INSTITUTE OF ARCHAEOLOGY

BELGRADE, SERBIA

1ST INTERNATIONAL CONFERENCE WITH WORKSHOP

SCIENCE FOR CONSERVATION OF THE DANUBE LIMES

Mortar Design for Conservation – Danube Roman Frontier

2000 Years After

PROGRAMME AND ABSTRACTS

VIMINACIUM, SERBIA

JUNE 27TH - JULY 1ST, 2022

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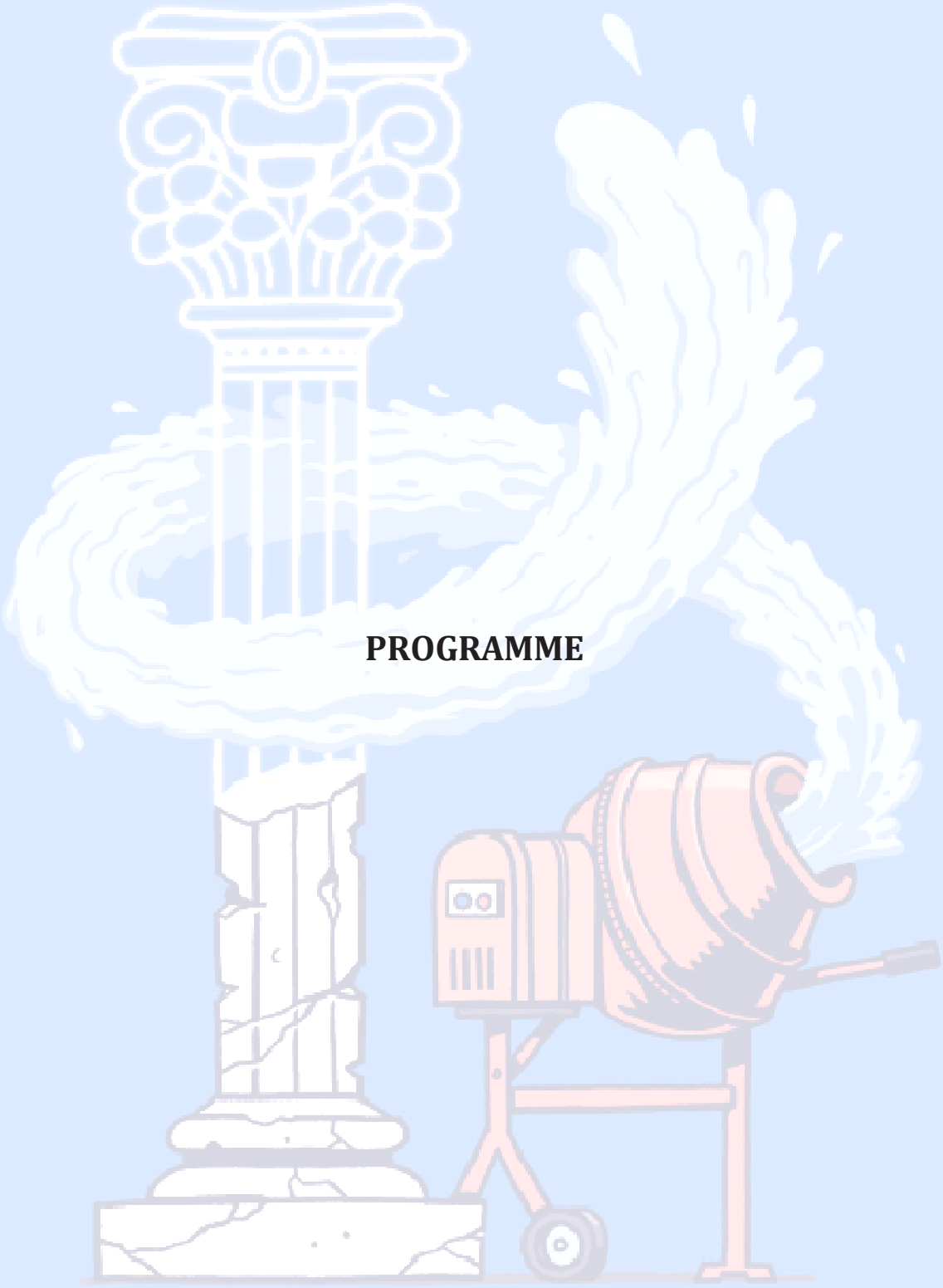
CONTENTS

Preface.....9
Programme.....13
Abstracts.....29



PROGRAMME

THURSDAY, JUNE 30TH

07.30 – 09.00 *Breakfast / Coffee*

PRACTICAL WORKSHOP ON LIME MORTARS

09.00 – 13.00 NIGEL COPSEY DEMONSTRATION

Testing Conservation Mortar Mixtures on a Part of an Authentic Structure

13.30 – 14.30 Lunch break

LECTURES

14.35 – 15.05 IOANNA PAPAYIANNI

Analysis of Ancient Mortars from Roman Monuments in Northern Greece. Design and Application of Compatible Repair Mortars

15.05 – 15.25 SLAVICA VUJOVIĆ, RASTKO VLAJKOVIĆ

Holism as a Framework for Understanding and Preserving Heritage – the Example of the Cultural Landscape of Bač

15.25 – 15.45 BURCU TAŞCI ÖZDEMIR, HASAN BÖKE *(virtual)*

Raw Material Characterisation of Roman Mortars in Western Anatolia (Turkey)

15.45 – 16.05 ALEKSA JELIKIĆ

Lime Kiln. The Divine Crucible

16.05 – 16.25 LJUBOMIR JEVTOVIĆ

Ceramic Building Materials of Viminacium

16.25 – 16.45 *Coffee break with snack*

LECTURES

16.50 – 17.10 ANA RADIVOJEVIĆ

The Role of Brick in the Late Antique Architecture of the Central Balkan Roman Provinces

17.10 – 17.30 IGOR BJELIĆ

Construction Methods Applied to the Structures of the Trajan's Bridge over the Danube

17.30 – 17.50 BOJAN POPOVIĆ

Reconsidering the Archaeological Site of Glamija – Rtkovo, Serbia

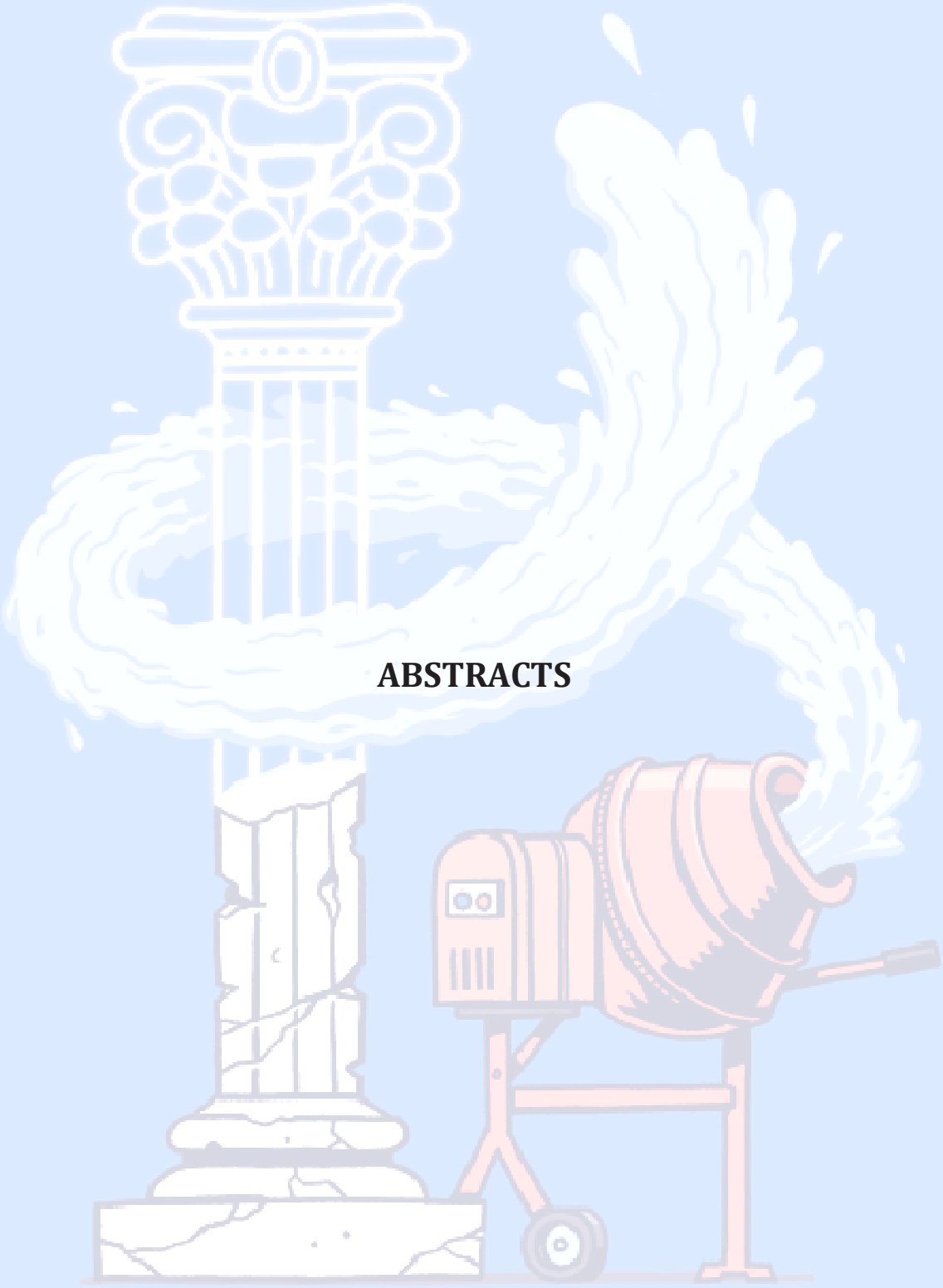
17.50 – 18.10 TINO LELEKOVIĆ

How to Present the Ancient City of Aelia Mursa

18.10 – 18.30 HELENA HIRŠENBERGER, SNEŽANA VUČETIĆ, JONJAUA RANOGAJEC

Cross-disciplinary Collaboration in Conservation Projects – Managing Key Challenges

18.30 – 19.30 *Dinner*



ABSTRACTS

THE ROLE OF BRICK IN THE LATE ANTIQUE ARCHITECTURE OF THE CENTRAL BALKAN ROMAN PROVINCES

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Complex research of late antique bricks from the area of today's Serbia, conducted at the beginning of the 21st century, included the analysis of this material from several archaeological sites, including the ancient Viminacium. The idea was to determine the similarities and deviations of bricks and brick construction techniques in the observed areas concerning the overall late antique architecture of ancient Rome. Therefore, extensive analyses of the literature and the results of previous research were conducted, in conjunction with fieldwork and laboratory testing of appropriate samples from the field.

The research indicated that construction techniques that were used in the area of today's Serbia in the time of late Late Antiquity were completely in line with the method of building in the area of the Eastern Roman Empire. As a rule, they included the use of bricks, and

most often in the opus mixtum technique, performed in a manner characteristic of Late Antiquity, while in the case of smaller buildings, the opus testaceum technique could also have been be used.

The analysed area had a specific role in the turbulent period of the invasion of barbarian tribes in the Eastern Roman Empire, resulting in the fact that by the end of the 4th century the area was mostly devastated and depopulated. However, during the 6th century and the reign of Emperor Justinian, the area of northern Illyricum revived and gained strategic importance to preserve the northern borders of the Empire, so that some cities were revived, and completely new fortified settlements were also built.

The new circumstances contributed to the intensification of construction activities with a noticeably more extensive use of brick and more frequent application of the opus testaceum technique on significantly larger buildings than was the case in the previous period of construction activity during the 4th century. At the same time, there was a certain change in the formats of bricks, which, from the elongated rectangular formats that were typical of Late Antiquity in the observed areas, become closer in shape to a square. Visual observation of 6th-century bricks gives the impression of their poorer quality compared to 4th-century bricks.

Morphological, as well as physicochemical analyses conducted on bricks of the 4th and 6th centuries from selected sites, give an initial picture of the quality of used bricks. The gained knowledge of the quality of the analysed bricks in combination with their format and

applied building technique represents a good basis for a better understanding of the behaviour of late antique buildings, but the real picture of this can be obtained in combination with similar research focussed on the mortars that were applied.

Keywords – brick, brickwork, morphological properties, physicochemical properties.

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Поштована проф. др Ана Радивојевић,

Са задовољством Вас позивамо да присуствујете и као предавач учествујете на међународној научној конференцији са радионицом *1st International Conference with Workshop „Science for Conservation of the Danube Limes / Mortar Design For Conservation – Roman Danube Frontier 2000 Years After“*, која ће се одржати у периоду од 27. јуна до 01. јула 2022. године на археолошком налазишту Виминацијум и прикажете резултате свог научног рада везане за античку архитектуру. Ваше искуство у научном раду ће бити драгоцено за све присутне.

Научни скуп се одржава у склопу рада на истоименом пројекту (акроним *MoDeCo2000*) финансираном од стране Фонда за науку Републике Србије из програма ПРОМИС. Носилац пројекта је Археолошки институт, док су партнери Технолошки факултет Нови Сад Универзитета у Новом Саду и Институт за испитивање материјала (Институт ИМС). Више информација о пројекту можете наћи на: https://modeco2000.com/; https://www.our-modeco2000.com/; https://www.facebook.com/modeco2000.

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руководилац пројекта *MoDeCo2000*