbia, on Mount Athos and in the region between them as well. The main aim is to provide valid data for the adequate conservation approach, since some degradation problems occurred in the past few years. Also, some of the similar examples of pebble mosaics in other monasteries in Serbia were completely removed and replaced with new pavements in the last few years, so we want to prevent this from happening here by providing it with deserved attention, appropriate conservation treatment and ear-ly action.

### **Maja Živić**

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### **Mosaics of Felix Romuliana, Galerius's Palace, UNESCO World Heritage**

Felix Romuliana – Gamzigrad, Palace of Emperor Caius Galerius Valerius Maximianus (293-311), near Zaječar, Eastern Serbia. Built in a short period between 298 and 311 CE in Emperor's birthplace and named after his mother Romula. The only archaeological site in Serbia on the Unesco World Heritage list.

The site consists of double fortification (the remains of the older fortification are incorporated into the younger one), the Palace in the north-western part of the complex, two temples, hot baths, Sa-cral-Memorial Complex and a Tetrapylon on the Magura hill, as well as three basilicas from the Early Byzantine period. The architectural complex is unique in its intertwining of ceremonial and memorial

functions. The spatial and visual relationships between the Palace and the Memorial Complex, where the Mausolea and Consecrative Monuments of the Emperor and his mother Romula are located, are unique. Iconography of stone decoration of Romuliana is the most impressive visual expression of the idea and political concept of the Tetrarchy. Almost 1. 800 m2 of floors in the Palace were covered by impres-sive and high quality mosaics (made in opus sectile, opus tessellatum and opus vermiculatum tech-nique), whose presentation in situ has not yet been resolved.

## Video Session

### Training students on mosaic restoration Mashhour Altfehat

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- 1- Find places which need supporting mortar
- 2- Remove one or more stones to start injection process
- 3- Preparing mortar based on lime
- 4- Mechanical cleaning
- 5- Supporting spaces between stones using lime mortar
- 6- Restoration to the original site

The Institute For Mosaic Art and Restoration contribute to the historical, cultural, economic and tourism renaissance of Jordan and to the development of madaba as a leading regional center for mosaic art and stone restoration.

### Laboratory creation and conservation restoration of mosaics

**Abbad Madjid, Abdelhamid Abdenour, Ameziane Yasmina, Benchouche Fatiha, Cherdouh Zahra, Djellilahine Ahmed, Reda Hakem Mohammed, Rihane Fethi**

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We, the members of the team of the Laboratory of the Conservation and the Restoration of Ancient Mosaics in Tipasa

-Algeria- We come by this summary to express our interest to participate in the 14th conference of the ICCM in Plovdiv Bulgaria. We wish to present at the 14th ICCM conference our work through a Video Film, a Poster and a conference on the theme: "Laboratory creation and conservation restoration of mosaics" The video presented traces the birth and operation of a Laboratory for the conservation and restoration of mosaics in Algeria. This initiative is the output of an investment by the Getty Foundation and the Algerian Ministry of Culture through the National Office for the Management and Exploitation of Cultural Property. Indeed, for the first time, a training program of this foundation resulted in the actual setting up of a workshop worthy of the name, capable of taking charge of mosaics in Algeria, after having received a series of training cycles. The Algerian team, made up of archaeologists and technicians, was able not only to learn, but to master the different methods of restoration and conservation, which is the method of the laboratory for the conservation and restoration (Arles museum) (use of modern materials, such as, putting on a light support (Aerolam) and different chemicals compatible with the treated mosaics, or the method of the conservation center of Rome, which relies on traditional materials by breaking down the mosaics in separate panels. The video retraces through some extracts:  
1-The training obtained.  
2-The development of a laboratory of Tipasa with modern and sophisticated equipment with all the necessary products, in Algeria.  
3-The treatment of a mosaic on a concrete support and placing on a Aerolam support.  
4-Treatment of a mosaic on a plaster support.  
5-Treatment of a mosaic with traditional materials according to CCA-Rome method.

### SEE Mosaics Maja Frankovic, Branislava Lazarevic Tosovic, Vladimir Pajic, Dunja Davidovic Gnjatovic

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Video will make an insight into achievements or the SEE Mosaics network that was established over the last 9 years through meetings of mosaic conservation professionals in the region of Southeast Europe. In the short video, meeting participants share their impressions and memories of how the project had started, what have been achieved, their views of the group, as well as how they see the future of the SEE Mosaics network.

### Khirbet et-Tireh: its current status and envisioned role as a heritage tourism site Raed Khalil

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Khirbet et-Tireh or Kafr Ghamla is one of the most important ancient sites in the Ramallah province, in the West Bank, approximately 16 km northwest of Jerusalem, the ancient settlement at Khirbet et-Tireh has been reduced from approximately 30,000 square meters to today's protected site of 6,000 square meters. Four recent seasons of excavation (2013-2016) surviving many architectural remains, a Byzantine monastery, two large Byzantine-era churches, more than

400 square meters of colored pavements mosaic in different patterns and different colors. The mosaic floors had been exposed many problems, emergency interventions has been carried up to stop the damage, and for protection the mosaic it covered with geo-textile fabric and a layer of sieved soil – awaiting the day when they can be presented to visitors. The Future plans for the site to complete the exploration, conservation and restoration of the physical remains, and to Enhancement and development of the archaeological site. Finally, the restoration and active protection of archaeological sites and historic buildings can be considered important pillars in the long-term preservation of these cultural treasures, and touristic development of Khirbet et-Tireh and other similar sites can become one of the pillars of the national economy in Palestine.

### **Conservation and management of in-situ mosaics: site of the Sousse-Tunisia banquet house Jamel Lazid, Anis Oueslati**

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Conservation and management of in-situ mosaics: site of the Sousse-Tunisia banquet house. For decades, specialists have recognized the need to conserve mosaics in their original location and in their natural climate with regular maintenance, monitoring and site management in order to ensure stability and long-term preservation. In this context, we document through this video our interventions on the site "House of banquettes" which is located in an urban not visitable area, which

contains a large number of open mosaics most of which have been deposited and replaced on a new reinforced concrete support while the rest of the mosaics have kept their original supports. These in-situ works were carried out with the Sousse Fine Arts students related to the "conservation and restoration of cultural property" sector, following a collaboration between the National Heritage Institute and the Higher Institute of Fine Arts of Sousse. This topic was chosen for its direct link with the subject of the 14th session of the ICCM, particularly the theme: "conservation and management of in-situ mosaics."

### **The Restoration of the Identity of the Al Fadel Minaret in Manama, Bahrain.**

**Roberto Nardi  
Pierluigi Siena**

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For some decades, since it was built in 1936, the minaret Al Fadel in Manama, Bahrein, has been the tallest building on the Arabian Peninsula. It has been the reference point for sailors and caravans. His image, polychrome and sparkled in the sun, has materialized the very nature of the place for generations of Manama inhabitants and travelers. Over the years, some accidental events have completely changed the appearance of this monument, and today the minaret appears as an anonymous intruder in a foreign habitat. In 2019, the Bahrain Authority for Culture and Antiquities launched a campaign to rehabilitate the neighborhood surrounding the Al Fadel Mosque and commissioned the Centro di Conservazione Archeologica of Rome (CCA) to restore the minaret's image and historical identity. this video tells through

images the practical implementation of the intervention that returned the minaret in its historical image to citizenship in June 2022.

### **The workshop with the theme "The archaeological sites with mosaics: Monitoring and maintenance Nemanja Smiciklas**

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This video about workshop "The archaeological sites with mosaics: Monitoring and maintenance" was conceived from a five-day event with a series of lectures and practical exercises. It was held at the archeological site Romuliana near Zajecar. Participants, during the workshop, were able to acquire theoretical and practical knowledge related to the mosaic, typology, grade and means of degradation and their maintenance. Lectures and practical work were conducted by experts in the field of archeology, art and conservation and restoration of mosaics. The program relied on the experience of the project MOSAIKON of Getty Conservation Institute. As a final product of the workshop a manual was printed, in form of publication, about monitoring the condition and maintenance of mosaics on archaeological sites. This guide was printed in Serbian and English language so that it can be used by the professional community, not only in Serbia but in the region. The workshop brought together experts from different fields who deal with this issue. The aim of the workshop was to raise awareness on the protection of mosaics and provide basic guidelines on sensitivity of this type of heritage and practical and sustainable ways of preventive conservation in practical sense.

## Video Session

### **Protection and Conservation of the Monuments in The city museum of Ma'rat Al-Numan – Syria**

**Nasser Tome, Hasan Altumeh**

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The Museum of the city of Ma'rat al-Numan (located in the southern province of Idlib with a population of about 120 thousand people by the local council Statistic in 2017) is one of the most important specialized in mosaics. The area is about 1,600 m<sup>2</sup> and it is a variety of objects and topics from mythological and mythological to geometric which made the Museum the first museums in the Middle East in mosaic materials. That historically indicates to the spread of ancient cities around the area of Ma'rat al-Numan in the old ages, where these mosaic materials landed the churches, temples, monasteries, and luxury homes. These paintings have been moved from these sites in order to keep them from extinction and theft. The Museum of Maarat Al-Nu'man also contains more archaeological artifacts from the pottery and pottery vessels dating back to the pre-BC era. That the result of the civil war in Syria and the absence of the authorities in the region, like the spread of drilling and illegal excavation to the diversion and theft of an unspeakable number of artifacts, which could result from a lack of cultural awareness among the local population and look at the antiques with financial interest. moreover, the presence of relics in the museum of Maarat al-Nu'man is exposed to factors of moisture, oxidation and other reactions. It must be clarified that the responsibility now lies upon many people as individuals or civil society organizations or international organizations

that provide the required support to preserve the human heritage and also those who are aware of the importance of preserving the human heritage. We as a project team has the first lead at the city of Ma'arat al-Nu' man whose museum is known as the first mosaic museum in the world. We have great hope in helping us to attend this very important conference, which will help us to protect heritage in northern Syria.

### **Historical pavements in Lebanon, modern heritage under threat**

**Samar Karam, Rola Reaidi, Myriam Ziadé**

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Lebanese traditional houses dating back to the 19th and early 20th centuries have a unique historical value enhanced by their architectural features, especially the decorated pavement. Concrete tiles ornamented with floral and geometrical motifs paved the floor of these houses following a defined typology. Although traditional houses are scattered throughout the Lebanese territory, Beirut is known for having the highest concentration and the most significant historical clusters. The Beirut port blast that occurred in August 2020 caused the destruction of entire traditional quarters with all the heritage elements that they present. Challenges faced to preserve the cultural heritage of the devastated capital were enormous, particularly the respect of the authenticity of the historical pavements. In this perspective, no new tiles were put in place. Broken pieces were assembled, restored and reused whenever possible. Others, completely ruined, were replaced by

ones coming from old buildings. Moreover, traditional patterns were reconstructed in the new flooring. This project was initiated by the Directorate General of Antiquities. The works were implemented by local artisans and skilled workers following the traditional building techniques, and monitored by a committee of professionals in the field.

### **Nablus and its colorful traditional tiles**

**Rabi Mohanad**

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The work on the book "Nablus and its Colored Tiles" began with an analysis on a number of buildings and the documentation of the tiles in order to study the models in their general form and then the decorative models extracted from the documented tile units. The first chapter in the book focused on Nablus' geography, history and architecture and listed the types of buildings and their patterns which presented block models that were studied to link their history and the history of covering their floors with tiles. The second chapter focused primarily on ornamental arts in general, and the Ottoman period decorations and designs in particular and their correlation to the tiles. The third and most essential chapter described the decorations used in colored tiles, their types, and history, as well as clarified the ornamental units, whether engineering or vegetable, with an explanation of how to design these decorations and their progression from earlier periods. The production process was clarified in the fourth chapter, with all of its rather simple technical aspects and sophisticated details in the executive aspect, as well as the manufacturing mechanism, colors, quality, and their sources.

## EXCURSION, OCTOBER 27TH

### The Buzludzha Monument

The Buzludzha monument is one of the most iconic and significant buildings of post-war modernism in Bulgaria and Europe. It was built in 1981 and abandoned in the 1990s due to it representing the fallen communist regime.

The Buzludzha Memorial House was opened in August 1981, commemorating a location of great significance in Bulgarian history. Three key historic events are linked to this mountain peak: the 1868 death of Hadzhi Dimitâr (prominent revolutionary leader in the fight for the liberation of Bulgaria from Ottoman rule), a WWII - era battle between fascists and partisan forces, and most significantly, the foundation of the Bulgarian Social Democratic Workers Party in 1891. In the beginning of the 1970s, architect Georgi Stoilov was commissioned to create a project for a memorial house including heated interior spaces for hosting visitors and special events. His design featured a saucer-shaped body, with a five-pointed star mounted on a conjoined tower. Over subsequent revisions Stoilov decided to further separate these elements, positioning the tower outside the saucer in order to make it more stable against wind and earthquakes. Stoilov's idea was to create a timeless monument by incorporating both ancient and futuristic motifs into his design. He lists both the Roman Pantheon and the sci-fi films of the 1950s amongst his inspirations for Buzludzha.

The circular form also appealed to him as it seemed to symbolize infinity, and thus echoed the popular communist theme of building an eternal future and eternal glory. The look of Georgi Stoilov's Buzludzha monument was influenced by the Brutalist style then popular in Western Europe, and in particular, the architect notes personal influences including Mies van der Rohe, Gropius, and Le Corbusier. With the support of the Getty Foundation, in 2019 Buzludzha

Project Foundation (est. 2015) started working on the "Research, Conservation Planning, and Adaptive Reuse Strategy" for the monument. In 2020 began the very first conservation work on-site, with the project "Emergency Stabilization of Mosaics of the Buzludzha Monument." The project was supported once again by the Getty Foundation and its goal was to implement measures to halt the decay of the precious mosaic artworks inside the building.



## The Valley of the Thracian Rulers

Present-day Bulgaria's territory includes the lands of the ancient Thracian tribes. These tribes were settled in the eastern parts of the Balkan Peninsula and some areas in north-western Asia Minor. The most characteristic and most famous monuments of Thracian culture are the so-called Thracian monumental tombs located under impressive mounds. The largest royal Thracian necropolis discovered so far is located near the modern Bulgarian town of Kazanlak in the so-called "Valley of Roses." After the necropolis' discovery, it became known as the Valley of the Thracian Rulers. The necropolis is associated with the Odryssean capital of Seuthopolis,

founded by the Thracian king Seuthes III around 315-312 BC and it includes at least 15 tombs dated between the end of the 4th and the first quarter of the 3rd century BCE. Most of them represent variations of monumental tombs with beehived burial chambers. The most famous from this group is the Thracian tomb of Kazanlak (UNESCO Heritage Site), the only one of its kind anywhere in the world. The exceptionally well-preserved frescoes and the original architecture of the structure reveal the remarkable evolution and high level of culture and pictorial art in Hellenistic Thrace.



## Ancient Roman Mosaics from Stara Zagora

More than twenty Roman mosaics from the 3rd and 4th centuries have been discovered in the remains of Augusta Trajana, the modern Bulgarian city of Stara Zagora. They decorated the floors of public buildings and wealthy private homes in the "Shining City of the Trajans", as Augusta Traiana was called at the time. Some of them, preserved either in situ or in the Regional Museum of History in Stara Zagora, represent unique compositions and symbols, not only for the lands of Thrace but also in the entire Balkan Peninsula and the eastern provinces of the Roman Empire.



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