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and other cities in south-western Anatolia:
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FRAGMENTS OF PAINTED PLASTER FROM THE CHURCH OF ST PHILIP IN HIERAPOLIS: A PRELIMINARY ARCHAEOLOGICAL AND ARCHAEOMETRIC STUDY

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ABSTRACT - This paper presents the results of the analyses and study of the fragments of painted plaster discovered during the recent archaeological investigations inside the Church of St Philip in Hierapolis. The archaeological and archaeometric approach has made it possible to better document the various building phases of the church and to offer, despite the extremely fragmentary nature of the analysed material, a reconstruction of some decorative motifs. Lastly, chemical analyses highlighted some differences between the proto- and middle Byzantine plasters and documented the composition of the pigments.

KEYWORDS: St Philip Church, Hierapolis, painted plaster.

Introduction

Only in few contexts in Asia Minor the Byzantine painting is studied with an archaeological approach, investigating the craft techniques together with the decorative motifs. The best-known examples, which stand out as methodological references, are the case of St Polyeuktos¹ in Constantinople, where some fragments of early Byzantine geometric paintings were found, and that of the lower church at Amorium², with remains of middle Byzantine figurative painting. Moreover, despite a long tradition of studies on Byzantine painting techniques, developed within some important restoration works on 11th-14th cent. wall paintings³, the early and middle Byzantine artefacts studied with this approach are extremely rare, and even more exceptional are the studies integrating archaeometrical analyses⁴.

In this framework, the site of St Philip Church, mostly obliterated during the 14th cent. after the Seljuk occupation, yielded many fragments of painted plaster. Together with a few non-figurative pieces preserved in situ in the western corner of room A, north of the narthex, these fragments constitute a rare document of the early and middle Byzantine painting (Fig. 1). These painted plasters, with architectonical decoration, marble inlays, as well as mosaics⁵, decorated the sanctuary in the key settings of the liturgy.

Given the substantial amount of fragments, some of which are still being studied, this paper describes the plaster from the central apse of the basilica and from room A, with the aim of providing a preliminary description of the observed motifs and the employed techniques. The archaeological and archaeometric approaches are integrated to document the phases of the church's decoration, the know-how and the pigments used.

For this reason, firstly the context in which the fragments have been unearthed is introduced; then the identification of the patterns and their original location in the building is described; finally, the results of the characterization of the mortars and pigments are presented.

M.P.C., E.C., E.N.

The archaeological context of discovery: the St Philip Church

The church with three naves was built on the hill that looks on to the city of Hierapolis from the east, around a Roman-era tomb attributed to the Apostle Philip. Recent archaeological investigations have made it possible to identify the complex structures of the early-Byzantine sanctuary that was spread over three separate terraces on the heights. On the middle terrace in particular stood a monumental fountain for ablutions (aghiasma) and the church with three naves. The church's first layout is dated to the second half of the 6th cent. AD. In the same period a route was set up that led from

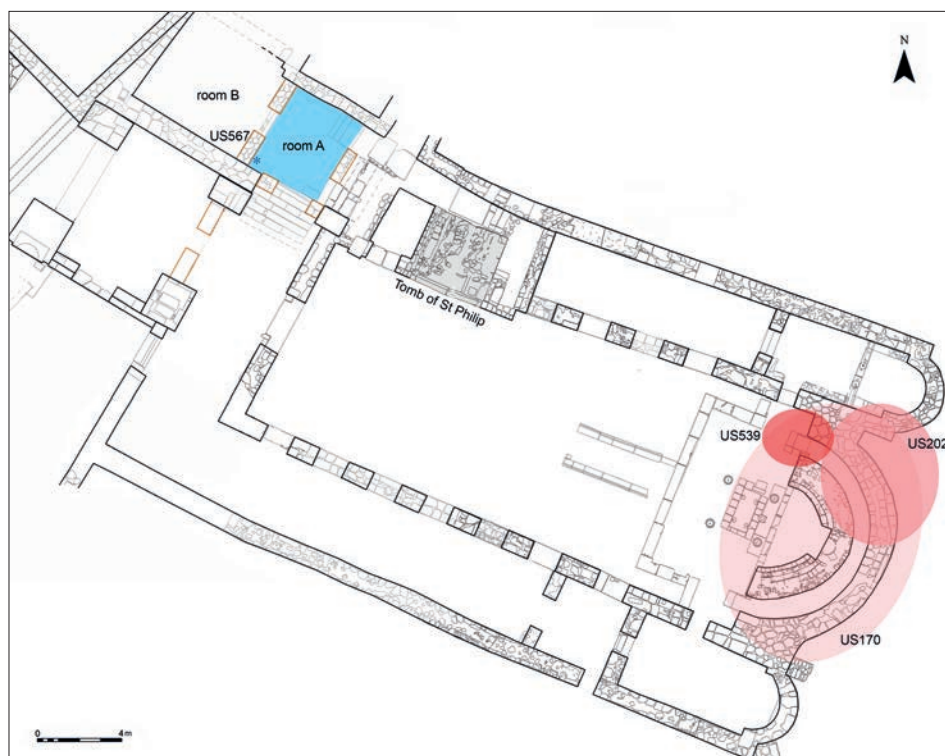
¹ HARRISON, GILL 1986.

² WITTE-ORR 2003.

³ UNDERWOOD 1967.

⁴ WEYL CARR, NICOLAIDES 2012, in particular the contribution by WINFIELD 2012, 102-112, and KAKOULLI, SCHILLING, MAZUREK 2012, 313-360.

⁵ NERI, CAGGIA 2016. On the recently discovered paintings from Laodikeia and Tripolis, see DUMAN, BAYSAL 2015; ŞİMŞEK 2015b, 62-63; DUMAN, BAYSAL 2016.



1. - Plan of the church indicating the finding contexts of the plaster fragments. The asterisk in room A indicates the still in situ plaster remains.

the narthex of the church and enabled worshippers, by means of two staircases, to reach a platform with a ciborium positioned above the tomb of the Apostle. In the middle Byzantine period (beginning of the 9th cent.), important modifications were made to the building, with the refurbishment of the pavement in opus sectile and new architectural furnishings in the central nave. In the narthex the spaces of the north sector were also modified, with the delimitation of an area and the installation of new steps to reach the area above the tomb. In subsequent centuries, from the 11th cent. onwards, the building, perhaps damaged by an earthquake and now roofless, was partly abandoned. The central nave was occupied by burials, while the liturgical functions continued in the chapel of the north nave. With the arrival of the Seljuk in the 13th and 14th cent., the structures of the church that were still conserved, including the tomb of St Philip, were converted into dwellings until their definitive collapse, caused perhaps by another seismic event around the middle of the 14th cent.

The plasters of the central apse

The first group of fragments examined here were discovered in the course of the 2011 campaign during the excavations in the area of the central apse (US 170; Fig. 1). With the exception of a few elements, these are difficult to read. Other fragments of plaster, much more numerous, were recovered in the northern part of the apse (US 202), inside the structure, but especially outside it. Despite their fragmentary state, it is possible to formulate hypotheses regarding the decoration and the presence of figures. Of particular interest are the fragments discovered in the level of collapsed material above

the steps of the north entrance to the corridor that ran below the synthronon (US 539). This is a small group of fragments on which there is a single pictorial layer with the remains of gold leaf that might indicate the presence of a halo (Fig. 7).

Discovered in the same area of the central apse were fragments of marble slabs with inscriptions painted in red in which a list of bishops of Hierapolis was recognised. The fragments recovered belonged to a number of slabs, perhaps four, which, judging by the place of the discovery, were positioned on the curved wall of the apse above the steps of the synthronon. It follows that the plasters decorated with figurative scenes might have been positioned on the same wall, above the marble slabs, and on the curved ceiling of the apse.

All the plasters gathered in the course of the excavation were in levels of collapsed material that covered the layers associated with the Seljuq-era occupation (13th-14th cent.), well documented in various areas inside the church. It is clear then that the central apse, or at least the northern part of it, was still standing in the 13th century. The presence of a single pictorial layer on all the fragments recovered, thus with no trace of reworking, suggests that the paint could be dated to the church's original phase of construction in the second half of the 6th cent. This hypothesis is supported by observations of technical nature, such as the adoption of clear backgrounds in the figurative scenes, in addition to the differences seen with respect to both the pigments and the mortars of the middle Byzantine plasters discovered in other areas of the church.

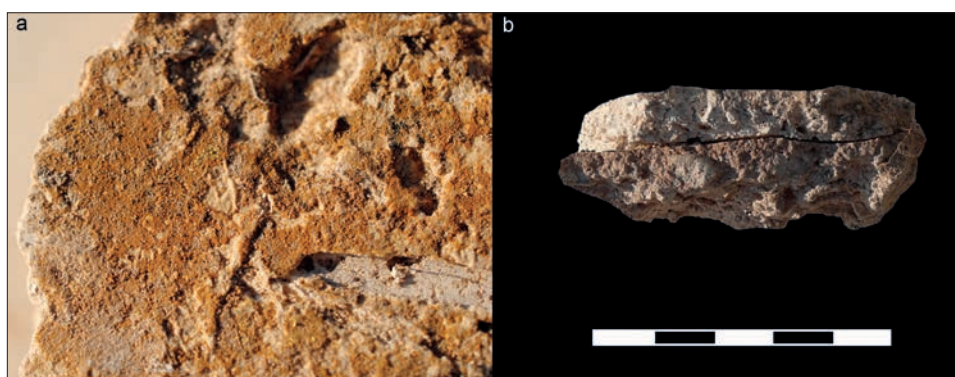
The plasters of room A

The second group of pictorial fragments examined was discovered in room A (Fig. 1). The small space, 3.5 x 4 m, is situated after the first flight of marble steps that led from the narthex to the platform above the tomb of St Philip. The wall that delimits the room on the western side (US 567) was built over a pavement in opus sectile datable to the proto-Byzantine phase of the church. In this area, the transformations that the church underwent in the middle Byzantine era are clearly visible. These involved a new division of the space into two rooms A and B, and the organisation of new routes and staircases. The west wall of room A (US 567) was covered on the eastern side with painted plasters attributable to two phases, identified thanks to the presence of two decorative levels that are easily recognisable partly due to the different colours of the backgrounds and the stylistic rendering. Many of these plasters were discovered in a collapsed state (US 194, US 569, US 578), with the exception of a small patch still in situ in the south-western corner. On the plaster, conserved to a height of about 70 cm, a faux marble motif with red and yellow veining on a pale yellow background can be recognised. The panel is delimited above by three red lines and by a black band, above which the beginning of another panel with a pale grey background can be recognised (Fig. 2). The faux marble motif probably continued on the stretch of wall to the north of the door but it had already become detached by the start of the Seljuq occupation. This is confirmed by the blackening, caused by the lighting of fires, of the wall and the north jamb of the door discovered in a collapsed position. The faux marble decoration conserved is attributable to the most ancient decorative level, because there is no trace of a pictorial layer below it and because the surface appears to be pitted in numerous places, the result of a deliberate process to improve the adherence of a subsequent pictorial level (Fig. 2).

In addition, numerous fragments are attributable to inscribed panels associated with two separate decorative phases. The panel fragments' place of discovery, in the cen-



2. - Room A. Remains of painted plaster in situ in the western corner.



3. - Painted plaster from the apse: macrography of the surface (a) and section (b) (US 539) (photo M. Esposito).

tre of room A near the door granting access to room B, suggests that they were originally positioned above the architrave of the entrance.

Lastly, visible on the surface of some fragments is a layer of red and white lime-wash, indicating the need to obliterate the decorative motifs, perhaps no longer in a good state of conservation. It is possible that this intervention took place in a period when the church had already partly collapsed, while the parts near the tomb were still usable. This phase can plausibly be dated to between the earthquake of the late 10th-early 11th cent. and the start of the Seljuq occupation in the 13th cent. AD.

M.P.C.



4. - Painted plaster from the apse: ochre or light blue backgrounds (US 202) (photo M. Esposito).



5. - Painted plaster from the apse: frame with black, orange and white bands (US 202) (photo M. Esposito).

Techniques and motifs: preliminary observations

Two groups of fragments can be distinguished in terms of technical features and finding context: those discovered in the central apse and those from the narthex. The latter, painted on middle Byzantine walls, show two successive phases of the decoration. The technical features and the motifs are described below.

Central apse

The fragments related to the nave are technically homogeneous: the paint is laid on a layer with variable thickness (2.5-4.5 cm), made of lime mortar with little organic charge. The painted surface is smooth, without the addition of limewash; this gives it an irregular appearance, showing the organic aggregates from the mortar below or the holes left by their degradations (Fig. 3, a). This plaster is laid on a mortar layer with many cocciopesto inclusions (Fig. 3, b).

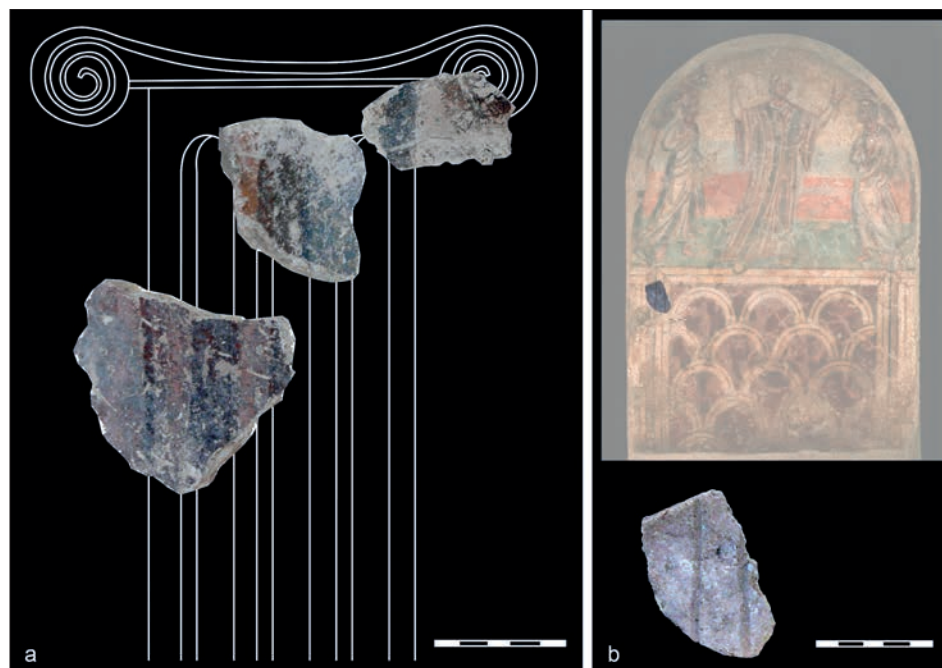
Most fragments are painted in one layer of solid white, light blue or yellow paint (Fig. 4). The elements of a frame, alternating three red-orange and black bands on a white background (Fig. 5), can be reconstructed. This chromatic sequence is typical of the frames of several 4th-6th cent. paintings on white background, such as the one from tomb 18 of the necropolis of Thessa-

loniki (6th cent.), the fossor's depiction in the catacombs of Marcellinus and Peter in Rome (4th cent.) and the Virgin with Child in the catacomb of Comodilla (hypogeal basilica of St Felix and Adauctus)⁶. The use of light backgrounds, typical of late Antiquity⁷, suggests an early chronology. The sequence of light blue, orange and white, observed in these fragments, can be recognized in the painting of Susanna and the Elders (late 4th-early 5th cent.) from a tomb in the eastern cemetery in Thessaloniki⁸. The figurative elements are drawn over the backgrounds, with an additional layer of paint.

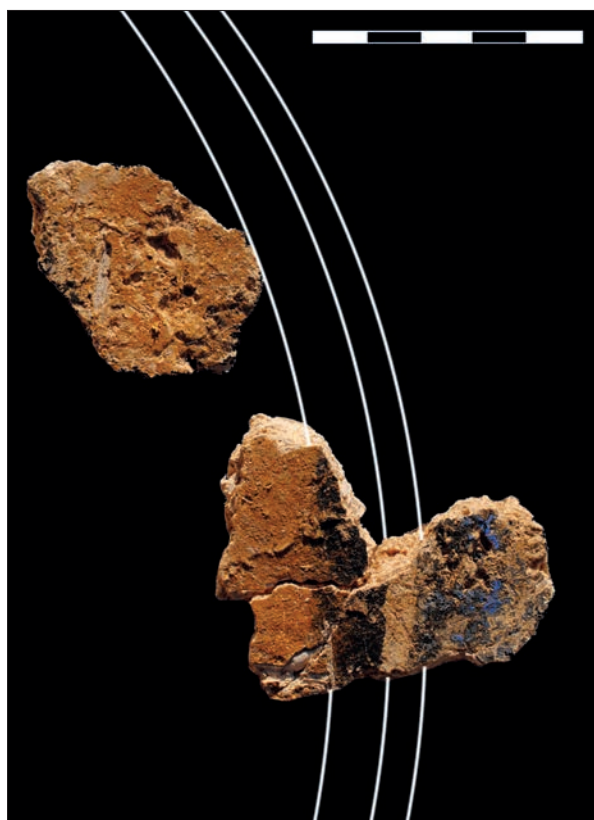
⁶ DONATI 1998, 184-187, 190, 192.

⁷ LIVERANI 2014, 9-32.

⁸ CORMACK, VASSILAKI 2008, 58-59, 380.



6. - Painted plaster from the apse (US 202): fragments attributed to a pilaster (a) and a cancellum (b).



7. - Painted plaster from the apse (US 539): fragments of halo (50 cm) with gold leaf in the yellow background (?).

A white fragment displays straight grey lines, traced with a tool (Fig. 6, b): this may belong to a cancellum, such as that depicted in the lower part of the above-mentioned painting of Susanna and the Elders. Two other fragments probably belong to a dark grey pilaster, whose flutes are drawn in black (Fig. 6, a), similar to the angular pilasters articulating the faux marble decoration of the House of Ionic Capitals in Hierapolis (6th cent.). The presence of these elements, usually featured in the lower part of a building, suggests that these paintings were located in the lower wall of the apse, most likely above the marble slabs inscribed with the bishops' names and below the windows, according to the canonical arrangement of late antique buildings in the West and East alike. However, this does not exclude the presence of figurative panels above this sequence.

A faint trace of the presence of human figures comes from three contiguous fragments on light blue background, with an ochre yellow area bordered by two curve lines: a black one and a white one (Fig. 7), the latter obtained by leaving the preparatory paint exposed. The hypothesis that it depicts a halo is supported by the presence of gold leaf remains on the yellow paint. Another fragment, with two black lines encasing a red and an orange band, has a white beading, obtained with thick white paint, overlapping the red paint (Fig. 8). This sort of motif is attested in the 6th cent. when representing thrones, clothes and jewellery⁹, and even later as a decorative element in frames delimiting figurative scenes or clipea¹⁰.

Room A

The situation reconstructed from the paintings in the room A is more articulated: two superimposed levels of paintings correspond to at least two phases of the decoration. The preparatory layers of both phases consist of a more homogeneous and firm plaster, based on a mortar with organic inclusions, but also with quartz crystals and coccopesto. Some fragments of the more superficial layer have an additional red lime-wash, obliterating the underlying motifs (Fig. 9).

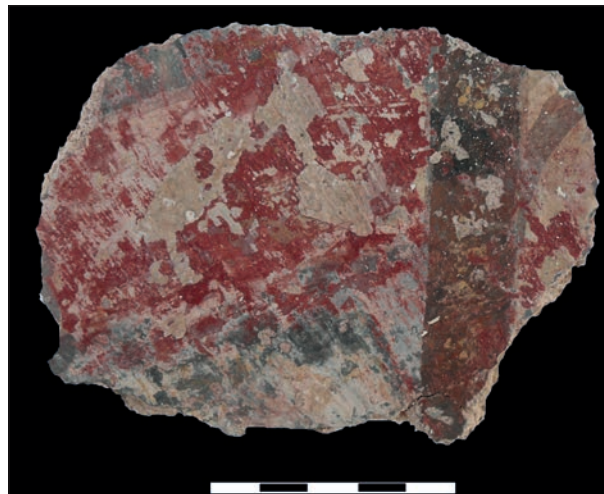
The fragments differ from those in the apse in the execution technique: here, the mortar is more coherent and laid in two layers. The provenance from the narthex is con-

⁹ See e.g. the Virgin with Child between St Felix and Adauctus, in DONATI 1998, 192.

¹⁰ See e.g. Ürgüp, Pancalılık Kilise (church of St Theodore), the western part of the ceiling of the nave (10th cent.) and the vault of the Göreme church, no. 7, so-called Tokalı Kilise, in JOLIVET-LEY 2001, 65-66 and 101-102 respectively.



8. - Painted plaster from the apse: fragment of plaster with beading (US 170).



9. - Painted plaster from room A: red limewash layer from the second layer of plaster.

firmed by archaeological data and by the presence on their backs of brick marks with the same modulus as the bricks still in situ. The superficial layer is smoothed and has a white limewash on which the paint is laid.

The lower level is characterized by a composition on a prevalently light blue background: on a red velarium a knot and a fold of the drapery can be recognized¹¹ (Fig. 10). Above this stood a second row of faux marble decoration, showing a panel with yellow veins and one with green veins. This decorative level was in turn overlain by a figurative section, from which some life-size faces remain, corresponding to figures about 1.70 m tall: lips and a chin (Fig. 11, a) and elements of hair. Also from similarly-sized figures are hands with pointing fingers (Fig. 11, b), with the edges roughly drawn in red and with flash tone complexion, whose

volumes are defined by shadows (rendered with darker complexion tones) and by highlights (rendered by the spreading of white paint). Fragments of yellow, red and blue clothes also belong to life-size figures. Five fragments from a face, notably depicting a nose (12 cm long) with cheekbones and a thick, white eyebrow, belong to a figure twice larger than life, most likely placed in a high position, or having more emphasis in the syntax of the decoration (Fig. 12). Volumes are rendered by intertwining white, red and brown lines over the yellow ochre complexion. Inscribed tabulae, currently under investigation, also characterized this level of the decoration: an epigraph in black capital letters placed on a white background with a red frame.

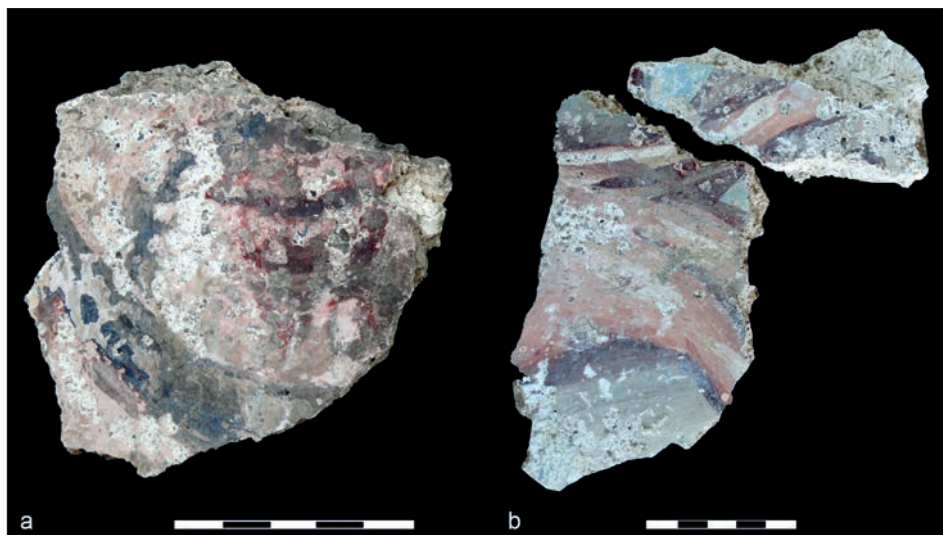
The way the draping of the clothes is rendered to highlight the volume of the body, as well as the way shadows and highlights are made on the faces, including the use of coloured shadows (green and blue), is typical of the first phase of middle Byzantine times: it marks the style identified as Macedonian renaissance, originating in the last phase of the second iconoclasm¹². The style and the rendering of the Hierapolitan fragments from this group are very similar, in terms of iconography and style, to those from

¹¹ Examples of the use of velaria with decorative function in the lower parts of the walls can be found in the church of St Barbara in Soğanlı (9th-10th cent.) (JOLIVET-LEVY 2001, 261) or in the Yani Kilise in the valley of Ihlara (JOLIVET-LEVY 2001, 273), where the velarium is placed below the scene of the Last Judgment. The example of the church in Amorium (WITTE-ORR 2003, 219-234) can also be cited.

¹² For a synthesis on this phenomenon, see BEVILACQUA 2013.



10. - Painted plaster from room A, phase I (9th cent.): velarium with knot and fold (US 187-US 194, US 578).



11. - Painted plaster from room A, phase I (9th cent.): detail of a face with chin and lips (a) and of a hand with pointing finger (b).

the lower church in Amorium¹³. An indicative dating to the late 9th-early 10th cent. can be proposed.

This places a terminus post quem for the paintings of the second phase, which obliterate the previous ones but by overlying them rather than destroying them. They have the same organization: a yellow and blue velarium falling on a cloth with rotae with flowers and beads (Fig. 13). On the blue-grey fabric, ochre circles are drawn, bordered with beading and with flowers in their middle. Similar clothings are often used to depict the robes of Emperors, prophets and angels¹⁴, or on the table of the Last Supper

¹³ WITTE-ORR 2003, 219-223.

¹⁴ See e.g. the representation of Constantine and Helena, or the archangel in the north dome, both in the Yusuf Koç Kilise, the representation of Helena in the Saklı Kilise in Göreme (THIERRY 1977, figs. 82, 83, 84).



12. - Painted plaster from room A, phase I (9th cent.?): fragments from a face with sharp highlights.

from the 11th cent. onwards¹⁵. A decorative band with faux marble, mostly yellow with brown spots, is placed above the velarium.

Elements of larger-than-life figures, including a halo (Fig. 14, a), hair, one ear (Fig. 14, b), a beard fragment, portions of yellow and red clothes, attest the presence of a figurative band, drawn with a rougher and quicker style, less accurate in terms of rendering of shades and volumes. One eye from a monumental figure (Fig. 14, c) highlights the presence of a main figure around which the composition was arranged. A tabula inscribed in white capitals on a blue background and with a red border, together with another inscription, which was probably painted on an open scroll, confirms the central role of inscriptions in this context.

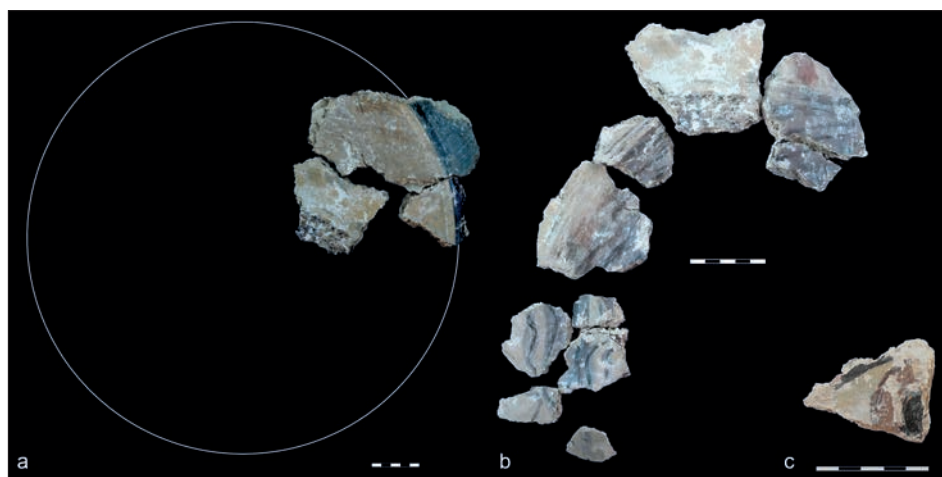
From a stylistic point of view, the comparisons suggest a chronology ranging between the beginning of the 11th and the 12th cent., before the church was defunctionalized and the Seljuk houses were built.

The decoration of this room and its restoration at a short time interval highlights its prominence and its function in the pilgrimage rituals. In a place where the pilgrim

¹⁵ See e.g. the dinner painted in the Çarıklı Kilise or the one in the Elmalı Kilise (THIERRY 1975, 177-185).



13. - Painted plaster from room A, phase II (11th cent.?): velarium (US 187-US 194, US 578).



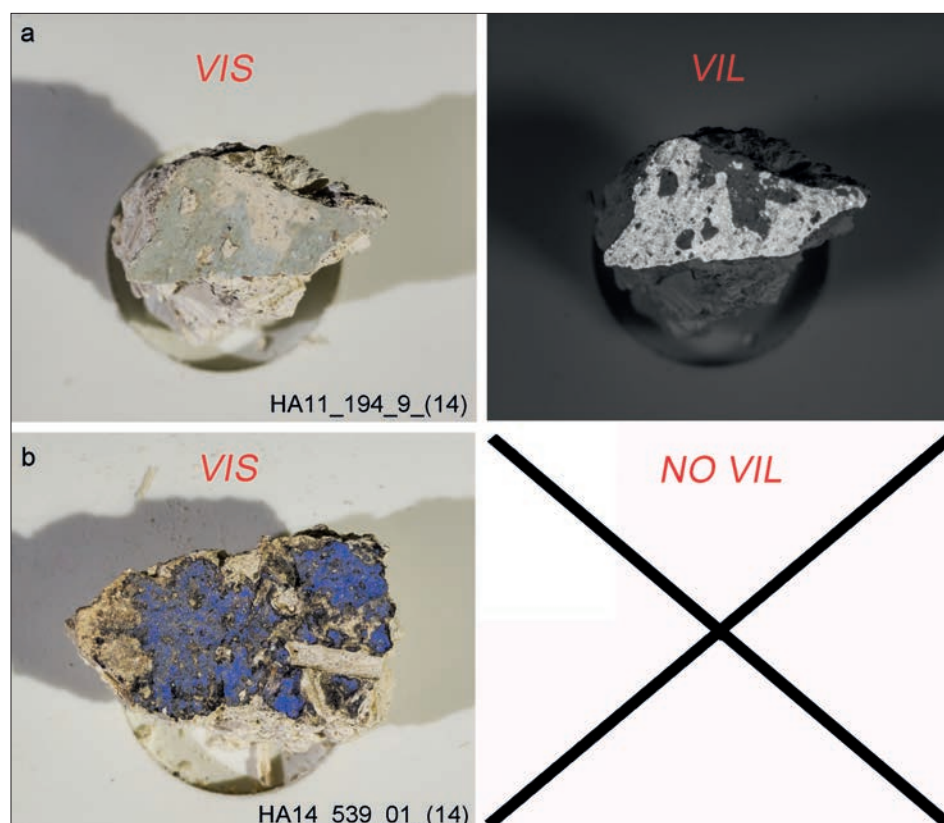
14. - Painted plaster from room A, phase II (11th cent.?): fragments of human figures: halo (a), elements of hair (b), an eye from a monumental figure (c) (US 578).

probably waited before entering the church, the paintings offered subjects for meditation, which we cannot however identify from the few available fragments. Who looked at these paintings celebrated what Marval called “the Office of waiting” in his comment of the *Peregrinatio Aegeriae* (*Itin.* 24, 8) about the atrium of the Anastasis in Jerusalem: “The crowd gathers in the space outside, besides the Anastasis. When the first rooster crows, the doors are open, and the crowd can enter”.

E.N.

Pigments characterization by non-invasive approach

Both non-invasive and micro-invasive techniques were applied to study and characterize the painted plasters of the St Philip Church. After the excavation, remains were

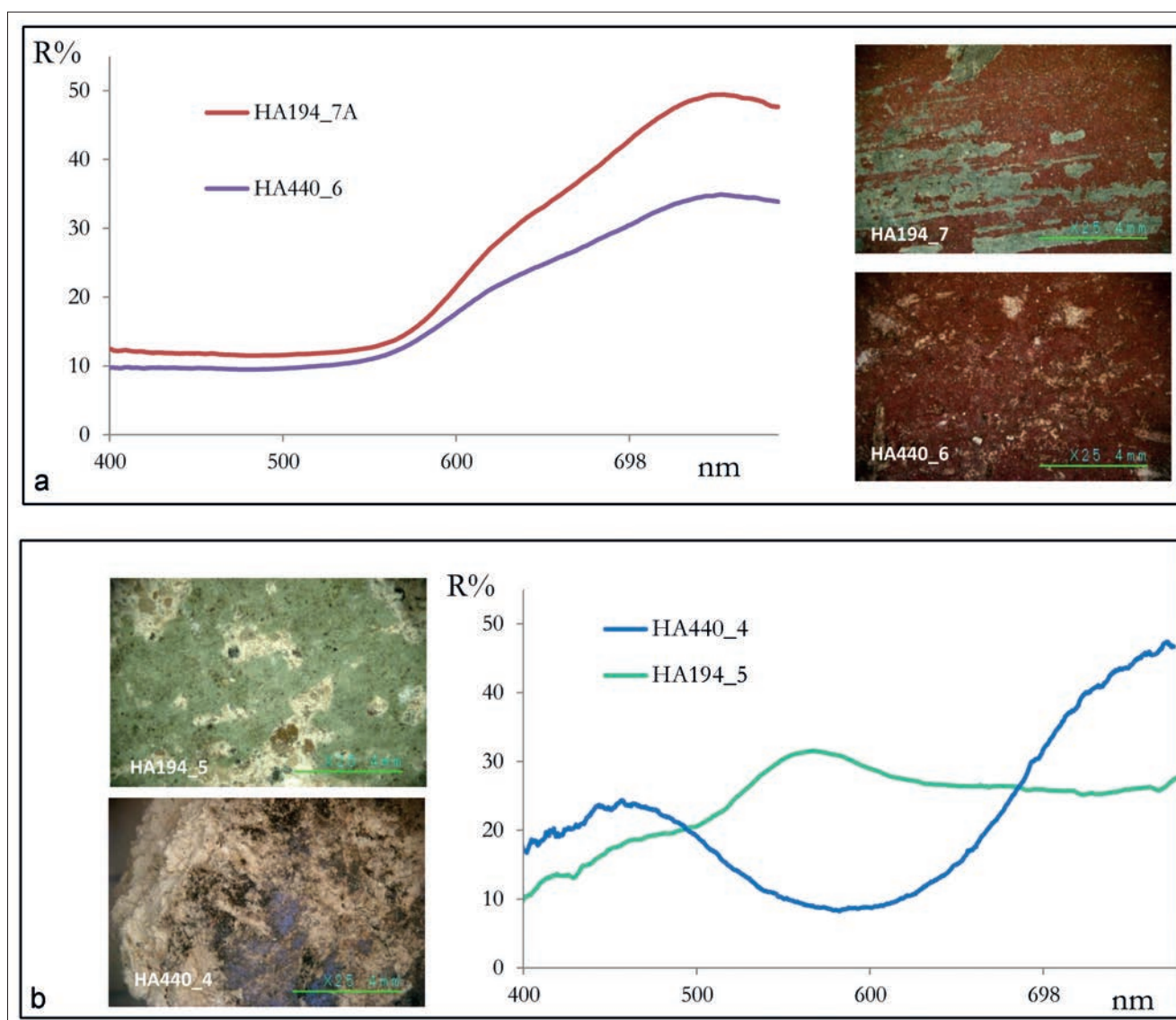


15. - Visible image and VIL image of (a) a sample showing luminescence and (b) a sample that does not show any emission.

stored in the deposit, labelled with the year of excavation and a number indicating the area of excavation and stratigraphic units. Due to the high number of fragments discovered, it was impossible to take a sample from all the specimens and a strategy for the sampling campaign was planned by using in situ non-invasive portable techniques. For each box containing the fragments, a survey with Ultraviolet fluorescence (UVf) was conducted to have a general view about the possible presence and distribution of fluorescent materials such as waxes, oils, and organic treatments. This technique is important also to recognize red lakes, due to their characteristic pink-orange fluorescence. Images of Visible Induced Luminescence (VIL)¹⁶, on fragments painted with blue colour, were also acquired. VIL is a powerful technique able to recognize the presence of a particular pigment, Egyptian Blue, even when only few particles are still on the surface. As example, in the Figure 15a, is reported a sample showing luminescence thus indicating the presence of Egyptian blue in a light blue/green painted layer, unlike the other (Fig. 15b) that does not show any emission. After this preliminary examination, single spot analyses on each fragment according to the different colour present were conducted, addressed by the results obtained by imaging techniques. All fragments were documented with visible photography and, on the coloured surfaces, detailed images at high magnification were acquired with an optical digital microscope. Measurements were performed using Fibre Optics Reflectance Spectroscopy (FORS)¹⁷. This technique is based on the analysis of reflectance spectra in which the intensity of the radiation backscattered from the investigated surface is reported as a function of the wavelength of the incident radiation. The intensity's value, reported as percentage of scattered (reflected) light from the investigated surface, is compared to a reference white, assumed diffusing at 100% the light throughout the spectral range considered. The technique enables the identification of most pigments, colorant and alteration products. In Figure 16, it is possible to observe that HA11_US194_7 and HA12_US440_6 samples are

¹⁶ ACCORSI ET ALII 2009; VERRI 2009.

¹⁷ BACCI 2000.



16. - FORS spectra of (a) two similar red pigments and (b) two pigments showing different spectral features.

characterized by a similar red pigment (Fig. 16, a), since the features of their spectra are exactly the same, whereas HA11_US194_5 and HA12_US440_4 show different spectral features (Fig. 16, b).

During the three campaigns in Hierapolis, it was possible to analyse fragments from 11 stratigraphic units. By crossing the information obtained with this wide screening it was possible to isolate, from each stratigraphic unit, the most representative fragments in terms of colour, stratigraphy, mortars and plaster layers. These fragments were thus identified with a label containing the year of excavation (HAXX), the archaeological stratigraphic unit (USYYY) and a progressive number, in order to unambiguously recognize them. After the selection, fragments were sampled (Tab. 1), taking care not only of the painted layer but also of the presence of different plas-

Year	Stratigraphic Units	Microsampling
2013	HA11_US194	8 samples
	HA11_US170	7 samples
	HA12_US440	2 samples
	HA12_US420	1 sample
2014	HA11_US194	2 samples
	HA12_US440	2 samples
	HA11_US202	2 samples
	HA14_US539	1 sample
	HA14_US543	3 samples
	HA14_US546	3 samples
	HA14_US547	3 samples
2015	HA15_US569_I	-
	HA15_US569_II	-
	HA15_US578_I	-
	HA15_US578_II	-
	HA15_US578/569/440	-

Table 1. Stratigraphic Units analysed during three diagnostic campaigns. In 2015 only non-invasive techniques were used.

ter levels. These samples were successively analysed in laboratory by using several techniques. Portable X-ray Fluorescence spectroscopy (XRF) was employed to obtain elemental composition of the pigments¹⁸. A sample is excited using a high-energy incident beam of X-rays, which cause the ejection of the inner electrons for photoelectric effect. Thus, an electron with a higher energy will drop down to this lower energy and emit an X-ray photon, whose energy, characteristic of each specific element, is known as fluorescence X.

As shown in Figure 17, in fact, it was possible to distinguish, by means of this non-invasive technique, between two

red pigments, one iron-based (Fe) and the other one lead-based (Pb). Then, the samples were further sampled under the microscope and the pictorial layers, plasters and mortars were analysed by using micro-invasive techniques: Infrared Spectroscopy (FT-IR)¹⁹ and X-Ray Diffractometry (XRD). The remaining sample was used to prepare both polished cross and thin sections to be studied under the microscope (in reflectance in the case of cross sections or in transmission in polarized light for thin sections)²⁰. Cross sections were also analysed by using Scanning Electron Microscope (SEM) equipped with an elemental analysis system (EDS).

Results of in situ and in laboratory analyses

Some interesting data were acquired on the painted plasters and mortars of the two main phases of the church: the early Byzantine and middle Byzantine ones²¹. The fragments of painted plasters from the apse (Fig. 1, US 170, US 202 and US 539) are characterized by a single layer of painted plaster and can be referred to the early Byzantine phase²². On the other hand, the painted plaster fragments of the room A (Fig. 1, US 569, US 578, US 194) are referred to the middle Byzantine phase and are characterized by different layers.

The blue areas analysed on fragments belonging both to early and middle Byzantine phases are made with lapislazuli (sodium aluminium silicate) as shown in the Figure 18a-b, in which the spectrum of the sample is compared with those of a reference material. The characteristic minimum of reflectance (R%) at around 600 nm, related to the presence of this pigments, is visible²³. In the US 194 and US 578 Egyptian blue is present in a light blue/green painted layer. The identification of this pigment was possible thanks to images of VIL (Fig. 18, c-e).

The red pigment used in two fragments in US 202 and US 170 is minium (Pb₃O₄), as inferable from XRF spectra that detect the presence of the lead (Pb) line, and from

¹⁸ SECCARONI, MIOLI 2002.

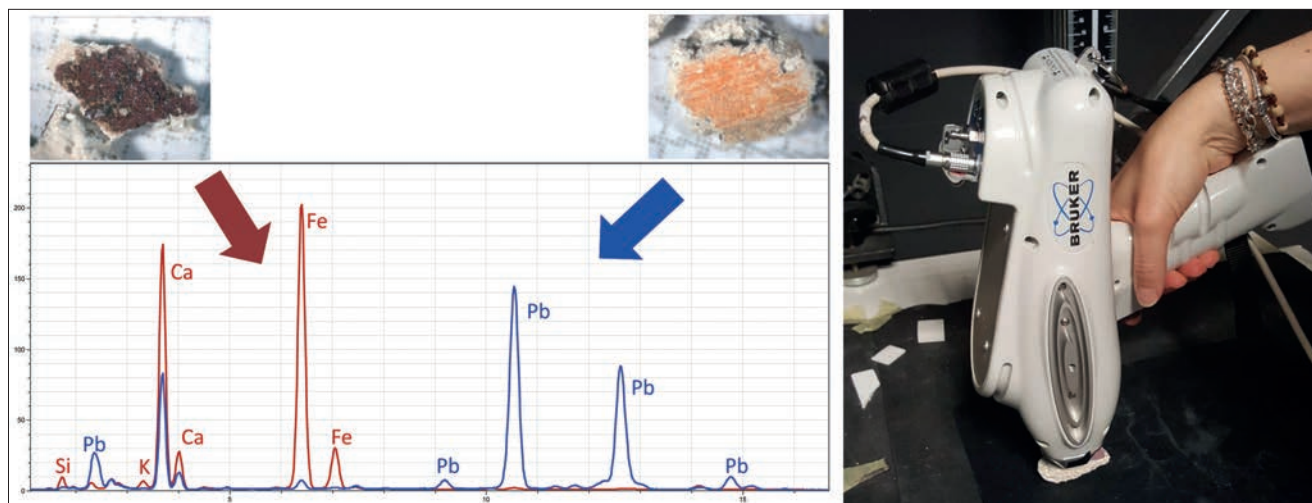
¹⁹ DERRICK 1999; CASADIO 2001.

²⁰ PECCHIONI 2014.

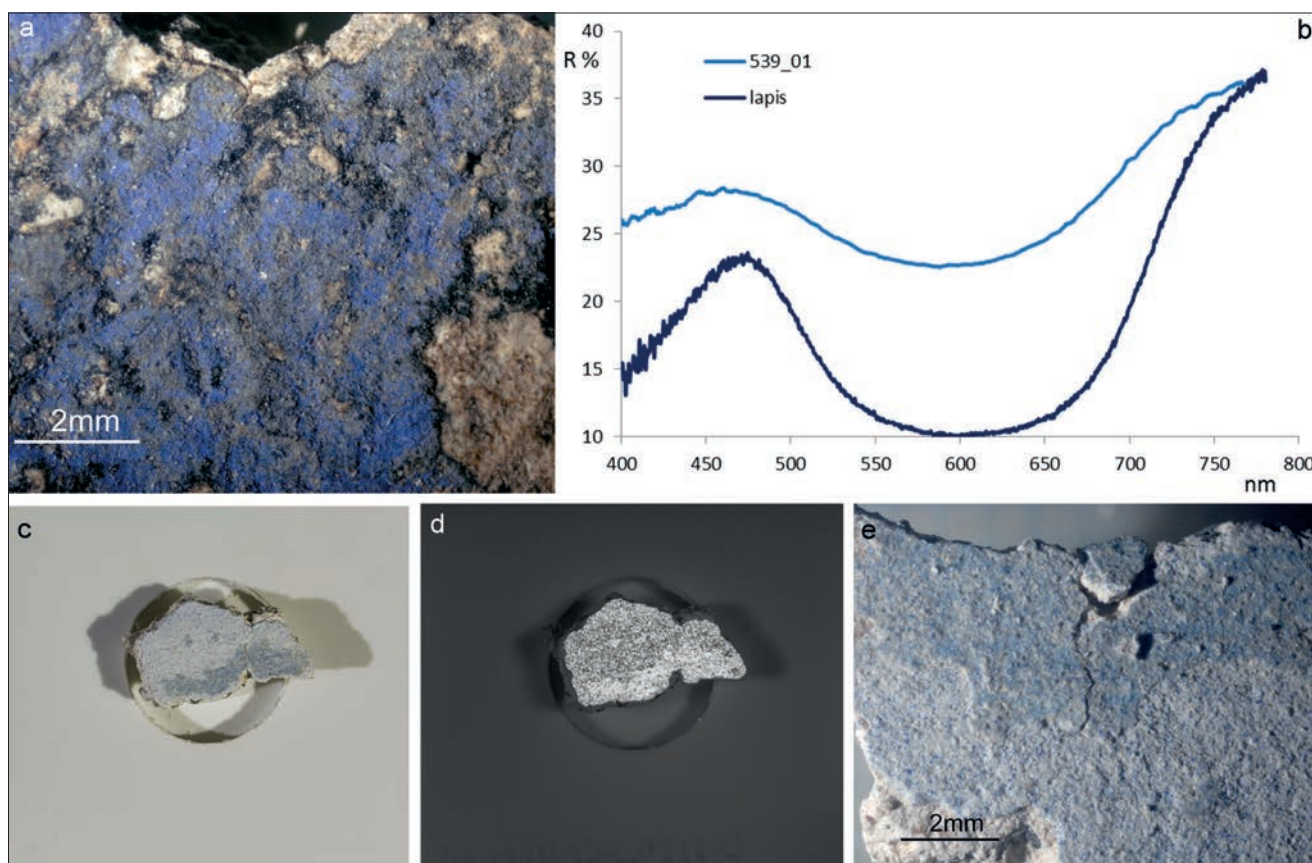
²¹ As already mentioned, the number of fragments analysed in situ and the samples analysed in the laboratory is very huge and in this contribution only some data are presented. On the mortars and the not-colored plasters from the St Philip Church, see CANTISANI *ET ALII* in this volume (523-538).

²² See above, 532-533.

²³ BACCI 2000.



17. - XRF spectra of two red pigments: (a) one Fe-based (dark red line) and (b) the other one Pb-based (blue line).



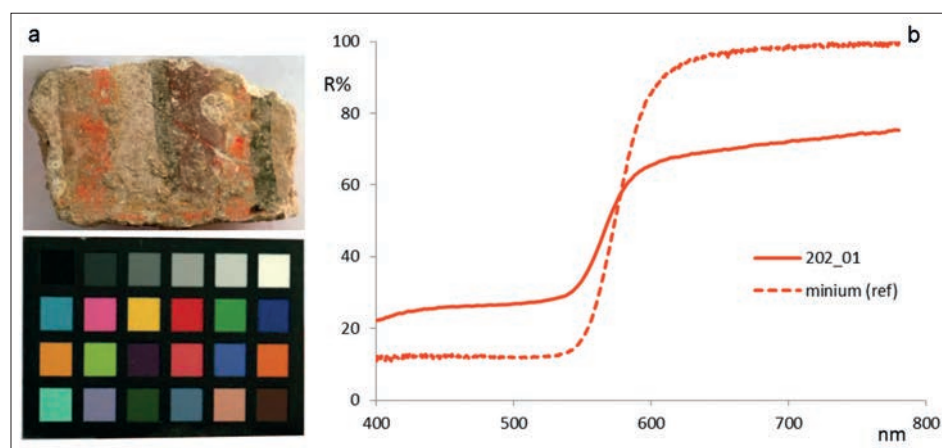
18. - Stereomicroscopic image (a) of the HA14_US539_1 sample and (b) its FORS spectrum (light blue) compared with a reference spectrum of lapis lazuli blue (dark blue line); (c) visible image, (d) VIL image and (e) stereomicroscopic image of the HA11_US194_2 sample.

the FORS spectra in which this pigment shows the characteristic “S” shape (Fig. 19) related to the presence of this pigment²⁴.

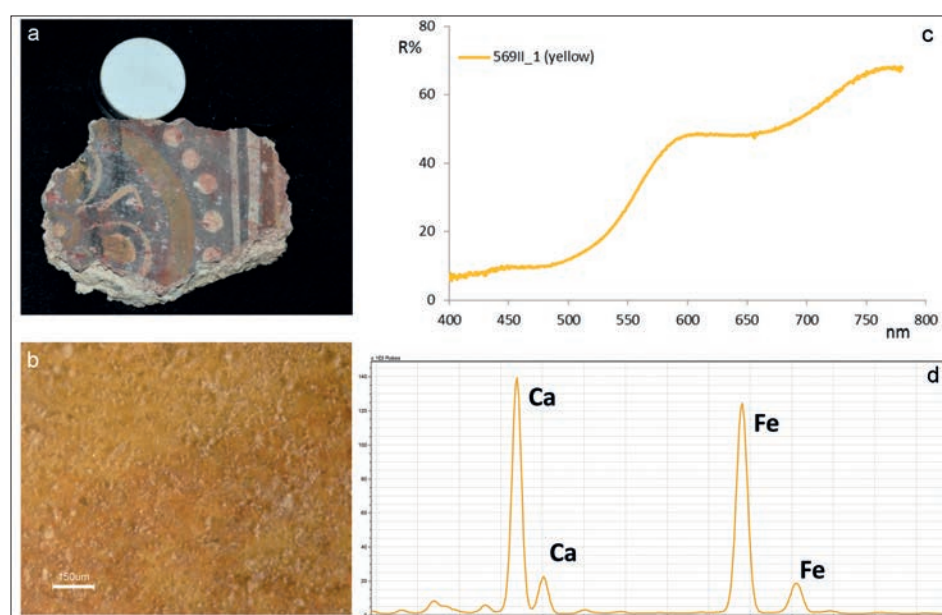
On the other hand, the red pigments on the samples from the middle Byzantine phase do not show the use of minium while, in the XRF and FORS spectra, are visible only the spectral characteristics related to iron oxide based pigments (Fe_2O_3), such as red ochre. For the yellow tones the pigments used are iron hydro/oxides ($\text{FeO}(\text{OH})$) as shown in the Figure 20, in which the spectral features of the Fe (III) are visible²⁵.

²⁴ BACCI 2000.

²⁵ BACCI 2000.

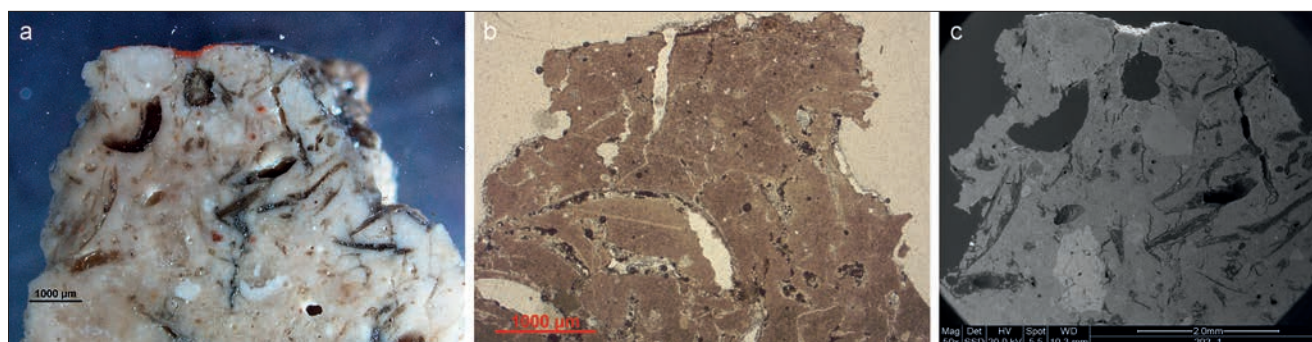


19. - Visible image (a) of the HA11_US170_1 fragment and (b) FORS spectrum of the red area (red line) compared with a reference spectrum of minium (red dotted line).

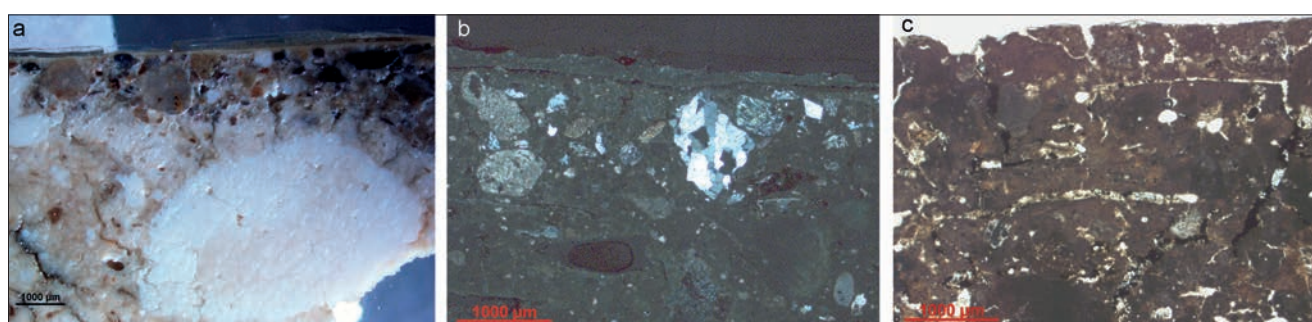


20. - Visible image (a) of the HA15_US569II_1 fragment, (b) stereomicroscopic image of the yellow area and its (c) FORS and (d) XRF spectrum.

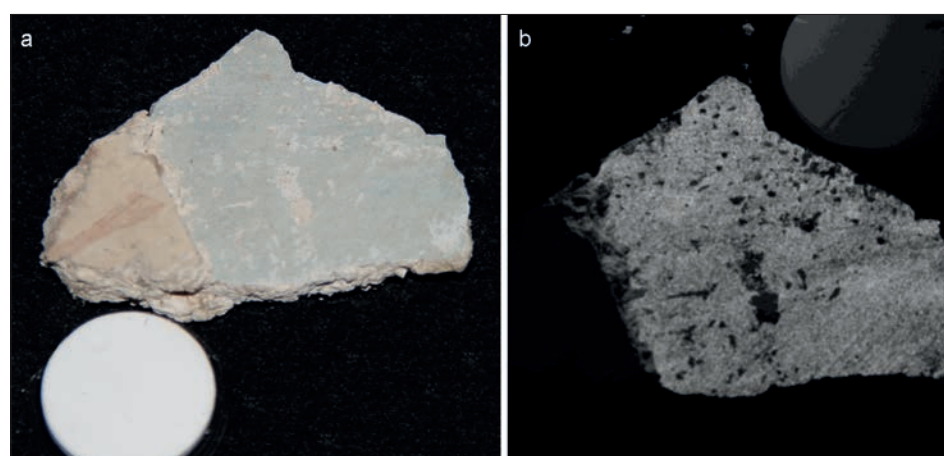
Regarding the plasters, laboratory's techniques (e.g. XRD, OM, SEM-EDS) were carried out to understand composition and technological features. The early Byzantine plasters are characterized by a thick layer obtained mixing straw to the lime (Fig. 21, a-c). The presence of sand of carbonatic and silicatic composition is rare. Numerous lumps referred to underburned marble fragments have been recognized observing thin sections under the optical polarized microscope. This observation allows us to confirm the use of marbles as raw material for the production of lime and, on the technological point of view, to evidence a scarce attention to the burning condition. The fragments of marble were burned at temperature too low or in non-homogeneous condition. The state of conservation of these plasters is not good: a high porosity, presence of gypsum and disgregation phenomena have been observed.



21. - Microphotograph (a) of polished cross section (OM reflected light), (b) thin section (OM, transmitted light, n//) and (c) backscattered image (SEM) of the HA11_202_1 sample.



22. - Microphotograph (a) of polished cross section (OM reflected light), and (b-c) thin section by OM, in transmitted light, at nX and n// respectively, of the HA11_US194_3 sample.



23. -Visible (a) and VIL image (b) of the HA15_US578I_5 fragment.

Different layers of plasters and pigments have been recognized in the samples referred to the middle Byzantine phase. Under the pigment a layering composed of two strata has been observed (Fig. 22, a): the first one realized with lime and aggregate, made of fragments of travertine, marble, schist and quartzite with a sub rounded shape and a maximum grain size of 300 µm (Fig. 22, b). The thickness of this layer is about 1 mm. Under this, a second layer realized with lime and straw is observed (Fig. 22, c). In some samples under this layer another pigment is recognized (Fig. 23, a) (i.e. US 194 and US 578). For some samples collected from US 194 and US 578 the light blue colour of inner layer was obtained using Egyptian blue as evidenced in the VIL image (Fig. 23, b).

S.B., E.C., S.V., A.S.P.L.

REFERENCES

- AE = *L'Année épigraphique*, Paris 1888-.
- ABBASOĞLU H. 1994 = *Perge Roma devri mimarisinde arşitravların soffit bezemeleri. Tipolojik yönden bir araştırma*, Ankara.
- ACCORSI G., VERRI G., BOLOGNESI M., ARMAROLI N., CLEMENTI C., MILIANI C., ROMANI A. 2009 = *The exceptional near infrared luminescence properties of cuprorivaite (Egyptian Blue)*, in *Chemical Communications* 23, 3392-3394.
- ADAM J.-P. 2005 = *Roman Building. Materials and Techniques*, London-New York.
- ADAM S. 1966 = *The technique of Greek sculpture in the Archaic and Classical period*, Oxford.
- ADLER W. 2008 = *Early Christian Historians and Historiography*, in S.A. HARVEY, D.G. HUNTER (eds.), *The Oxford Handbook of Early Christian Studies*, Oxford, 584-602.
- AGELIDIS S. 2011 = *Kulte und Heiligtümer in Pergamon*, in R. GRÜSSINGER, V. KÄSTNER, A. SCHOLL (eds.), *Pergamon. Panorama der antiken Metropole. Begleitbuch zur Ausstellung*, Berlin, 175-183.
- AGNOLI N. 1992 = *I sarcofagi a ghirlande con busti-ritratto*, in *ArchCl* 44, 235-261.
- AGUS M., CARA S., LAZZARINI L., CORDA A. 2007 = *I marmi colorati di Uthina*, in G. SOTGIU, H. BENHASSEN, A. CORDA (eds.), *Scavi archeologici ad Uthina (2001-2007), Fouilles archéologiques à Uthina (2001-2007)*, Ortacesus, 375-394.
- AHRENS S. 2005 = *Die Architekturdekoration von Italica (IA 6)*, Mainz.
- AHRENS S. 2015 = *Necropoli Nord-Est*, in *ATLANTE* 2015, 77-79.
- AHRENS S., BRANDT R. 2016 = *Excavations in the North-East Necropolis of Hierapolis 2007-2011*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 395-414.
- AHRENS S., BRILLI M., COX J., MANIATIS Y., LAPUENTE P., SCARDOZZI G., TAMBAKOPOULOS D., VAN KEUREN F. forthcoming = *Marble sarcophagi from the North-east necropolis of Hierapolis*, in *The North-east Necropolis of Hierapolis. Hierapolis di Frigia*, Istanbul.
- AKAN S.B., ŞİMŞEK Ş. 1997 = *Study of the gas discharges in the Denizli-Pamukkale geothermal area (SW Turkey)*, in H. GÖKÇEKÜŞ (ed.), *Proceedings of International Conference on Water Problems in the Mediterranean Countries* (Leşkoşa, Turkish Republic of Northern Cyprus, 17-21 November 1997), Nicosia, 207-215.
- AKGÜN F., AKYOL E. 2000 = *Palynostratigraphy of the coal-bearing Neogene deposits in Büyük Menderes Graben, western Anatolia*, in *Geobios* 32, 367-383.
- AKGÜN F., SÖZBİLİR H. 2001 = *A palynostratigraphic approach to the SW Anatolian molasse basin: Kale-Tavas Molasse and Denizli Molasse*, in *Geodinamica Acta* 14, 71-93.
- ALADE S., MURIANA O., OLAYINKA H. 2012 = *Modified Volumetric Joint Count to check for suitability of granite outcrops for dimension stone production*, in *Journal of Engineering Science and Technology* 7, 5, 646-660.
- ALBUSTANLIOĞLU T. 2011 = *Roma İmparatorluk Döneminde Mermer Ocakları Organizasyonu*, Ankara.
- ALÇİÇEK H. 2010 = *Stratigraphic correlation of the Neogene basins in southwestern Anatolia. Regional palaeogeographical, palaeoclimatic and tectonic implications*, in *Palaeogeography, Palaeoclimatology, Palaeoecology* 291, 3-4, 297-318.
- ALÇİÇEK H., VAROL B., ÖZKUL M. 2007 = *Sedimentary facies, depositional environments and palaeogeographic evolution of the Neogene Denizli Basin, SW Anatolia, Turkey*, in *Sedimentary Geology* 202, 596-637.
- ALEXAKIS D.D., AGAPIOU A., HADJIMITSIS D.G., SARRIS A. 2012 = *Remote Sensing Applications in Archaeological Research*, in B. ESCALANTE (ed.), *Remote Sensing - Applications*, Rijeka, 435-462.
- ALPASLAN S. 2001 = *Architectural Sculpture in Constantinople and the Influence of the Capital in Anatolia*, in N. NECİPOĞLU (ed.), *Byzantine Constantinople. Monuments, Topography and Everyday Life*, Leiden-Boston-Köln, 187-200.
- ALPASLAN-DOĞAN S. 2008 = *La sculpture byzantine en Lycie et à Antalya: sa place dans l'évolution de l'art byzantin*, in CH. PENNAS, C. VANDERHEYDE (eds.), *La sculpture byzantine: VII^e-XII^e siècles. Actes du colloque international organisé par la 2^e Éphorie*

- des antiquités byzantines et l'École française d'Athènes* (Athènes, 6-8 Septembre 2000) (BCH Supplément 49), Athènes, 123-138.
- ALTENHÖFER E. 1986 = *Das erste römische Bühnengebäude des Theaters von Milet*, in *Milet 1899-1980* (IstMitt Beiheft 31), Tübingen, 163-173.
- ALTUNEL E. 1996 = *Pamukkale travertenlerinin morfolojik özellikleri, yaşları ve neotektonik önemleri*, in *Maden Tetkik ve Arama dergisi* 118, 47-64.
- ALTUNEL E. 2000 = *L'attività sismica a Hierapolis e nelle zone limitrofe*, in D'ANDRIA, SILVESTRELLI 2000, 299-314.
- ALTUNEL E., HANCOCK P.L. 1993a = *Active fissuring and faulting in Quaternary travertines at Pamukkale, western Turkey*, in I.S. STEWART, C. VITA-FINZI, L.A. OWEN (eds.), *Neotectonics and Active Faulting* (Zeitschrift für Geomorphologie Supplementband 94), Stuttgart, 285-302.
- ALTUNEL E., HANCOCK P.L. 1993b = *Morphological features and tectonic setting of Quaternary travertines at Pamukkale, western Turkey*, in *Geological Journal* 28, 335-346.
- ALTUNEL E., HANCOCK P.L. 1996 = *Structural attributes of travertine-filled extensional fissures in the Pamukkale plateau, western Turkey*, in *International Geology Review* 38, 768-777.
- ALTUNEL E., KARABACAK V. 2005 = *Determination of horizontal extension from fissure-ridge travertines: a case study from the Denizli Basin, southwestern Turkey*, in *Geodinamica Acta* 18, 335-342.
- ALZINGER W. 1979 = *Die Altertümer von Belevi*, in C. PRASCHNIKER, M. THEUER (eds.), *Das Mausoleum von Belevi*, FiE VI, Wien, 167-200.
- AMICI C.M. 2008 = *Dal monumento all'edificio: il ruolo delle dinamiche di cantiere*, in J. JIMENEZ AVILA (ed.), *Sidereum Ana I. El rio Guadiana en época postorientalizante* (Anejos de Archivo Español de Arqueología 46), Madrid, 17-38.
- AMICI C.M. 2011 = *L'utilizzazione delle catene metalliche nei sistemi voltati di età romana*, in C. GIARDINO (ed.), *Archeometallurgia dalla conoscenza alla fruizione. Atti del Workshop* (22-25 maggio 2006, Cavallino - LE), Bari, 221-228.
- AMICI C.M. 2015 = *Hidden iron: high tech devices in Roman imperial architecture*, in B. BOWEN, D. FRIEDMAN, T. LESLIE, J. OCHSENDORF (eds.), *Proceedings of the Fifth International Congress on Construction History* (Chicago, 3-7 June 2015), Chicago, 63-71.
- AMICI C.M. 2016 = *Architettura romana. Dal cantiere all'architetto: soluzioni concrete per idee progettuali* (Bibliotheca archaeologica 53), Roma.
- AMY R., GROS P. 1979 = *La Maison Carrée de Nîmes* (Supplément à Gallia 38), Paris.
- ANDERSON J.G.C. 1897 = *A Summer in Phrygia I*, in *JHS* 17, 396-424.
- ANDRAE W. 1941 = *Alte Feststrassen im Nahen Osten*, Leipzig.
- ANDREAU J., SCHNAPP A., PANTEL P. 1978 = *Paul Veyne et l'évergétisme*, in *AnnEconSoc-Civ* 33, 307-325.
- ANDREOTTI A., BONADUCE I., COLOMBINI M.P., MODUGNO F., RIBECHINI E. 2009 = *Diagnosis of the yellowing of the marble high reliefs and the black decorations in the chapel of the tomb of Saint Anthony (Padua, Italy)*, in *International Journal of Mass Spectrometry* 284, 123-130.
- ANGELIER J., DUMONT J.F., KARAMANDERESI I.H., POISSON A., ŞİMŞEK Ş., UYSAL Ş. 1981 = *Analyses of fault mechanisms and expansion of South-western Anatolia since the Late Miocene*, in *Tectonophysics* 75, T1-T9.
- ANGUISSOLA A., BOCHICCHIO L., CALABRÒ A., COSTA S. 2013 = *Funerary architecture at Hierapolis in Phrygia: the case of the south-western necropolis*, in L. BOMBARDIERI, A. D'AGOSTINO, G. GUARDUCCI, V. ORSI, S. VALENTINI (eds.), *SOMA 2012. Identity and Connectivity. Proceedings of the 16th Symposium on Mediterranean Archaeology* (Florence, 1-3 March 2012) (BARIntSer 2581), Oxford, 457-466.
- ANGUISSOLA A., BOCHICCHIO L., CALABRÒ A., COSTA S. 2016 = *La Necropoli Sud-Ovest a Hierapolis di Frigia: lo scavo della tomba di Tiberius Claudius Thalamus (S10)*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 503-527.
- ANTONELLI F., LAZZARINI L. 2015 = *An updated petrographic and isotopic reference database for white marbles used in antiquity*, in *Rendiconti Lincei Scienze Fisiche e Naturali* 26, 399-413.

- ANTONELLI F., LAZZARINI L., CANCELLIERE S., DESSANDIER D. 2009 = *Minero-petrographic and Geochemical Characterization of Greco Scritto Marble from Cap de Garde, near Hippo Regius (Annaba, Algeria)*, in *Archaeometry* 51, 3, 351-365.
- ANTONELLI F., LAZZARINI L., CANCELLIERE S., DESSANDIER D. 2010 = *On the white and coloured marbles of the Roman town of Cuicul (Djemila, Algeria)*, in *Archaeometry* 52, 4, 575-596.
- ARTHUR P. 2006 = *Hierapolis bizantina e turca (Pamukkale). Guida archeologica/Byzantine and Turkish Hierapolis*, Istanbul.
- ARTHUR P., BRUNO B. 2007 = *Hierapolis di Frigia in età medioevale (scavi 2001-2003)*, in D'ANDRIA, CAGGIA 2007, 511-529.
- ASGARI N. 1977 = *Die Halbfabrikate kleinasiatischer Girlandensarkophage und ihre Herkunft*, in *AA*, 329-380.
- ASGARI N. 1979 = *Anadolu'da Antik Mermer Ocakları*, in 8. Türk Tarih Kurumu Kongresi (Ankara, 11-15 Ekim 1976), Ankara, 451-456.
- ASGARI N. 1992 = Unpublished report.
- ASGARI N. 1995 = *The Proconnesian Production of Architectural Elements in Late Antiquity, Based on Evidence from the Marble Quarries*, in C. MANGO, G. DAGRON (eds.), *Constantinople and its Hinterland. Papers from the Twenty-seventh Spring Symposium of Byzantine Studies* (Oxford, April 1993), Aldershot, 263-288.
- ASGARI N., MATTHEWS KJ. 1995 = *The stable isotope analysis of marble from Proconnesos*, in Y. MANIATIS, N. HERZ, Y. BASIAKOS (eds.), *The study of marble and other stones used in the antiquity*, London, 123-129.
- ASPINALL A., GAFFNEY C., SCHMIDT A. 2008 = *Magnetometry for archaeologists*, New York.
- ATLANTE 2008 = D'ANDRIA F., SCARDOZZI G., SPANÒ A. (eds.), *Atlante di Hierapolis di Frigia, Hierapolis di Frigia II*, Istanbul.
- ATLANTE 2015 = SCARDOZZI G. (ed.), *Nuovo Atlante di Hierapolis di Frigia. Cartografia archeologica della città e delle necropoli, Hierapolis di Frigia VII*, Istanbul.
- ATTANASIO D. 2003 = *Ancient White Marbles. Analysis and Identification by Paramagnetic Resonance Spectroscopy*, Roma.
- ATTANASIO D., ARMIENTO G., BRILLI M., EMANUELE M.C., PLATANIA R., TURI B. 2000 = *Multimethod marble provenance determinations: the Carrara marbles as a case study for the combined use of isotopic, electron spin resonance and petrographic data*, in *Archaeometry* 42, 2, 257-272.
- ATTANASIO D., BRILLI M., BRUNO M. 2008 = *The properties and identification of marble from Proconnesos (Marmara Island, Turkey): a new database including isotopic, EPR and petrographic data*, in *Archaeometry* 50, 5, 747-774.
- ATTANASIO D., BRILLI M., OGLE N. 2006 = *The isotopic signature of classical marbles*, Roma.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2012 = *Aphrodisian marble from the Göktepe quarries: the little barbarians, Roman copies from the Attalid dedication in Athens*, in *BSR* 80, 65-87.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2015a = *A multi-method database of the black and white marbles of Göktepe (Aphrodisias), including isotopic, EPR, trace and petrographic data*, in *Archaeometry* 57, 2, 217-245.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2015b = *Analysis and discrimination of Phrygian and other Pavonazzetto-like marbles*, in PENSABENE, GASPARINI 2015, 753-764.
- ATTANASIO D., BRUNO M., YAVUZ A.B. 2009 = *Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla)*, in *JRA* 22, 313-348.
- ATTANASIO D., BRUNO M., YAVUZ A.B. 2014 = *On the provenance of some sculptural and decorative marbles used at Aphrodisias*, in *RendLinc* 9, 25, 105-151.
- ATTANASIO D., BRUNO M., YAVUZ A.B., ELÇİ H. 2008 = *Aphrodisias and the Newly Discovered Quarries at Göktepe*, in R.R.R. SMITH, J.L. LENAGHAM (eds.), *Roman Portraits from Aphrodisias*, Istanbul, 217-227.
- ATTANASIO D., PENSABENE P. 2002 = *I marmi del teatro di Hierapolis*, in DE BERNARDI FERRERO 2002a, 69-85.

- ATTANASIO D., YAVUZ A.B., BRUNO M., HERRMANN J.J. JR., TYKOT R.H., VAN DEN HOEK A. 2012 = *On the Ephesian origin of greco scritto marble*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 245-254.
- AURENHAMMER M. 1990 = *Die Skulpturen von Ephesos. Bildwerke aus Stein. Idealplastik I, FiE X, I*, Wien.
- AURENHAMMER M., PLATTNER G.A. 2014 = *Der Eros-/Satyrfriese vom Theater in Ephesos*, in E. TRINKL (ed.), *Akten des 14. Österreichischen Archäologentages* (Graz, 19.-21. April 2012), Wien, 47-62.
- AYLWARD W., CARLSON D., LAROCHE D., MORETTI J. C., PIKE S. 2012 = *The Temple of Apollo at Claros and the Kizilburun shipwreck: preliminary analysis of isotopic data*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 540-548.
- BACCI M. 2000 = *UV-VIS-NIR, FT-IR, and FORS spectroscopies*, in E. CILIBERTO, G. SPOTO (eds.), *Modern Analytical Methods in Art and Archaeology* (Chemical Analyses Series 155), New York, 321-361.
- BACHMANN M. (ed.) 2009 = *Bautechnik im antiken und vorantiken Kleinasien. Internationale Konferenz* (Istanbul, 13.-16. Juni 2007) (Byzas 9), Istanbul.
- BAĞCI M., KIBICI Y., YILDIZ A., TEZCAN AKINCI Ö. 2010 = *Petrographical and geochemical investigation of the Triassic marbles associated with Menderes massif metamorphics, Kavaklıdere, Muğla, SW Turkey*, in *Journal of Geochemical Exploration* 107, 39-55.
- BAI T., POLLARD D. 2000 = *Fracture Spacing in Layered Rocks. A New Explanation based on the Stress Transition*, in *Journal of Structural Geology* 22, 43-57.
- BAIER CH. 2006 = *Kaiserzeitliche Konsolengeisa in Kleinasien. Untersuchungen zur Bauornamentik von flavischer bis in severischer Zeit am Beispiel Ephesos* (unpublished master thesis), Wien.
- BAIER CH. 2014 = *Zum Nutzen multivariater Analyseverfahren für die Erforschung von Fertigungsprozessen antiker Bauornamentik am Beispiel des Nymphäums des C. Laecanius Bassus in Ephesos*, in LIPPS, MASCHKE 2014b, 69-83.
- BALLANCE M.H. 1966 = *The origin of Africano*, in *BSR* 34, 79-81.
- BALTSAVIAS E., GRUEN A., EISENBEISS H., ZHANG L., WASER L.T. 2008 = *High-quality image matching and automated generation of 3D tree models*, in *International Journal of Remote Sensing* 29, 5, 1243-1259.
- BANKEL H. 1989-1990 = *Knidos. Neue Forschungen im antiken Stadtgebiet*, in *NüBLA* 6, 17-21.
- BANKEL H. 1997 = *Knidos. Der hellenistische Rundtempel und sein Altar. Vorbericht*, in *AA*, 51-71.
- BARATTOLO A. 1982 = *Afrodisia e Roma: nuove testimonianze per la storia della decorazione*, in *RM* 89, 133-151.
- BARBIERI M., TESTA G., MEROLA D., POLYCHRONAKIS Y., SIMITZIS V. 2002 = *Comparative strontium-isotope analysis and petrography of Egyptian and Cretan limestone and calcite-alabaster*, in LAZZARINI 2002a, 415-425.
- BARBIN V., RAMSEYER K., DÉCROUEZ D., HERB R. 1989 = *Marbres blancs: caractérisation par cathodoluminescence*, in *Comptes Rendus de l'Académie des Sciences* 308, 2, 861-866.
- BARBIN V., RAMSEYER K., DÉCROUEZ D., BURNS S.J., CHAMAY J., MAIER J.L. 1992 = *Cathodoluminescence of white marbles: an overview*, in *Archaeometry* 34, 2, 175-183.
- BARCÈLO J. 2001 = *Virtual Reality for archaeological explanation beyond "picturesque" reconstruction*, in *ACalc* 12, 221-244.
- BARCÈLO J., FORTE M., SANDERS D. (eds.) 2003 = *Virtual Reality in Archaeology*, Oxford.
- BARKER S., RUSSELL B. 2012 = *Labour Figures for Roman Stone-Working. Pitfalls and Potential*, in CAMPOREALE, DESSALES, PIZZO 2012, 83-94.
- BARRESI P. 2003 = *Province dell'Asia Minore. Costo dei marmi, architettura pubblica e committenza* (Studia archaeologica 125), Roma.
- BARRESI P. 2004 = *Anfiteatro flavio di Pozzuoli, portico in summa cavea: una stima dei costi*, in E.C. DE SENA, H. DESSALES (eds.), *Metodi e approcci archeologici. L'industria e il commercio nell'Italia antica - Archaeological Methods and Approaches. Industry and Commerce in Ancient Italy* (BARIntSer 1262), Oxford, 262-267.

- BARRESI P. 2015 = *Calculating the cost of columns: the case of the Temple of Apollo at Didyma*, in PENSABENE, GASPARINI 2015, 933-940.
- BARRIER E., VRIELYNCK B. 2008 = *MEBE Atlas of Paleotectonic maps of the Middle East. Commission for the Geological Map of the World*, Paris.
- BARSANTI C. 1988 = *Scultura anatolica in epoca mediobizantina*, in C. BARSANTI, A. GUIGLIA GUIDOBALDI, A. IACOBINI (eds.), *Atti della giornata di studio. Gruppo Nazionale di Coordinamento C.N.R. "Storia dell'Arte e della Cultura Artistica Bizantina"* (Milion. Studi e ricerche d'arte bizantina 1), Roma, 275-306.
- BARSANTI C. 2004 = *Le transenne. Gli elementi marmorei di reimpiego*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 489-529.
- BARSANTI C. 2007 = *La scultura mediobizantina fra tradizione e innovazione*, in F. CONCA, G. FIACCADORI (eds.), *Bisanzio nell'età dei Macedoni. Forme della produzione letteraria e artistica. VIII Giornata di Studi Bizantini* (Milano, 15-16 marzo 2005), Milano, 5-49.
- BARSANTI C. 2008 = *Una nota sulla diffusione della scultura a incrostazione nelle regioni adriatiche del meridione d'Italia tra XI e XIII secolo*, in C. PENNAS, C. VANDERHEYDE (eds.), *La sculpture byzantine: VII^e-XII^e siècles. Actes du colloque international organisé par la 2^e Ephorie des antiquités byzantines et l'École française d'Athènes* (6-8 Septembre 2000) (BCH Supplément 49), Paris, 515-557.
- BARSANTI C. 2014 = *Una rara scultura costantinopolitana di epoca paleologa a Murano*, in *VenArt* 27, 24, 10-25.
- BARSANTI C. 2016 = *Scultura dipinta a Bisanzio*, in P.A. ANDREUCCETTI, D. BINDANI (eds.), *Il Colore nel Medioevo. Arte, Simbolo, Tecnica. Tra materiali costruttivi e colori aggiunti: mosaici, intarsi e plastica lapidea. Atti delle Giornate di Studio* (Lucca, 24-26 ottobre 2013), Lucca, 61-85.
- BARSANTI C., PEDONE S. 2005 = *Una nota sulla scultura ad incrostazione e il templon della Panaghia Episcopi di Santorini*, in *Mélanges Jean-Pierre Sodini* (Travaux et Mémoires 15), Paris, 405-425.
- BARSOTTELLI M., FRATINI F., GIORGETTI G., MANGANELLI DEL FA' C., MOLLI G. 1998 = *Microfabric and alteration in Carrara marble: a preliminary study*, in *Science and Technology for Cultural Heritage* 7, 2, 115-126.
- BARTOLI D.G. 2008 = *Marble Transport in the Time of the Severans. A New Analysis of the Punta Scifo. A Shipwreck at Croton, Italy*, Ph.D. dissertation, Texas A&M University (<http://oaktrust.library.tamu.edu/handle/1969.1/ETD-TAMU-2871>).
- BARTOLUCCI D. 2009 = *Principi di Laser scanning 3D*, Palermo.
- BAŞARAN C. 1999 = *Anadolu Kompozit Başlıkları*, Istanbul.
- BASILE G. 1989 = *Che cos'è il restauro*, Roma.
- BAXANDALL M. 1988² = *Painting and Experience in Fifteenth-Century Italy. A Primer in the Social History of Pictorial Style*, Oxford.
- BEAN G.E. 1980 = *Turkey beyond the Maeander, an Archaeological Guide*, London.
- BEAN G.E., MITFORD T.B. 1970 = *Journeys in Rough Cilicia, 1964-1968* (DenkschrWien 102), Wien.
- BECKMANN M. 2009 = *Survey and Excavation at Nysa on the Meander, 2009. The Gymnasium Portico and Palaestra*, in *Mouseion* 53, 125-142.
- BECKER TH. 2003 = *Griechische Stufenanlagen. Untersuchungen zur Architektur, Entwicklungsgeschichte, Funktion und Repräsentation*, Münster, 217-259.
- BEJOR G. 1991 = *Hierapolis. Scavi e Ricerche III. Le statue* (Archaeologica 99), Roma.
- BEJOR G. 2000 = *Per una ricerca di Laodicea ellenistica*, in G. TRAVERSARI (ed.), *Laodicea di Frigia I (RdA Supplementi 24)*, Roma, 15-23.
- BEJOR G. 2002 = *Il teatro di Hierapolis. Appunti sulle stratigrafie dell'iposcenio*, in DE BERNARDI FERRERO 2002a, 45-50.
- BEJOR G., BONETTO J. 2000 = *La ricognizione del 1999: dalla Porta Efesia all'Agorà Occidentale*, in G. TRAVERSARI (ed.), *Laodicea di Frigia I (RdA Supplementi 24)*, Roma, 105-124.
- BELKE K., MERSICH N. 1990 = *Phrygien und Pisidien, Tabula Imperii Bizantini* 7, Wien.

- BENNARDI D., FURFERI R. 2007 = *Restauro Virtuale. Tra ideologia e metodologia*, Firenze.
- BENTKOWSKA-KAFEL A., DENARD H., BAKER D. 2012 = *Paradata and Transparency in Visual Heritage*, London.
- BERNARD S. G. 2013 = *The Transport of Heavy Loads in Antiquity. Lifting, Moving, and Building in Ancient Rome*, in S. ALTEKAMP, C. MARCKS-JACOBS, P. SEILER (eds.), *Perspektiven der Spolienforschung I. Spolierung und Transposition*, Berlin, 99-122.
- BERNOULLI D., DE GRACIANSKY P.C., MONOD O. 1974 = *The extension of the Lycian nappes (SW Turkey) into the southeastern Aegean islands*, in *Eclogae Geologicae Helvetiae* 67, 39-90.
- BERNS C. 2011 = *Review to ISMAELLI 2009*, in *Gnomon* 83, 471-473.
- BERNS C., VON HESBERG H., VANDEPUT L., WAELEKENS M. (eds.) 2002 = *Patris und Imperium: kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasien in der frühen Kaiserzeit* (Köln, 19.-21. November, 1998) (*BABesch* Supplement 8), Leuven.
- BERTI F. 1975 = *Materiale dai vecchi scavi del Palazzo di Teodorico, II, Elementi di decorazione architettonica e frammenti diversi*, in *FelRav* 109-110, 97-127.
- BEVILACQUA L. 2013 = *Arte e aristocrazia a Bisanzio nell'età dei Macedoni: Costantinopoli, la Grecia, l'Asia Minore*, Roma.
- BEYKAN M. 1988 = *The marble architectural elements in export-form from the Şile shipwreck*, in HERZ, WAELEKENS 1988, 127-137.
- BIEBER M. 1961 = *The History of the Greek and Roman Theater*, Princeton.
- BİNGÖL O. 1980 = *Das ionische Normalkapitell in hellenistischer und römischer Zeit in Kleinasien (IstMitt Beiheft 20)*, Tübingen.
- BİNGÖL O. 2004 = *Arkeolojik Mimari'de Taş*, Istanbul.
- BİNGÖL O. 2012a = *Neue Erkenntnisse am Tempel der Artemis Leukophryene in Magnesia*, in TH. SCHULZ (ed.), *Dipteros und Pseudodipteros. Bauhistorische und archäologische Forschungen. Internationale Tagung* (Regensburg, 13.-15. November 2009) (*Byzas* 12), Istanbul, 113-121.
- BİNGÖL O. 2012b = *Bu Koca Taşları Nasıl İşlediler, Nasıl Kaldırdılar*, Ankara.
- BİNGÖL O. 2012c = *The conservation work in the theatron at Magnesia*, in MASINO, MIGHETTO, SOBRÀ 2012, 69-78.
- BITTERER T. 2013 = *Marmorverkleidung stadtrömischer Architektur: Öffentliche Bauten aus dem 1. Jahrhundert v. Chr. bis 7. Jahrhundert n. Chr.*, München, PhD Thesis.
- BLANC A., BLANC P. 2012 = *Ancient Uses of the Roman Breccia (Brèche des Romains) in Gaul*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 487-492.
- BLANC P. 1999 = *La quantification de la cathodoluminescence des marbres blancs et de leurs minéraux accessoires*, in SCHVOERER 1999, 45-54.
- BLANC P., BROMBLET P., LEROUX L. 2012 = *White marbles provenance study of Caesar's head and other major sculptures found in the Rhône River at Arles (France)*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 401-406.
- BLID J. 2010 = *Archaeological investigations at the "West Church"*, in *Opuscula* 3, 30-51.
- BLID J. 2012 = *Felicitum Temporum Reparatio. Labraunda in Late Antiquity (c. AD 300-600)*, Stockholm.
- BLÜMEL W. 1995 = *Inchriften aus Karien I*, in *EpigrAnat* 25, 35-64.
- BLÜMEL W., OLSHAUSEN E. 2002 = *Teos*, in *DNP* 12,1, 137-139.
- BOATWRIGHT M.T. 2000 = *Hadrian and the Cities of the Roman Empire*, Princeton.
- BOGGS S. JR., KRINSLEY D. 2006 = *Application of cathodoluminescence imaging to the study of sedimentary rocks*, Cambridge.
- BOINEAU A., PERRIER R. 1995 = *La décohésion granulaire, maladie des revêtements de façades en marbres*, in *Mines et Carrières-Industrie Minière*, Août-Septembre, 69-77.
- BOLMAN E.S. 2010 = *Painted Skins. The Illusions and Realities of Architectural Polychromy, Sinai and Egypt*, in S.E.J. GERSTEL, R. NELSON (eds.), *Approaching the Holy Mountain. Art and Liturgy at St Catherine's Monastery in the Sinai*, Turnhout, 119-140.
- BONETTO J., CAMPOREALE S., PIZZO A. (eds.) 2014 = *Arqueología de la construcción IV. Las canteras en el mundo antiguo: sistemas de explotación y procesos productivos* (Pa-

- dova, 22-24 de noviembre de 2012) (Anejos de Archivo Español de Arqueología 69), Madrid-Mérida.
- BORCHHARDT J. 1974 = *Ein Kenotaph für Gaius Caesar*, in *JdI* 89, 217-241.
- BORCHHARDT J. 1991 = *Ein Ptolemaion in Limyra*, in *RA*, 309-322.
- BORG B. 2001 = *Marmor für Apoll. Ein Beitrag zur Baugeschichte des jüngeren Didymaion und der historischen Topographie seiner Umgebung*, in J. BERGEMANN (ed.), *Wissenschaft mit Enthusiasmus. Beiträge zu antiken Bildnissen und zur historischen Landeskunde, Klaus Fittschen gewidmet* (Internationale Archäologie. Studia honoraria 14), Rahden-Leidorf, 79-101.
- BORG B., BORG G. 2002 = *The history of Apollo's Temple at Didyma, as told by marble analyses and historical sources*, in LAZZARINI 2002a, 271-278.
- BORGHINI G. (ed.) 1989 = *Marmi antichi* (Materiali della cultura artistica 1), Roma.
- BORGIA E. 2012 = *Attestazioni epigrafiche di mestieri legati alla costruzione nell'Asia Minore romana e proto-bizantina: specializzazioni e ruolo sociale*, in CAMPOREALE, DESALES, PIZZO 2012, 53-68.
- BOSCHUNG D., PFANNER M. 1988 = *Antike Bildhauertechnik. Vier Untersuchungen an Beispielen in der Münchner Glyptothek*, in *MüJb* 39, 7-28.
- BOTTICELLI G., CHIARI G., MATTEINI M., CARSON D., FRATINI F. 2010 = *Ammonium phosphate-based treatment: an innovative mineral-inorganic approach for the consolidation of mural paintings. Pilot tests and scientific investigation*, ICOM Interim Meeting - Scientific Research Working Group (Pisa, 7-8 October 2010), oral communication.
- BOTTICELLI G., FRATINI F., MATTEINI M., RESCIC S. 2011 = *Consolidamento di manufatti lapidei calcarei mediante fosfati ammoniacali. Un trattamento di grande interesse tuttora in fase sperimentale*, in *Scienza e Beni Culturali: Governare l'innovazione. Atti del convegno* (Bressanone, 21-24 giugno 2011), Padova, 693-702.
- BOULAY T., PONT A.-V. 2014 = *Chalkêtôr en Carie* (Mémoire de l'Académie des Inscriptions et Belles Lettres 48), Paris.
- BOURAS L.P.H., TAFT R.F. 1991 = *Ambo*, in A.P. KAZHDAN (ed.), *The Oxford Dictionary of Byzantium* I, New York-Oxford, 75-76.
- BOYD S. 1999 = *Champlevé production in Early Byzantine Cyprus*, in N. PATTERSON SEVCENKO, C. MOSS (eds.), *Medieval Cyprus. Studies in Art, Architecture and History in Memory of Doula Mouriki*, Princeton, 49-70.
- BOYD S. 2000 = *The Relief Decoration of the Church Building at Seleucia Pieria*, in C. KONDOLEON (ed.), *Antioch. The Lost Ancient City*, Princeton, 220-222.
- BOYD S. 2007 = *The Champlevé Revetments*, in A.H.S. MEGAW (ed.), *Kourion. Excavations in the Episcopal Precinct* (Dumbarton Oaks Studies 38), Washington, 235-320.
- BOZKURT E. 2000 = *Timing of extension on the Büyük Menderes Graben, western Turkey, and its tectonic implications*, in E. BOZKURT, J.A. WINCHESTER, J.D.A. PIPER (eds.), *Tectonics and Magmatism of Turkey and the Surrounding Area* (Geological Society London Special Publications 173), 385-403.
- BOZKURT E. 2003 = *Origin of NE-trending basins in western Turkey*, in *Geodinamica Acta* 16, 61-81.
- BOZKURT E. 2004 = *Granitoid rocks of the southern Menderes Massif (south-west Turkey): field evidence for Tertiary magmatism in an extensional shear zone*, in *International Journal of Earth Science* 93, 52-71.
- BOZKURT E., MITTWEDE S.K. 2005 = *Introduction: evolution of continental extensional tectonics of western Turkey*, in *Geodinamica Acta* 18, 153-165.
- BOZKURT E., OBERHÄNSLI R. 2001 = *Menderes Massif (western Turkey): structural, metamorphic and magmatic evolution - a synthesis*, in *International Journal of Earth Science* 89, 679-708.
- BOZKURT E., PARK R.G., WINCHESTER J.A. 1993 = *Evidence against the core/cover interpretation of the southern sector of the Menderes Massif, west Turkey*, in *Terra Nova* 5, 445-451.
- BOZKURT E., PARK R.G., WINCHESTER J.A. 1995 = *Geochemistry and tectonic significance of augen gneisses from the southern Menderes Massif (West Turkey)*, in *Geological Magazine* 132, 287-301.
- BOZKURT E., WINCHESTER J.A., YİĞİTBAŞ E., OTTLEY C.J. 2008 = *Proterozoic ophiolites and*

- mafic-ultramafic complexes marginal to the Istanbul Block: an exotic terrane of Avalonian affinity in NW Turkey, in *Tectonophysics* 461, 240-251.
- BOZZA S. 2016 = *Architettura ionica a Hierapolis di Frigia*, Università Cattolica del Sacro Cuore, Milano, PhD Thesis.
- BRANDT J.R., HAGELBERG E., BJØRNSTAD G., AHRENS S. 2016 = *Life and Death in Asia Minor in Hellenistic, Roman, and Byzantine Times. Studies in Archaeology and Bioarchaeology* (Studies in Funerary Archaeology 10), Oxford.
- BRANDT H., KOLB F. 2005 = *Lycia et Pamphylia. Eine römische Provinz im südwesten Kleinasien*, Mainz.
- BREUSS O., JOHN V. 2004 = *New and interesting records of lichens from Turkey*, in *Österreichische Zeitschrift für Pilzkunde* 13, 281-294.
- BREZZA L. 1870 = *Iscrizioni dei marmi grezzi*, in *AdI* 42, 106-204.
- BRILLI M., CAVAZZINI G., TURI B. 2005 = *New data of $^{87}\text{Sr}/^{86}\text{Sr}$ ratio in classical marble: an initial database for marble provenance determination*, in *JASc* 32, 1543-1551.
- BRILLI M., GIUSTINI F., CONTE A.M., LAPUENTE MERCADAL P., QUARTA G., ROYO PLUMED H., SCARDOZZI G., BELARDI G. 2015 = *Petrography, geochemistry, and cathodoluminescence of ancient white marble from quarries in the southern Phrygia and northern Caria regions of Turkey. Considerations on provenance discrimination*, in *JASc, Reports* 4, 124-142.
- BRILLI M., GIUSTINI F., FAYEK ALI ELMOUGHAZI A., BARONE P.M., SCARDOZZI G. 2017 = *Characterizing the alabastro listato or fiorito of Hierapolis in Phrygia: a simple method to identify its provenance using carbon stable isotopes*, in *Archaeometry*.
- BRINGMANN K., VON STEUBEN H. (eds.) 1995-2000 = *Schenkungen hellenistischer Herrscher an griechische Städte und Heiligtümer I-II*, Berlin.
- BRIZIO A.M. 1996 = *Il rilievo dei monumenti antichi nei disegni di architettura della prima metà del Cinquecento*, Roma.
- BROGI A., CAPEZZUOLI E., ALÇİÇEK M.C., GANDIN A. 2014 = *Evolution of a fault-controlled fissure-ridge type travertine deposit in the western Anatolia extensional province: the Çukurbağ fissure-ridge (Pamukkale, Turkey)*, in *Journal of the Geological Society* 171, 425-441.
- BRÜCKNER H. 2012 = *Ephesos. Paläogeografie*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 46-49.
- BRÜCKNER H. 2014 = *Ephesos. Paläogeografie*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 29-31.
- BRUN J.-P., FACCENNA C. 2008 = *Exhumation of high-pressure rocks driven by slab rollback*, in *Earth and Planetary Science Letters* 272, 1-7.
- BRUNO M. 1998 = *Su una cava d'alabastro del Circeo in località "la Batteria"*, in *PENSABENE* 1998a, 213-22.
- BRUNO M. 2002a = *Alabaster quarries near Hierapolis (Turkey)*, in *LAZZARINI* 2002a, 19-24.
- BRUNO M. 2002b = *Il mondo delle cave in Italia: considerazioni su alcuni marmi e pietre usati nell'antichità*, in *DE NUCCIO, UNGARO* 2002, 277-90.
- BRUNO M. 2002c = 294. *Rocchio*, in *DE NUCCIO, UNGARO* 2002, 532-533.
- BRUNO M. 2002d = *Considerazioni sulle cave, sui metodi di estrazione, di lavorazione e sui trasporti*, in *DE NUCCIO, UNGARO* 2002, 179-194.
- BRUNO M. 2012 = *Quarry blocks in marmor lassense from the Balık Pazarı at Iasos (Turkey)*, in *GUTIÉRREZ GARCIA, LAPUENTE, RODÀ* 2012, 706-714.
- BRUNO M., ATTANASIO D., PROCHASKA W., YAVUZ A.B. 2015 = *An update on the use and distribution of white and black Göktepe marbles from the first century AD to Late Antiquity*, in *PENSABENE, GASPARINI* 2015, 461-468.
- BRUNO M., BIANCHI F. 2015 = *Marmi di Leptis Magna*, Roma.
- BRUNO M., ELÇI H., YAVUZ A.B., ATTANASIO D. 2012 = *Unknown Ancient Marble Quarries of Western Asia Minor*, in *GUTIÉRREZ GARCIA, LAPUENTE, RODÀ* 2012, 562-572.
- BRUNS-ÖZGAN C. 2002 = *Knidos. Ein Führer durch die Ruinen*, Konya.
- BRUNT P.A. 1980 = *Free Labour and Public Works at Rome*, in *JRS* 70, 81-100.

- BRUSINI S. 2001 = *La decorazione scultorea della villa romana di Monte Calvo (RIA 55)*, Roma.
- BUCHWALD H. 1995 = *Notes on the design of aisled basilicas in Asia Minor*, in B. SCHELLEWALD, B. BORKOPP, L. THEIS (eds.), *Studien zur byzantinischen Kunstgeschichte. Festschrift für Horst Hallensleben zum 65. Geburtstag*, Amsterdam, 19-30.
- BUCKLER W.H., CALDER W.M. 1939 = *Monuments and Documents from Phrygia and Caria, MAMA VI*, Manchester.
- BUCKLER W.H., CALDER W.M., GUTHRIE W.K.C. 1933 = *Monuments and Documents from Eastern Asia and Western Galatia, MAMA IV*, Manchester.
- BUGINI R., TONIOLO L. 1990 = *La presenza di grumi bianchi nelle malte antiche: ipotesi sull'origine*, in *Arkos* 12, 4-8.
- BUICK I.S., HOLLAND T.J.B. 1989 = *The P-T-t path associated with crustal extension, Naxos, Cyclades, Greece*, in J.S. DALY, R.A. CLIFF, B.W.D. YARDLEY (eds.), *Evolution of Metamorphic Belts*, London, 365-369.
- BURCHFIEL B.C., NAKOV R., DUMURDZANOV N., PAPANIKOLAOU D.J., TZANKOV T.Z., SERAFIOVSKI T., KING R.W., KOTSEV V., TODOSOV A., NURCE B. 2008 = *Evolution and dynamics of the Cenozoic tectonics of the South Balkan extensional system*, in *Geosphere* 4, 919-938.
- BURTON G.P. = *Provincial Procurators and the Public Provinces*, in *Chiron* 23, 24-26.
- BURFORD A. 1960 = *Heavy Transport in Classical Antiquity*, in *The Economic History Review* 13, 1-18.
- BURFORD A. 1969 = *The Greek Temple Builders at Epidauros*, Liverpool.
- BURRELL B. 2004 = *Neokoroi. Greek Cities and Roman Emperors*, Leiden-Boston.
- BURRELL B. 2009 = *Phrygian for Phrygians: semiotics of "exotic" local marble*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 780-786.
- BÜYÜKKOLANCI M., ÖZTAŞKIN G.K. 2010 = *Selçuk-Efes Müzesi'nde Sergilenen St. Jean Kilisesi'ne Ait Korkuluk Levhaları ve Templon Arşitravları*, in *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 7, 39-49.
- CAGGIA M.P. 2014 = *La collina di San Filippo a Hierapolis di Frigia: osservazioni sulle fasi di occupazione bizantina e selgiuchide (IX-XIV sec.)*, in *ScAnt* 20, 2, Roma, 143-161.
- CAGGIA M.P. 2016a = *Le Terme Ottagonali e le loro trasformazioni in quartiere abitativo: osservazioni sulle fasi di età proto e mediobizantina*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 689-714.
- CAGGIA M.P. 2016b = *Prime indagini sul terrazzo dell'Aghiasma: la chiesa di San Filippo*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 729-765.
- CAGGIA M.P. forthcoming = *Mosaic and opus sectile pavements in the Church of St. Philip in Hierapolis*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity (Laodikeia-Denizli, 22-23 May 2015)*.
- ÇAĞLAR K.Ö. 1961 = *Türkiye maden suları ve kaplıcaları MTA Enstitüsü Yayını. No. 107*, in *Fasikül* 4, Ankara.
- ÇAĞLAYAN A., ÖZTÜRK E., ÖZTÜRK Z., SAV H., AKAT U. 1980 = *Menderes masifi güneyine ait bulgular ve yapısal yorum*, in *Jeoloji Mühendisliği Dergisi* 10, 9-17.
- CAIN H.-U., PFANNER M. 2009 = *Die Agora Milets in der Kaiserzeit und der Spätantike*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 83-95.
- ÇAKIR Z. 1999 = *Along-strike discontinuity of active normal faults and its influence on Quaternary travertine deposition: examples from western Turkey*, in *Turkish Journal of Earth Science* 8, 67-80.
- CAMPAGNA L. 2006 = *Monumental Fountains at Hierapolis of Phrygia during the Severan Age. The Nymphaeum of the Tritons and the Nymphaeum of the Sanctuary of Apollo*, in *Wiplinger* 2006, 387-395.
- CAMPAGNA L. 2007 = *Le recenti indagini al Ninfeo dei Tritoni (Regio II): nuovi dati per lo studio del monumento*, in D'ANDRIA, CAGGIA 2007, 311-332.

- CAMPAGNA L. 2012 = *Ninfeo dei Tritoni. Le ricerche sulla restituzione della facciata*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 533-564.
- CAMPAGNA L., LIMONCELLI M. 2011 = *The Nymphaeum of the Tritons at Hieropolis of Phrygia (Turkey) from excavations to 3D-virtual reconstruction: an example of integrated methods in the study of ancient architecture*, in *Proceedings of the 5th International Congress "Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin" Vol. I* (Istanbul, 22-25 November 2011), Roma, 281-290.
- CAMPAGNA L., SCARDOZZI G. 2013 = *Archeologia delle acque a Hierapolis di Frigia: tematiche principali e metodologie integrate di ricerca*, in H. BRU, G. LABARRE (eds.), *L'Anatolie des peuples, cites et cultures (II^e millénaire av. J.-C. - V^e siècle ap. J.-C.). Autour du projet d'Atlas historique et archéologique de l'Asie Mineure antique. Actes du colloque International* (Besançon, 26-27 novembre 2010), Besançon, 197-220.
- CAMPAGNA L., SULFARO N., TERRANOVA C. 2016 = *Nuove ricerche al Ninfeo del Santuario di Apollo*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 223-235.
- CAMPBELL S.D. 1991 = *The Mosaics of Aphrodisias in Caria*, Toronto.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2008 = *Arqueología de la construcción I. Los procesos constructivos en el mundo romano: Italia y provincias occidentales* (Mérida, Instituto de Arqueología, 25-26 Octubre 2007) (Anejos de Archivo Español de Arqueología 50), Mérida.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2010 = *Arqueología de la construcción II. Los procesos constructivos en el mundo romano: Italia y provincias orientales* (Certosa di Pontignano, Siena, 13-15 Noviembre 2008) (Anejos de Archivo Español de Arqueología, 57), Madrid-Mérida.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2012 = *Arqueología de la construcción III. Los procesos constructivos en el mundo romano: la economía de las obras* (École Normale Supérieure, Paris, 10-11 Diciembre 2009) (Anejos de Archivo Español de Arqueología 64), Madrid-Mérida.
- CAMPOREALE S., PAPI E., PASSALACQUA L. 2008 = *L'organizzazione dei cantieri a Volubilis (Mauretania Tingitana). Iscrizioni e opere pubbliche, la maison aux deux pressoirs e l'arco di Caracalla*, in CAMPOREALE, DESSALES, PIZZO 2008, 285-308.
- CANTISANI E., CANOVA R., FRATINI F., MANGANELLI DEL FA' C., MAZZUOLI R., MOLLI G. 2000 = *Relationships between microstructures and physical properties of white Apuan marbles: inferences on weathering durability*, in *Periodico di Mineralogia* 69, 3, 257-268.
- CANTISANI E., PECCHIONI E., FRATINI F., GARZONIO C.A., MALESANI P., MOLLI G. 2009 = *Thermal stress in the Apuan marbles: relationship between microstructure and petrophysical characteristics*, in *International Journal of Rock Mechanics and Mining Sciences* 46, 128-137.
- CANTZLER H. 2003 = *Improving Architectural 3D Reconstruction by Constrained Modeling*, College of Science and Engineering. School of Informatics, University of Edinburgh, PhD Thesis.
- CAPEDRI S., VENTURELLI G. 2004 = *Accessory minerals as tracers in the provenancing of archaeological marbles, used in combination with isotopic and petrographic data*, in *Archaeometry* 46, 4, 517-536.
- CAPEDRI S., VENTURELLI G., PHOTIADES A. 2004 = *Accessory minerals and $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ of marbles from the Mediterranean area*, in *Journal of Cultural Heritage* 5, 1, 27-47.
- CASADIO F., TONIOLO L. 2001 = *The analysis of polychrome works of art: 40 years of infrared spectroscopic investigations*, in *Journal of Cultural Heritage* 2, 1, 71-78.
- CARETTONI G. 1963-1964 = *Scavo del tempio di Apollo a Hierapolis (rapporto preliminare)*, in *ASAtene* 41-42, 411-433.
- CARRUTHERS M. 2013 = *The Experience of Beauty in the Middle Ages*, Oxford.
- CASAGRANDE L., CAVALLINI P., FRIGERI A., FURIERI A., MARCHESINI I., NETELER M. 2012 = *Gis open source. Grass Gis, Quantum Gis e Spatialite. Elementi di software libero applicato al territorio*, Palermo.
- CASTRIANNI L. 2015 = *La cinta muraria protobizantina*, in *ATLANTE* 2015, 58-62.
- CASTRIANNI L., DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2010a = *Il geodatabase del-*

- la cinta muraria protobizantina di Hierapolis di Frigia. Tecnologie integrate per la conoscenza del monumento e della città*, in *ACalc* 21, 93-126.
- CASTRIANNI L., DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2010b = *High resolution satellite ortho-images for archaeological research: different methods and experiences in the Near and Middle East*, in *Advances in Geosciences* 24, 97-110.
- CASTRIANNI L., SCARDOZZI G. 2012 = *I resoconti dei viaggiatori alla luce delle recenti ricognizioni archeologiche: la localizzazione di Thiounta e Mossyna nel territorio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 81-106.
- CAVALIER L. 2005 = *Architecture romaine d'Asie Mineure. Les monuments de Xanthos et leur ornementation* (Scripta antiqua 13), Paris.
- CATLOS E.J., ÇEMEN I. 2005 = *Monazite ages and the evolution of the Menderes Massif, western Turkey*, in *International Journal of Earth Science* 94, 204-217.
- CEYLAN A., RITTI T. 1997 = *A New Dedication to Apollo Kareios*, in *EpigrAnat* 28, 57-67.
- ÇELİK M., SABAH E. 2008 = *Geological and Technical Characterization of İscehisar (Afyon-Turkey) Marble Deposits and the Impact of Marble Waste on Environmental Pollution*, in *Journal of Environmental Management* 87, 106-116.
- ÇELİK S.B. 2003 = *Evaluation of Denizli city center lands with respect to geological and geotechnical properties and assessment of their liquefaction susceptibility*, Pamukkale University, Denizli, Turkey, M.Sc. thesis.
- CHAFETZ H.S., RUSH P.F., UTECH N.M. 1991 = *Microenvironmental controls on mineralogy and habit of CaCO₃ precipitates: an example from an active travertine system*, in *Sedimentology* 38, 107-126.
- CHANIOTIS A. (ed.) 2011 = *Ritual Dynamics in the Ancient Mediterranean. Agency, Emotion, Gender, Representation*, Stuttgart.
- CHANIOTIS A., CORSTEN T., STROUD R.S., TYBOUT R.A. 2009 = *Ephesos. The family and house of C. Flavius Furius Aptus*, in *SEG*, 59, 1308.
- CHARTERS S., EVERSHERD R.P., GOAD L.J. 1993 = *Identification of an adhesive used to repair a Roman jar*, in *Archaeometry* 35, 1, 91-101.
- CHRISTOL M., DREW-BEAR T. 1986 = *Documents latins de Phrygie*, in *Tyche* 1, 41-87.
- CHRISTOL M., DREW-BEAR T. 1987 = *Inscriptions de Dokimeion*, in *Anatolia Antiqua* 1, 83-139.
- CHRISTOL M., DREW-BEAR T. 1999 = *Antioche de Pisidie, capitale provinciale et l'œuvre de M. Valerius Diogenes*, in *AntTard* 7, 39-71.
- CHRISTOL M., DREW BEAR T. 2005 = *De Lepcis à Aizanoi: Hesperus Procurateur de Phrygiae et l'administration des carriers de marbre*, in J. DESMULLIEZ, C. HOËT-VAN CAUWENBERGHE (eds.), *Le monde romain à travers l'épigraphie: methods et pratiques*, Villeneuve d'Asq, 189-216.
- CIG = BOECKH A. (ed.), *Corpus Inscriptionum Graecarum I-IV*, Berlin 1828-1877.
- CIL = *Corpus Inscriptionum Latinarum*, Berlin 1862-.
- CIMMA M.R. 1981 = *Ricerche sulle società di publicani*, Milano.
- CIOTTA G., PALMUCCI L. 2002 = *La cattedrale di Hierapolis*, in DE BERNARDI FERRERO 2002a, 179-201.
- CLARIDGE A. 1990 = *Ancient Techniques of Making Joints in Marble Statuary*, in M. TRUE, J. PODANY (eds.), *Marble. Art Historical and Scientific Perspectives on Ancient Sculpture*, Malibu, 135-162.
- COARELLI F. 1987 = *I santuari del Lazio in età repubblicana* (Studi NIS archeologia 7), Roma.
- COARELLI F. 2012 = *Palestrina e il santuario della Fortuna Primigenia*, in H. VON HESBERG, P. ZANKER (eds.), *Storia dell'architettura italiana. Architettura romana. Le città in Italia*, Milano, 298-309.
- ÇOLAK M., LAZZARINI L. 2002 = *Quarries and characterisation of a hitherto unknown alabaster and marble from Thyatira (Akhisar, Turkey)*, in LAZZARINI 2002a, 35-40.
- COLL C., CASELLES V., RUBIO E., SOSPEDRA F., VALOR R. 2001 = *Analysis of thermal infrared data from the Digital Airborne Imaging Spectrometer*, in *International Journal of Remote Sensing* 22, 3703-3718.
- COLLINS A.S., ROBERTSON A.H.F. 1998 = *Processes of Late Cretaceous to Late Miocene*

- episodic thrust-sheet translation in the Lycian Taurides, SW Turkey*, in *Journal of the Geological Society* 155, 759-772.
- CONDIE K.C., WILKS M., ROSEN D.M., ZLOBIN V. 1991 = *Geochemistry of metasediments from the Precambrian Hapschan Series, Eastern Anabar Shield, Siberia*, in *Precambrian Research* 50, 37-47.
- CONNOR C.L. 1997 = *The Color of Ivory. Polychromy on Byzantine Ivories*, Princeton.
- CONYERS L.B. 2004 = *Ground-penetrating Radar for Archaeology*, Walnut Creek.
- CONYERS L.B. 2006 = *Innovative ground-penetrating radar methods for archaeological mapping*, in *Archaeological Prospection* 13, 2, 139-141.
- CONYERS L.B. 2012 = *Interpreting Ground-penetrating Radar for Archaeology*, Walnut Creek.
- CONYERS L.B., DANIELS J.M., HAWS J., BENEDETTI M. 2013 = *An Upper Palaeolithic landscape analysis of coastal Portugal using ground-penetrating radar*, in *Archaeological Prospection* 20, 45-51.
- CONYERS L.B., GOODMAN D. 1997 = *Ground-penetrating Radar. An Introduction for Archaeologists*, Walnut Creek.
- COPLIN T.B., KENDALL C., HOPPLE J. 1983 = *Comparison of stable isotope reference samples*, in *Nature* 302, 236-238.
- CORALINI A., SCAGLIARINI CORLAITA D. (eds.) 2007 = *UT Natura ARS, Atti sull'incontro sulla Virtual Reality applicata all'archeologia*, Bologna.
- CORBIER M. 1980 = *Salaires et salariat sous le Haut-Empire*, in S. MROZEK (ed.), *Les dévaluations à Rome. Époque républicaine et impériale II*, Paris, 61-95.
- CORCELLA A., MONACO M.C., NUZZO E. 2013 = *Ancora su Pausania I 18,9, la cd. Biblioteca di Adriano e il Panellenio*, in *ASAtene* 91, 111-156.
- CORMACK R., VASSILAKI M. (eds.) 2008 = *Byzantium 330-1453, Catalogue of Exposition*, London.
- CORMACK S. 1997 = *Funerary Monuments and Mortuary Practice in Roman Asia Minor*, in S.E. ALCOCK (ed.), *Early Roman Empire in the East*, Oxford, 137-156.
- CORNELIS K., CORNELIUS S.H.J. 1993 = *Manual of Mineralogy*, New York.
- CORREMANS M., DEGRYSE P., WIELGOSZ D., WAELEKENS M. 2009 = *The Import and Use of White Marble and Coloured Stone for Wall and Floor Revetment at Sagalassos*, in GUTIÉRREZ GARCÍA, LAPUENTE, RODÀ 2012, 38-51.
- CORSI F. 1833 = *Delle pietre antiche, trattato di Faustino Corsi romano*, Roma.
- COTTICA D. 2004 = *Pavimenti in opus sectile dall'insula 104 a Hierapolis di Frigia*, in *RdA* 28, 89-106.
- COULTON J.J. 1976 = *The architectural development of the Greek Stoa* (Oxford Monographs on Classical Archaeology), Oxford.
- COUTELAS A., GUYARD L., DAVID C. 2000 = *Pétoarchéologie de mortiers gallo-romains: application de méthodes analytiques à l'étude des thermes du Vieil-Evreux (Eure)*, in *Les Nouvelles de l'Archéologie* 81, 31-36.
- CRAMER T. 2004 = *Multivariate Herkunftsanalyse von Marmor auf petrografischer und geochemischer Basis*, Berlin.
- CRAMER T., GERMANN K., HEILMEYER W.-D. 2002 = *Petrographic and Geochemical Characterization of the Pergamon Altar (Telephos Frieze) Marble in the Pergamon Museum*, Berlin, in LAZZARINI 2002a, 285-291.
- CRAMME ST. 2001 = *Die Bedeutung des Euergetismus für die Finanzierung städtischer Aufgaben in der Provinz Asia*, Köln.
- CRAMPA J. 1969 = *The Greek Inscriptions, period of Olympichos*, in *Labraunda. Swedish Excavations and Research Vol. III, part I* (Skrifter utgivna av Svenska Institutet i Athen 4, V, III.1), Lund, 1-12.
- CRAMPA J. 1972 = *The Greek Inscriptions*, in *Labraunda, Swedish Excavations and Research Vol. III, part II* (Skrifter utgivna av Svenska Institutet i Athen 4, V, III.2), Stockholm, 13-133.
- The Customs Law of Asia* = COTTIER M., CRAWFORD M.H., CROWTHER C.V., FERRARY J.-L., LEVICK B.M., SALOMIES O., WÖRRLE M. (eds.), *The Customs Law of Asia*, Oxford 2008.

- CUVIGNY H., WAGNER G. 1986 = *Ostraca grecs du Mons Claudianus*, in *ZPE* 62, 63-73.
- D'ANDREA A. 2006 = *Documentazione archeologica, standard e trattamento informatico*, Budapest.
- D'ANDREA A., NICCOLUCCI F. 2000 = *L'Archeologia Computazionale in Italia: orientamenti, metodi e prospettive*, in *ACalc* 11, 13-31.
- D'ANDRIA F. 2001 = *Hierapolis of Phrygia: its evolution in Hellenistic and Roman times*, in D. PARRISH (ed.), *Urbanism in Western Asia Minor. New Studies on Aphrodisias, Ephesos, Hierapolis, Pergamon, Perge and Xanthos* (JRA Supplementary Series 45), Rhode Island, 97-115.
- D'ANDRIA F. 2003 = *Hierapolis di Frigia (Pamukkale). Guida archeologica /Hierapolis (Pamukkale), Arkeoloji Rehberi*, Istanbul.
- D'ANDRIA F. 2007 = *Le attività della MAIER - Missione Archeologica Italiana a Hierapolis: 2000-2003*, in D'ANDRIA, CAGGIA 2007, 1-45.
- D'ANDRIA F. 2010 = *Phrygia Hierapolis'i 2008 yılı çalışmaları*, in *KST* 31, 2 (Denizli, 25-29 Mayıs 2009), Ankara, 213-234.
- D'ANDRIA F. 2011 = *Gods and Amazons in the nymphaea of Hierapolis*, in D'ANDRIA, ROMEO 2011, 151-172.
- D'ANDRIA F. 2011-2012 = *Il santuario e la tomba dell'apostolo Filippo a Hierapolis di Frigia*, in *RendPontAcc* 84, 1-52.
- D'ANDRIA F. 2012a = *Archaeology of the theatre in Hierapolis (Pamukkale)*, in MASINO, MIGHETTO, SOBRÀ 2012, 143-161.
- D'ANDRIA F. 2012b = *Le attività della MAIER - Missione Archeologica Italiana a Hierapolis, 2004-2006*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 1-29.
- D'ANDRIA F. 2013 = *Il Ploutonion a Hierapolis di Frigia*, in *IstMitt* 63, 157-217.
- D'ANDRIA F. 2014 = *Cehennem'den cennet'e Hierapolis. Ploutonion. Aziz Philippus'un Mezarı ve Kutsal Alanı*, Istanbul.
- D'ANDRIA F. 2015a = *Phrygia Hierapolis'i (Pamukkale) / Hierapolis di Frigia (Pamukkale)*, in *Arkeoloji ve Sanat* 148, 99-110.
- D'ANDRIA F. 2015b = *Phrygia Hierapolis Martyrion'u Hakkındaki Bir Kitabın Hikayesi*, in C. ŞİMŞEK, B. DUMAN, E. KONAĞCI (eds.), *C. Mustafa Büyükkolancı'ya Armağan / Essays in Honour of Mustafa Büyükkolancı*, Istanbul, 171-192.
- D'ANDRIA F. 2017 = *The Sanctuary of St Philip in Hierapolis and the tombs of saints in Anatolian cities*, in J.R. BRANDT, E. HAGELBERG, G. BJORNSTAD, S. AHRENS (eds.), *Life and Death in Asia Minor in Hellenistic, Roman and Byzantine times*, Oxford, 3-18.
- D'ANDRIA F. forthcoming (a) = *Saints and Pilgrims in the Lykos Valley (Asia Minor)*, in *Proceedings of the 36th Symposium on Byzantine and Post-Byzantine Art and Archaeology* (Athens, 20-22 May 2016).
- D'ANDRIA F. forthcoming (b) *Geç Antik Çağ ve Erken Bizans Dönemi'nde Phrygia Hierapolis'i*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- D'ANDRIA F. forthcoming (c) = *The Cult of Cybele in Hierapolis of Phrygia*, in *Proceedings of the International Conference* (Anadolu University, Eskişehir, 2-8 November 2015).
- D'ANDRIA F., CAGGIA M.P. (eds.) 2007 = *Le attività delle campagne di scavo e restauro 2000-2003, Hierapolis di Frigia I*, Istanbul.
- D'ANDRIA F., CAGGIA M.P., ISMAELLI T. (eds.) 2012 = *Le attività delle campagne di scavo e restauro 2004-2006, Hierapolis di Frigia V*, Istanbul.
- D'ANDRIA F., CAGGIA M.P., ISMAELLI T. (eds.) 2016 = *Le attività delle campagne di scavo e restauro 2007-2011, Hierapolis di Frigia VIII*, Istanbul.
- D'ANDRIA F., GÜMGÜM G. 2010 = *Archaeology and Architecture in the Martyrium of Hierapolis*, in S. AYBEK, A.K. ÖZ (eds.), *Metropolis Ionia II. The Land of the Crossroads. Essays in Honour of Recep Meriç* (Arkeoloji ve Eskiçağ Tarihi 63), Istanbul, 95-104.
- D'ANDRIA F., MALFITANA D., MASINI N., SCARDOZZI G. (eds.) 2010 = *Il dialogo dei saperi. Metodologie integrate per i Beni Culturali* (Monografie dell'Istituto per i Beni Archeologici e Monumentali 3), Napoli-Roma.

- D'ANDRIA F., RITTI T. 1985 = *Le sculture del teatro. I rilievi con i cicli di Apollo e Artemide, Hierapolis. Scavi e ricerche II* (Archaeologica 54), Roma.
- D'ANDRIA F., ROMEO I. (eds.) 2011 = *Roman Sculpture in Asia Minor. Proceedings of the International Conference to celebrate the 50th anniversary of the Italian excavations at Hierapolis in Phrygia* (Cavallino, Lecce, May 24-26, 2007) (JRA Supplementary Series 80), Portsmouth.
- D'ANDRIA F., ROSSIGNANI M.P. 2012 = *La stoa-basilique de Hiérapolis de Phrygie. Architecture et contexte urbain*, in L. CAVALIER, R. DESCAT, J. DES COURTILS (eds.), *Basiliques et agoras de Grèce et d'Asie Mineure* (Ausonius Mémoires 27), Bordeaux, 127-152.
- D'ANDRIA F., SILVESTRELLI F. (eds.) 2000 = *Ricerche archeologiche turche nella valle del Lycos*, Galatina.
- DAGUET-GAGEY A. 1997 = *Les "opera pubblica" à Rome*, Paris.
- DARBLADE-AU-DOIN M.P., TAMBAKOPOULOS D., MANIATIS Y. 2015 = *Provenance investigation of a marble sculptures from Lyon Museum*, in PENSABENE, GASPARINI 2015, 503-512.
- DE ANGELI S. 1992 = *Templum Divi Vespasiani* (Lavori e Studi 18), Roma.
- DE ANGELIS D'OSSAT M., PALMA VENETUCCI B. (ed.) 2008 = *Culti orientali: tra scavo e collezionismo. Atti del Convegno "Testimonianze di culti orientali tra scavo e collezionismo"* (Roma, 23-24 marzo 2006), Roma, 158-164.
- DE BERNARDI FERRERO D. 1966-1974 = *Teatri classici in Asia Minore I-IV*, Roma.
- DE BERNARDI FERRERO D. 1985 = *Note sulla decorazione architettonica della fronte scena del teatro di Hierapolis*, in D'ANDRIA, RITTI 1985, 19-28.
- DE BERNARDI FERRERO D. 1988 = *Fouilles et restaurations à Hierapolis en 1987*, in KST 10, 2 (Ankara, 23-27 Mayis 1988), Ankara, 293-300.
- DE BERNARDI FERRERO D. 1993 = *Hierapolis*, in *Arslantepe, Hierapolis, Iasos, Kyme. Scavi archeologici italiani in Turchia*, Venezia, 143-157.
- DE BERNARDI FERRERO D. 1999 = *Alcune considerazioni sul ninfeo di Hierapolis antistante il tempio di Apollo*, in FRIESINGER, KRINZINGER 1999, 695-702.
- DE BERNARDI FERRERO D. (ed.) 2002a = *Saggi in onore di Paolo Verzone, Hierapolis. Scavi e Ricerche IV* (Archaeologica 137), Roma.
- DE BERNARDI FERRERO D. 2002b = *Architettura e decorazione di età flavia a Hierapolis di Frigia*, in DE BERNARDI FERRERO 2002a, 1-43.
- DE BERNARDI FERRERO D. 2007 = *Il teatro di Hierapolis di Frigia*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 17-227.
- DE BERNARDI FERRERO D., CIOTTA G., PENSABENE P. (eds.) 2007 = *Il Teatro di Hierapolis di Frigia. Restauro, architettura ed epigrafia*, Genova.
- DE CHAISEMARTIN N., THEODORESCU D. 1991 = *Recherches préliminaires sur la frons scaenae du théâtre*, in SMITH, ERİM 1991, 29-65.
- DE CHAISEMARTIN N. 2002 = *Continuité dans la thématique décorative hellénistique et nouveaux thèmes idéologiques dans le décor architectural aphrodisien entre Actium et l'époque julio-claudienne*, in BERNIS ET ALII 2002, 233-245.
- DE CHAISEMARTIN N. 2011 = *Remarques sur la syntaxe décorative de la frons scaenae d'Aphrodisias: le rôle des décors en bande*, in D'ANDRIA, ROMEO 2011, 77-90.
- DE CHAISEMARTIN N., THEODORESCU D. 2006 = *Le bâtiment de scène du théâtre d'Aphrodisias: restitution et étude fonctionnelle de la structure scénique*, in *Pallas* 71, 57-70.
- DE DOMENICO D., GIANNINO F., LEUCCI G., BOTTARI C. 2006 = *Geophysical surveys in the archaeological site of Tindari (Sicily, Italy)*, in *JASc* 33, 961-970.
- DE FILIPPIS L., FACCENNA C., BILLI A., ANZALONE E., BRILLI M., ÖZKUL M., SOLIGO M., TUCCIMEI P., VILLA I.M. 2012 = *Growth of fissure ridge travertines from geothermal springs of Denizli Basin, western Turkey*, in *Geological Society of America Bulletin* 124, 9-10, 1629-1645.
- DE FILIPPIS L., FACCENNA C., BILLI A., ANZALONE E., BRILLI M., SOLIGO M., TUCCIMEI P. 2013 = *Plateau versus fissure ridge travertines from Quaternary geothermal springs of Italy and Turkey: interactions and feedbacks among fluid discharge, paleoclimate, and tectonics*, in *Earth-Science Reviews* 123, 35-52.

- DE GIORGI M. forthcoming = *Divine Liturgy and Human Skills in the Architectural Sculpture from the Church of the Apostle in Hierapolis (Phrygia)*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- DE GIORGI M., PEDONE S. forthcoming = *La scultura bizantina dalla chiesa di San Filippo di Hierapolis di Frigia*.
- DE LA BEAUJARDIÈRE J. 2006 = *OpenGIS® Web Map Server Implementation Specification, Version 1.3.0*, Wayland.
- DE LA BEAUJARDIÈRE J., DOYLE A. 2002 = *Web Map Service Implementation Specification*, Wayland.
- DE LABORDE L. 1838 = *Voyage de l'Asie Mineure*, Paris.
- DE NUCCIO M., UNGARO L. (eds.) 2002 = *I marmi colorati della Roma Imperiale*, Venezia.
- DE RUYT C. 1983 = *Macellum. Marché alimentaire des Romains* (Publications d'histoire de l'art et d'archéologie de l'Université catholique de Louvain 35), Louvain.
- DE STAEBLER P. 2008 = *The City Wall and the Making of a Late Antique Provincial Capital*, in RATTÉ, SMITH 2008, 285-318.
- DEBORD P., VARINLIOĞLU E. 2010 = *Cités de Carie. Harpasa, Bargasa et Orthosia dans l'Antiquité*, Rennes.
- DEGASPERI A. 2013 = *Die Marienkirche in Ephesos: die Bauskulptur aus frühchristlicher und byzantinischer Zeit* (ÖJh Ergänzungsheft 14), Wien.
- DE GROOT-HEDLIN C., CONSTABLE S. 1990 = *Occam's inversion to generate smooth, two dimensional models from magnetotelluric data*, in *Geophysics* 55, 1613-1624.
- DEGRYSE P. (ed.) 2007 = *QuarryScapes Report. The Sagalassos quarry landscape: bringing quarries in context*. Work Package 3, Deliverable no. 3, <http://www.quarryscapes.no/publications.php>.
- DEGRYSE P., WAELEKENS M. 2007 = *Chapter 1: introduction*, in DEGRYSE 2007, 1-7.
- DELAINE J. 1997 = *The Baths of Caracalla. A Study in the Design, Construction, and Economics of Large-scale Building Projects in Imperial Rome* (JRA Supplementary Series 25), Portsmouth.
- DELAINE J. 2000 = *Bricks and Mortar. Exploring the Economics of Building Techniques at Rome and Ostia*, in D.J. MATTINGLY, J. SALMON (eds.), *Economies beyond Agriculture in the Classical World* (Leicester-Nottingham Studies in Ancient Society 9), London, 271-296.
- DELAINE J. 2006 = *The Cost of Creation. Technology at the Service of Construction*, in E. LO CASCIO (ed.), *Innovazione tecnica e progresso economico nel mondo romano. Atti degli incontri capresi di storia dell'economia antica* (Capri, 13-16 aprile 2003), Bari, 237-252.
- DEMETRESCU E. 2012 = *Modellazione 3D, visualizzazione scientifica e realtà virtuale*, in S. GIANOLIO (ed.), *Archeologia Virtuale. La metodologia prima del software. Atti del II Seminario Palazzo Massimo alle Terme* (Roma, 5-6 aprile 2011), Roma, 147-153.
- DEMİREL Z., ŞENTÜRK N. 1996 = *Geology and hydrogeology of deep thermal aquifers in Turkey*, in S.N. AL-BEIRUTI, M.J. BINO (eds.), *Integration of information between oil drilling and hydrogeology of deep aquifers*, Amman.
- DEMİRTAŞ B. 2006 = *Magnesia Artemis tapınağı'nın teknik ve işçilik özellikleri*, Ankara, PhD Thesis.
- DENT WEIL PH. 1967 = *Contributions toward a History of Sculpture Techniques 1. Orfeo Boselli on the Restoration of Antique Sculpture*, in *Studies in Conservation* 12, 3, 81-101.
- DERCOURT J., ZONENSHAIN L.P., RICOU L.-E., KAZMIN V.G., LE PICHON X., KNIPPER A.L., SBOORTSHIKOV I.M., GEYSSANT J., LEPIVRIER C., PECHERSKY D.H., BOULIN J., SIBUET J.-C., SAVOSTIN L.A., SOROKHTIN O., WESTPHAL M., BAZHENOV M.L., LAUER J.P., BIJUDUVAL B. 2000 = *Atlas Peri-Tethys, palaeogeographical maps, 24 maps and explanatory notes: I-XX*, CCGM/CGMW, Paris.
- DERRICK M.R., STULIK D., LANDRY J.M. 1999 = *Infrared Spectroscopy in Conservation Science*, Los Angeles.
- DES GAGNIERS J. 1969 = *Introduction Historique*, in DES GAGNIERS ET ALII 1969, 1-11.

- DES GAGNIERS J., DEVAMBEZ P., KAHIL L., GINOUVÈS R. (eds.) 1969 = *Laodicée du Lycos. Le Nymphée, Campagnes 1961-1963* (Université Laval Recherches Archéologiques. Série I. Fouilles), Québec-Paris.
- DES GAGNIERS J., TINH T.T. 1985 = *Soloi: dix campagnes de fouilles (1964-1974) I. La Basilique*, Sainte-Foy.
- DESIDERI P. 2007 = *Scrittura pubblica e scritture nascoste*, in F. FONTANELLA (ed.), *Elio Aristide, A Roma* (Testi e commenti 5), Pisa, 3-22.
- DEVREKER J., THOEN H., VERMEULEN F. 1995 = *The Imperial sanctuary at Pessinus and its predecessors: a revision*, in *Anatolia Antiqua* 3, 125-144.
- DEWEY J.F., ŞENGÖR A.M.C. 1979 = *Aegean and surrounding regions: complex multiphase and continuance tectonics in convergent zone*, in *Geological Society of America Bulletin* 90, 84-92.
- DHORN T. 1965 = *Crustae*, in *RM* 72, 124-141.
- DI GIACOMO G., DITARANTO I., LEUCCI G., MICCOLI I., SCARDOZZI G. 2013 = *Integrated Ground-penetrating Radar and Archaeological Surveys in the Ancient City of Hierapolis of Phrygia (Turkey)*, in *Archaeological Prospection* 20, 4, 285-301.
- DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2011 = *Cartography of archaeological surveys taken from an Ikonos stereo pair: a case from Hierapolis of Phrygia territory (Turkey)*, in *JASc* 38, 2051-2060.
- DI GIACOMO G., SCARDOZZI G. 2014 = *Gis Cloud per l'archeologia. Strumenti open source per la gestione e la condivisione dei dati*, in *ACalc25*, 93-112.
- DI GIACOMO G., SCARDOZZI G. 2015 = *A GIScloud system for knowledge, data sharing and management: urban archaeology and smart city solutions for culture and tourism in Lecce (Apulia, Italy)*, in *Proceedings of the 19th International Conference on Cultural Heritage and New Technologies (CHNT19, 2014)*, Wien, 1-18.
- DI GIACOMO G., SCARDOZZI G. forthcoming = *Riprese aeree con pallone aerostatico frenato e droni: esperienze tra ricerca e documentazione archeologica a Hierapolis di Frigia*, in *Archeologia Aerea* 10.
- DI GRAZIA V. 1991 = *Rilievo e disegno nell'archeologia e nell'architettura. Tecniche, opinioni e teorie*, Roma.
- DI NAPOLI V. 2002 = *Il fregio a tema agonistico del teatro di Hierapolis (Frigia). Iconografia e iconologia nell'arte romana imperiale*, in *ASAtene* 80, 379-411.
- DIDYMA = REHM A., HARDER R., *Didyma II. Die Inschriften*, Berlin 1958.
- DİLSİZ C. 2006 = *Conceptual hydrodynamic model of the Pamukkale hydrothermal field, southwestern Turkey, based on hydrochemical and isotopic data*, in *Hydrogeology Journal* 14, 562-572.
- DINSTL A. 1986-1987 = *Bauornamentik am Theater von Limyra*, in *ÖJh* 57, 140-219.
- DITARANTO I. 2015 = *La rete dei canali di travertino*, in *ATLANTE* 2015, 63-68.
- DITARANTO I., ISMAELLI T., SCARDOZZI G. forthcoming = *La Stoà delle Sorgenti: le campagne di scavo del 2014-2015 e lo studio dell'arco settentrionale*.
- D'ORONZO C. 2012 = *Strutture di combustione e contesti archeologici: indagine archeobotanica e definizione del protocollo d'intervento*, Università Cattolica del Sacro Cuore, Milano, tesi di Dottorato, <http://hdl.handle.net/10280/1418>.
- DOCCI M., MAESTRI D. 1984 = *Il rilevamento architettonico. Storia, metodi e disegno*, Roma-Bari.
- DODGE H. 1991 = *Ancient marble studies: recent research*, in *JRA* 4, 28-50.
- DOMINGO J.Á. 2013 = *The Differences in Roman Construction Costs: The Workers' Salary*, in *Boreas* 36, 119-143.
- DONATI A. (ed.) 1998 = *Romana pictura. La pittura romana dalle origini all'età bizantina*, Roma.
- DOUGLAS M., LIN S., CHODORONEK M. 2015 = *The applications of 3D Photogrammetry for in-field documentation archaeological features*, in *Journal of Society for American Archaeology* 3, 136-152.
- DOWNEY G. 1959 = *The Tombs of the Byzantine Emperors at the Church of the Holy Apostles in Constantinople*, in *JHS* 79, 27-51.
- DÖRPFELD W. 1902 = *Die Arbeiten zu Pergamon - Die Bauwerke*, in *AM* 27, 10-43.

- DREW-BEAR T., THOMAS C.M., YILDIZTURAN M. 1999 = *Phrygian Votive Steles*, Ankara.
- DREXHAGE H.-J. 1991 = *Preise, Mieten/Pachten, Kosten und Löhne im römischen Ägypten bis zum Regierungsantritt Diokletians. Vorarbeiten zu einer Wirtschaftsgeschichte des römischen Ägyptens 1*, St. Katharinen.
- DUBOIS CH. 1908 = *Étude sur l'administration et l'exportation des carrières de marbre, porphyre, granit, etc., dans le monde romain*, Paris.
- DUMAN B. 2013 = *Son arkeolojik araştırmalar ve yeni bulgular ışığında Tripolis ad Maeandrum*, in *Cedrus* 1, 179-200.
- DUMAN B. 2016 = *Tripolis'te Gerçekleştirilen Arkeolojik Araştırmaların Özeti (2012-2015)*, in *Geçmişten Günümüze Denizli*, Özel Sayı 47, 78-87.
- DUMAN B., BAYSAL H. 2015 = *Tripolis 2. Sezon kazı ve restorasyon raporu: 2013*, in *KST* 36, 2 (Gaziantep, 2-4 Haziran 2014), Ankara, 633-65.
- DUMAN B., BAYSAL H. 2016 = *Tripolis ad Maeandrum 2014 Yılı Kazı, Onarım ve Koruma Çalışmaları*, in *KST* 37, 1 (Erzurum, 11-15 Mayıs 2015), Ankara, 563-584.
- DUNCAN-JONES R. 1982² = *The Economy of the Roman Empire. Quantitative Studies*, Cambridge.
- DUROSOY E., ALTINÖZ A.G.B. 2013 = *The cultural road between Milas and Labraunda*, in *Anatolia Antiqua* 21, 342-350.
- DWORAKOWSKA A. 1983 = *Quarries in Roman Province*, Warsaw.
- DWORAKOWSKA A. 1990 = *Once again on Marmor Lucullaeum*, in M. TRUE, J. PODANY (eds.), *Marble: art historical and scientific perspectives on ancient sculpture. Papers delivered at a symposium organized by the Departments of Antiquities and Antiquities Conservation and held at the J. Paul Getty Museum (Malibu, April 28-30, 1988)*, Malibu, 253-262.
- EASTMAN C., TEICHOLZ P., SACKS R., LISTON K. 2008 = *BIM Handbook. A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors*, San Francisco.
- EBERT A., GNOS E., RAMSEYER K., SPANDLER C., FLEITMANN D., BITZIOS D., DECROUEZ D. 2010 = *Provenance of marbles from Naxos based on microstructural and geochemical characterization*, in *Archaeometry* 52, 2, 209-228.
- ECCEL E., ARMAN G., ZOTTELE F., GIOLI B. 2008 = *Thermal infrared remote sensing for high-resolution minimum temperature mapping*, in *Italian Journal of Agrometeorology* 3, 52-61.
- EFE T. 2007 = *The theories of the "Great Caravan Route" between Cilicia and Troy. The early Bronze Age III period in inland Western Anatolia*, in *AnSt* 57, 47-64.
- EHRHARDT N., WEISS P. 1995 = *Trajan, Didyma und Milet. Neue Fragmente von Kaiserbriefen und ihr Kontext*, in *Chiron* 25, 315-355.
- EICHLER F. 1956-1958 = *Eine neue Amazone und andere Skulpturen aus dem Theater von Ephesos*, in *ÖJh* 43, 7-18.
- EKINCI D. 2010 = *The Noticeable Geomorphosites of Turkey*, in *International Journal of Arts and Sciences* 3, 15, 303-321.
- ELÇİ H., TURK N. 2014 = *Rock Mass Block Quality Production Designation for Marble Production*, in *International Journal of Rock Mechanics and Mining Sciences* 69, 26-30.
- ELSNER J. 2007 = *The Rhetoric of Buildings in the De Aedificiis of Procopius*, in L. JAMES (ed.), *Art and Text in Byzantine Culture*, Cambridge, 33-57.
- EMME B. 2013 = *Peristyl und Polis. Entwicklung und Funktionen öffentlicher griechischer Hofanlagen (Urban spaces 1)*, Berlin-Boston.
- ENGELMANN H. 1977 = *Inschriften aus Ephesos*, in *ZPE* 24, 201-204.
- ENGELMANN H. 1996 = *Das Grab des Androklos und ein Olympeion (Pausanias VII 2, 9)*, in *ZPE* 112, 131-134.
- ENGELMANN H., KNIBBE D. 1989 = *Das Zollgesetz der Provinz Asia. Eine neue Inschrift aus 'Ephesos'*, in *EpigrAnat* 14, 1-206.
- ERCAN T., MATSUDA J., NAGAO K., KITA I. 1994 = *Anadolu'daki sıcak sulara bulunan doğal suların izotopik bileşimleri ve karbondioksit gazının enerji açısından önemi*, in *Dünya Enerji Konseyi, Türkiye 6. Enerji Kongresi (İzmir, 17-22 Ekim 1994)*, İzmir, 197-207.
- ERDKAMP P. 2016 = *Seasonal Labour and Rural-Urban Migration in Roman Italy*, in L.

- DE LIGT, L. TACOMA (eds.), *Migration and Mobility in the Early Roman Empire*, Leiden, 33-49.
- ERDOĞAN E., GÜNGÖR T. 2004 = *The problem of the core-cover boundary of the Menderes Massif and an emplacement mechanism for regionally extensive gneissic granites, western Anatolia (Turkey)*, in *Turkish Journal of Earth Science* 13, 15-36.
- ERİM K.T. 1986 = *Aphrodisias*, New York.
- ERİM K.T. 1997 = *Aphrodisias*, Istanbul.
- ERİM K.T., REYNOLDS J. 1970 = *The Copy of Diocletian's Edict on Maximum Prices from Aphrodisias in Caria*, in *JRS* 60, 120-141.
- ERİM K.T., SMITH R.R.R. 1991 = *Sculpture from the theatre: a preliminary report*, in SMITH, ERİM 1991, 67-98.
- ERTEN H., SEN S., ÖZKUL M. 2005 = *Pleistocene mammals from travertine deposits of the Denizli basin (SW Turkey) / Mammifères pléistocènes dans les travertins du bassin de Denizli (Turquie)*, in *Annales de Paléontologie* 91, 267-278.
- ESCALANTE B. 2012 = *Remote Sensing - Applications*, Rijeka.
- FACCENNA C., JOLIVET L., PIROMALLO C., MORELLI A. 2003 = *Subduction and the depth of convection of the Mediterranean mantle*, in *Journal of Geophysical Research* 108 (B2), 2099.
- FALLA CASTELFRANCHI M. 1994 = *Amboni carii: un caso desueto*, in *Boreas* 17, 49-52.
- FALLA CASTELFRANCHI M. 2015 = *La cultura artistica alla corte di Giustiniano (527-65)*, in *Le corti nell'Alto Medioevo. Atti della LXII settimana di studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo* (Spoleto, 25-29 aprile 2014), Spoleto, 821-852.
- FANCELLI P. 2001 = *Indagini preliminari e diagnostiche. Rilievo storico-critico delle fasi costruttive*, in L. ZEVI (ed.), *Il manuale del restauro architettonico*, Roma, E13.
- FANT J.C. 1987 = *Three Seasons of Epigraphical Survey at the Roman Imperial Quarries at Docimium (Iscehisar) 1983-1985*, in *AST* 4.1 (Ankara, 26-30 Mayıs 1986), Ankara, 127-132.
- FANT J.C. 1988 = *Preliminary report of the Teos/Karagöl Survey*, in *AST* 5.1 (Ankara, 6-10 Nisan 1987), Ankara 389-401.
- FANT J.C. 1989a = *Poikiloi Lithoi: the anomalous economics of the Roman Imperial marble quarry at Teos*, in S. WALKER, A. CAMERON (eds.), *The Greek Renaissance in the Roman Empire. Papers from the Tenth British Museum Classical Colloquium (BICS Supplement 55)*, London, 206-218.
- FANT J.C. 1989b = *Cavum antrum Phrygiae. The organization and operations of the Roman Imperial marble quarries in Phrygia* (BARIntSer 482), Oxford.
- FANT J.C. 1994 = *Ideology, Gift and Trade. A Distribution Model for the Roman Imperial Marbles*, in W.V. HARRIS, S. PANCIERA (eds.), *The inscribed Economy. Production and Distribution in the Roman Empire in the Light of "instrumentum domesticum"* (JRA Supplementary Series 6), Ann Arbor, 145-170.
- FANT J.C. 1999 = *Augustus and the city of marble*, in SCHVOERER 1999, 277-280.
- FARIOLI CAMPANATI R., BORBOUDAKIS M. 2005 = *Basilica di Métropolis. Scavi 2005*, in *ASAtene* 83, 2, 673-681.
- FARNSWORTH M., SIMMONS I. 1960 = *A Unique Cement from Athens*, in *Hesperia* 29, 118-122.
- FASOLO F., GULLINI G. 1953 = *Il santuario della Fortuna Primigenia a Palestrina*, Roma.
- FERRARI G. 1966 = *Il commercio dei sarcophagi asiatici*, Roma.
- FERRARY J.-L. 2000 = *Les inscriptions du sanctuaire de Claros en l'honneur de Romains*, in *BCH* 124, 331-376.
- FERRARY J.-L. 2014 = *Les mémoires de délégations du sanctuaire oraculaire de Claros, d'après la documentation conservée dans le Fonds Louis Robert I-II (MemAcInscr 49)*, Paris.
- FERRER-VIDAL CORTELLA V., MARTINEZ ALONSO S. E., SOLÉ-SUGRANES L. 1993 = *Radiometric Anomalies Caused by Industrial Activity in Barcelona Suburban Areas*, in *Proceedings of the 25th International Symposium, Remote Sensing and Global Environmental Change Vol. II* (Graz, 4-8 aprile 1993), Ann Arbor, 403-407.
- FILGIS M.N., RADT W. 1986 = *Die Stadtgrabung I. Das Heroon*, *AvP* XV, 1, Berlin.

- FILIPPINI A. forthcoming = *Councillors, Heretics and Archbishops in Late Antique Hierapolis. Recent Epigraphical Findings Concerning the City, its Territory, and the History of Hierapolis' Bishopric (IV-IX cent.)*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- FIorentino G., SOLINAS F. 2008 = *Micro-stratigraphical and archaeobotanical approaches to investigating ash deposits in the Apollo Sanctuary in Hierapolis*, in *1. Uluslararası Antik Dönemede Kehanet Apollon'un Anadolu Kültürleri Sempozyum Bildirileri = 1st International Symposium on Oracle in Antiquity and the Cult of Apollo in Asia Minor* (Izmir, 17-20th of August 2005) (*ADerg* 12, 2), 89-98.
- FIRATLI N. 1969 = *Découverte d'une église byzantine à Sébaste de Phrygie*, in *CArch* 19, 151-166.
- FIRATLI N. 1970 = *Uşak-Selçukler kazısı ve çevre araştırmaları 1966 - 1970*, in *TAD* 19, 1, 109-160.
- FISCHER G. 1996 = *Das römische Pola. Eine archäologische Stadtgeschichte* (Bayerische Akademie der Wissenschaften Phil.-hist.Kl. Abhandlungen N.F. 110), München.
- FITTSCHEN K. 2010 = *Lesefrüchte II*, in *Boreas* 33, 31-34.
- FLAMINIO R. 2004 = *Gli elementi marmorei di reimpiego*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 533-648.
- FOBELLI M.L. 2004 = *Un tempio per Giustiniano. Santa Sofia di Costantinopoli e la Descrizione di Paolo Silenziario*, Roma.
- FOLK R.L. 1994 = *Interaction between bacteria, nanobacteria, and mineral precipitation in hot springs of Central Italy*, in *Geographie Physique et Quaternaire* 48, 233-246.
- FONDAZIONE BARRACCO 1910 = *Museo di Scultura Antica*, Fondazione Barracco, Roma.
- FORBES R.J. 1965 = *Studies in Ancient Technology*, Leiden.
- FORTE M. 1996 = *Archeologia, Percorsi virtuali delle civiltà scomparse*, Milano.
- FORTE M. (ed.) 1997 = *Virtual Archaeology*, New York.
- FORTE M. 2014 = *Virtual Reality, Cyberarchaeology, Teleimmersive Archaeology*, in F. REMONDINO, S. CAMPANA (eds.), *3D Recording and Modelling in Archaeology and Cultural Heritage*, Oxford, 113-127.
- FORTE M., BELTRAMI R., 2000 = *A proposito di Virtual Archaeology, disordini, interazioni cognitive e virtualità*, in *ACalc* 11, 273-300.
- FORTE M., GUIDAZZOLI A., 1993 = *Archeologia e visualizzazione scientifica*, in *Notizie dal CINECA* 17, 1-3.
- FORTE M., GUIDAZZOLI A., CALORI L. 1996 = *3D Virtual scientific visualization of archaeological sites: new navigation metaphores*, in *Scienza e Supercalcolo*, luglio, 9-12.
- FORTE M., PESCARIN S., PIETRONI E., DELL'UNTO N. 2010 = *An integrated approach to archaeology: from the fieldwork to virtual reality systems*, in F. NICCOLUCCI, S. HERMON (eds.), *Beyond the Artifact. Digital Interpretation of the Past*, Oxford, 325-334.
- FOSS C. 1976 = *Byzantine and Turkish Sardis*, Cambridge.
- FOSS E., LANGMANN G. 1972-1975 = *Nymphaeum des C. Laekanius Bassus*, in *ÖJh* 50, 301-310.
- FRAISSE P., LLINAS C. 1995 = *Documents d'architecture hellénique et hellénistique, Délos 36*, Paris.
- FRANZINI M., GRATZIU C., SPAMPANATO M. 1984 = *Degradazione del marmo per effetti di variazione di temperatura*, in *Rendiconti della Società Italiana di Mineralogia e Petrologia* 39, 47-51.
- FRATE O. 2003-2004 = *Hierapolis di Frigia. I sarcofagi di marmo della Necropoli Nord*, Università Cattolica del Sacro Cuore di Milano, PhD Thesis.
- FRATE O. 2006 = *Il materiale lapideo come indicatore sociale, culturale ed economico. Il caso dei sarcofagi di marmo della necropoli nord di Hierapolis di Frigia*, in V. BADINO, G. BALDASSARRE (eds.), *Le risorse lapidee dall'antichità ad oggi in area mediterranea*, Torino, 423-430.
- FRATE O. 2007 = *I sarcofagi in marmo della Necropoli Nord. Metodo della ricerca e risultati preliminari*, in D'ANDRIA, CAGGIA 2007, 457-472.

- FRATINI F., PECCHIONI E., CANTISANI E. 2008 = *The petrographic study in the ancient mortar characterization*, in *Atti del Convegno HMC 08, 1st Historical Mortar Conference* (Lisbon, 24-28 september 2008), Lisbon, 1-10.
- FRECCERO A. 2005 = *Pompeian Plasters. Insula I 9 and Forum*, Roma.
- FRECCERO A. 2008 = *Pompeian Plasters. Buildings in Regiones I, V, VI, VII, VIII, and IX*, Roma.
- FRECCERO A. 2013 = *Marble conservation project*, in *Anatolia Antiqua* 21, 322-327.
- FRECCERO A. 2015 = *Marble trade in Antiquity. Looking at Labraunda*, in *Anatolia Antiqua* 23, 11-54.
- FRENCH D.H. 2007 = *Inscriptions from Cappadocia II*, in *EpigrAnat* 40, 67-108.
- FREU C. 2012 = *Le statut des metallarii dans le Code Théodosien*, in S. CROGIEZ-PÉTREQUIN, P. JAILLETTE (eds.), *Société, économie, administration dans le Code Théodosien* (Histoire et civilisations 1365), Villeneuve d'Ascq, 427-450.
- FREYBERGER K.S. 1990 = *Stadtrömische Kapitelle aus der Zeit von Domitian bis Alexander Severus. Zur Arbeitsweise und Organisation stadtrömischer Werkstätten der Kaiserzeit*, Mainz.
- FREYBERGER K.S. 1995 = *Review to THÜR 1989*, in *GGA* 247, 207-216.
- FREYBERGER K.S. 1998a = *Die frühkaiserzeitlichen Heiligtümer der Karawanenstationen im hellenistischen Osten. Zeugnisse eines kulturellen Konflikts im Spannungsfeld zweier politischer Formationen* (Damaszener Forschungen 6), Mainz.
- FREYBERGER K.S. 1998b = *Zur Produktionsweise stadtrömischer Marmordekoration in severischer Zeit*, in PESCHLOW U., MÖLLERS S. (eds.), *Spätantike und byzantinische Bau- und Skulptur* (Forschungen zur Kunstgeschichte und christlichen Archäologie 19), Stuttgart, 37-41.
- FREYBERGER K.S. 2013 = *Ostia. Facetten des Lebens in einer römischen Hafenstadt*, Mainz.
- FRÉZOULS E. 1995 = *L'apport de l'épigraphie à la connaissance des métiers de la construction*, in G. CAVALIERI MANASSE, E. ROFFIA (eds.), *Splendida civitas nostra. Studi archeologici in onore di Antonio Frova* (Studi e ricerche sulla Gallia Cisalpina 8), Roma, 35-44.
- FRIESINGER H., KRINZINGER F. (eds.) 1999 = *100 Jahre Österreichische Forschungen in Ephesos, Akten des Symposiums Wien 1995* (DenkschrWien 260), Wien.
- FRISCHER B., DAKOURI-HILD A. (eds.) 2008 = *Beyond Illustration: 2D and 3D Digital Technologies as Tools for Discovery in Archaeology*, Oxford.
- GABELLONE F. 2012 = *La scansione laser terrestre per lo studio di reperti archeologici: ambiti di applicazione e operatività sul campo*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 61-68.
- GABELLONE F., GIURI F., FERRARI I., LIMONCELLI M. 2011 = *Virtual Hierapolis: tra tecnicismo e realismo*, in *Virtual Archaeology Review* 2, 3, 131-136.
- GAGE J. 1993 = *Color and Culture. Practice and Meaning from Antiquity to Abstraction*, Boston.
- GAGLIARDI L. 2006 = *Mobilità e integrazione delle persone nei centri cittadini romani. Aspetti giuridici I. La classificazione degli incolae* (Pubblicazioni dell'Istituto di diritto romano 40), Milano.
- GALLI M. 2013 = *The Celebration of Lucius Verus in the Provincia Achaia. Imperial Cult, Ritual Actors and Religious Networks*, in M. GALLI (ed.), *Roman power and Greek sanctuaries: forms of interaction and communication* (Tripodes 14), Athens, 265-298.
- GALLI M. 2016 = *Le statue di Demetra e Kore-Persephone nel Teatro di Hierapolis*, in *IstMitt* 66, 161-224.
- GALLI M., BRACCI S., CANTISANI E., RIMINESI C., VETTORI S. forthcoming = *Colour traces on sculpture decoration in the Hierapolis of Phrygiae archaeological site (Turkey)*, in *7th Round Table on Polychromy in Ancient Sculpture and Architecture* (Firenze, 4-6 novembre 2015).
- GALVAGNO F., MIGHETTO P. 2016 = *Opera felice il rimettere in posto gli elementi originali ritrovati (Carta di Atene, cap. 4). Anastilosi e interventi di miglioramento statico del primo ordine della scaenae frons del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 171-190.

- GAUTIER P., BRUN J.-P., MORICEAU R., SOKOUTIS D., MARTINOD J., JOLIVET L. 1999 = *Timing, kinematics and cause of Aegean extension: a scenario based on a comparison with simple analogue experiments*, in *Tectonophysics* 315, 31-72.
- GAZDA E.K., NG D.Y. (eds.) 2011 = *Building a New Rome. The Imperial Colony of Pisidian Antioch (25 BC - AD 700)* (Kelsey Museum Publication 5), Ann Arbor.
- GENOVESE C. 2009 = '*... alla terra gloriosa di Troia*': il mito delle Amazzoni nei rilievi del ninfeo dei Tritoni a Hierapolis di Frigia, in *MedAnt* 12, 409-428.
- GENOVESE C. 2013 = *I rilievi figurati dei Ninfei di Hierapolis di Frigia: il tema dell'amazzonomachia nella decorazione architettonica dell'Asia Minore*, in *QArch* 3, 123-129.
- GEORGIEV N., PLEUGER J., FROITZHEIM N., SAROV S., JAHN-AWE S., NAGEL T.J. 2010 = *Separate Eocene-Early Oligocene and Miocene stages of extension and core complex formation in the Western Rhodopes, Mesta Basin, and Pirin Mountains (Bulgaria)*, in *Tectonophysics* 487, 59-84.
- GERMANN K., HOLZMANN G., WINKLER F.J. 1980 = *Determination of marble provenance: limits of isotope analysis*, in *Archaeometry* 22, 1, 99-106.
- GESCHWINDE E., SCHÖNG H.J. 2002 = *PostgreSQL Developer's Handbook*, Indianapolis.
- GEISSNER K., COLLINS A.S., RING U., GÜNGÖR T. 2004 = *Structural and thermal history of poly-orogenic basement: U-Pb geochronology of granitoid rocks in the southern Menderes Massif, Western Turkey*, in *Journal of the Geological Society of London* 161, 93-101.
- GIANNACCINI S., AIME A. 2011 = *Geoserver, il server open source per la gestione interoperabile dei dati geospaziali*, in *Atti della XV Conferenza ASITA* (Reggia di Colorno, 15-18 novembre 2011), Milano, 1183-1194.
- GINOUVÈS R. 1969 = *Architecture*, in *DES GAGNIERS ET ALII* 1969, 13-185.
- GINOUVÈS R., MARTIN R. 1985 = *Dictionnaire méthodique de l'architecture grecque et romaine I. Matériaux, techniques de construction, techniques et formes du décor* (CEFR 84), Athènes-Rome.
- GINOUVÈS R. 1992 = *Dictionnaire méthodique de l'architecture grecque et romaine II. Éléments constructifs: supports, couvertures, aménagements intérieurs* (CEFR 84), Athènes-Rome.
- GIOVANNONI G. 1936 = *Restauro*, in *Enciclopedia Italiana* 29, 127-130.
- GLEASON K. L. 1994 = *Porticus Pompeiana. A New Perspective on the First Public Park of Ancient Rome*, in *Journal of Garden History* 14, 1, 13-27.
- GLIWITZKY CH. 2010 = *Späte Blüte in Side und Perge. Die pamphyllische Bauornamentik des 3. Jahrhunderts n. Chr.*, Bern.
- GLOVER C., ROBERTSON A. 1998 = *Neotectonic intersection of the Aegean and Cyprus tectonic arcs: extensional and strike-slip faulting in the Isparta Angle, SW Turkey*, in *Tectonophysics* 298, 103-132.
- GNOLI R. 1971 = *Marmora Romana*, Roma.
- GNOLI R. 1988² = *Marmora Romana*, Roma.
- GNOLI R., MARCHEI M.C., SIRONI A. 2004⁵ = *Repertorio*, in G. BORGHINI (ed.), *Marmi antichi*, Roma, 131-295.
- GOETTE H.R., POLYKRETI K., VACOULIS T., MANIATIS Y. 1999 = *Investigation of the greyish-blue marble of Pentelikon and Hymettus*, in *SCHVOERER* 1999, Bordeaux, 83-90.
- GOLDSMITH R.W. 1984 = *An Estimate of the Size and Structure of the National Product of the Early Roman Empire*, in *Review of Income and Wealth* 30, 263-288.
- GOMARASCA A. 2003 = *L'interpretazione delle immagini telerilevate*, in *Bollettino SIFET* 3, 93-108.
- GONOSOVÀ A., KONDOLEON C. 1994 = *Art of Late Rome and Byzantium in the Virginia Museum of Fine Arts*, Baltimore.
- GOODMAN D. 2013 = *GPR Slice Version 7.0 Manual*, <http://www.gpr-survey.com>
- GOODMAN D., PIRO S. 2013 = *GPR Remote Sensing in Archaeology* (Geotechnologies and the Environment Series 9), Berlin.
- GOODMAN D., STEINBERG J., DAMIATA B., NISHIMURE Y., SCHNEIDER K., HIROMICHI H., HISASHI N. 2006 = *GPR overlay analysis for archaeological prospection. Proceedings of*

- the 11th International Conference on Ground Penetrating Radar, Columbus, Ohio, CD-rom.
- GORGONI C., LAZZARINI L., PALLANTE P. 2002 = *New archaeometric data on Rosso Antico and other red marbles used in antiquity*, in LAZZARINI 2002a, 199-206.
- GORGONI C., LAZZARINI L., PALLANTE P., TURI B. 2002 = *An updated and detailed micro-petrographic and C-O stable isotopic reference database for the main Mediterranean marbles used in antiquity*, in HERRMANN, HERZ, NEWMAN 2002, 115-131.
- GORGONI C., PALLANTE P. 2000 = *On Cycladic marbles use in the Greek and Phoenician colonies of Sicily*, in D.U. SCHILARDI, D. KATSONOPOULOU (eds.), *Paria Lithos. Parian Quarries, Marble and Workshops of Sculpture. Paros I. Proceedings of the First International Conference on the Archaeology of Paros and the Cyclades* (Paroikia, Paros, October 2-5, 1997), Athens, 497-506.
- GÖRÜR N., ŞENGÖR A.M.C., SAKINÇ M., TÜYSÜZ O., AKKÖK R., YİĞİTBAŞ E., OKTAY F.Y., BARKA A.A., SARICA N., ECEVİTOĞLU B., DEMİRBAĞ E., ERSOY Ş., ALGAN O., GÜNEY-SU C., AKYOL A. 1995 = *Rift formation in the Gökova region, southwest Anatolia: implications for the opening of the Aegean Sea*, in *Geological Magazine* 132, 637-650.
- GOVERS R., WORTEL M.J.R. 2005 = *Lithosphere tearing at STEP faults: response to edges of subduction zones*, in *Earth and Planetary Science Letters* 236, 505-523.
- GOZICH R. 2016 = *Sulle rovine di Troia*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 513-517.
- GRABAR A. 1963 = *Sculptures byzantines de Constantinople (IV^e-X^e siècle)* (Bibliothèque archéologique et historique de l'Institut Français d'Archéologie d'Istanbul 17), Paris.
- GREGAREK H. 1999 = *Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor*, in *KölnJb* 32, 33-284.
- GREWE K., KESSENER P. 2007 = *A stone relief of a water-powered stone saw at Hierapolis, Phrygia. A first consideration and reconstruction attempt*, in D'ANDRIA, CAGGIA 2007, 627-634.
- GROS P. 1976 = *Aurea templa. Recherches sur l'architecture religieuse de Rome à l'époque d'Auguste* (BEFAR 231), Roma.
- GROS P. 1983 = *Statut social et rôle culturel des architectes (période hellénistique et augustéenne)*, in *Architecture et société de l'archaïsme grec à la fin de la République. Actes du colloque* (Rome, 2-4 décembre 1980) (CEFR 66), Roma, 425-452.
- GROS P. (ed.) 1990 = *Vitruve De l'Architecture. Livre III. Texte établi, traduit et commenté*, Paris.
- GROS P. 1996 = *L'architettura romana. Dagli inizi del III secolo a.C. alla fine dell'Alto Impero. I monumenti pubblici* (Biblioteca di Archeologia 30), Milano.
- GROS P. (ed.) 1997 = *Vitruvio De Architectura, traduzione e commento di Antonio Corso e Elisa Romano*, Torino.
- GROS P. 2009 = *Les sanctuaires in summa cavea. L'enseignement des recherches récentes sur le théâtre de Pompée à Rome*, in J.CH. MORETTI (ed.), *Fronts de scène et lieux de culte dans le théâtre antique* (Travaux de la Maison de l'Orient et de la Méditerranée 52), Lyon, 53-64.
- GRÜNER A. 2014 = *Vom Sinn zur Sinnlichkeit. Probleme und Perspektiven des Ornamentbegriffs in der antiken Architektur*, in LIPPS, MASCHKE 2014b, 25-51.
- GUIDOBALDI F. 2009 = *Sectilia pavimenta tardoantichi e paleocristiani a piccolo modulo dell'Italia settentrionale*, in *RACr* 85, 355-420.
- GUIDOBONI E., COMASTRI A., TRAINA G. 1994 = *Catalogue of ancient earthquakes in the Mediterranean area up to the 10th century*, Bologna.
- GUIGLIA GUIDOBALDI A. 2004 = *I plutei delle finestre*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 89-232.
- GUIGLIA GUIDOBALDI A. 2011 = *The Marble Floor Decoration in Constantinople. Prolegomena to a Corpus*, in M. ŞAHİN (ed.), *11th International Colloquium on Ancient Mosaics* (Bursa, October 16th - 20th 2009), Istanbul, 413-436.
- GUIZZI F. 2012 = *Una 'nuova' parola di Apollo. Sull'oracolo di Apollo Klarios a Hierapolis di Frigia*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 679-683.
- GUIZZI F. 2014 = *Mopso protettore di Hierapolis*, in *ScAnt* 20, 2, 31-44.

- GUIZZI F. 2016 = *Un figlio di Hierapolis e due 'monetali'*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 799-806.
- GUIZZI F., MIRANDA DE MARTINO E., RITTI T. 2012 = *Acquisizioni epigrafiche: iscrizioni ritrovate o studiate nel triennio 2004-2006*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 643-678.
- GUIZZI F., NOCITA M. 2015 = *Novità epigrafiche da Hierapolis di Frigia (2013-2014)*, in *ScAnt* 21, 1, 31-46.
- GUIZZI F., NOCITA M. 2016 = *Novità epigrafiche da Hierapolis di Frigia (2015)*, in *ScAnt* 22, 1, 17-25.
- GÜMGÜM G. 2012 = *Il Martyrion di Hierapolis di Frigia (Turchia). Analisi archeologica e architettonica* (BARIntSer 2385), Oxford.
- GÜNAY G., ŞİMŞEK Ş., EKMEKÇİ M., ELHATIP H., YESERTENER C., DİLSİZ C., CETİNER Z., KELOĞLU N. 1997 = *Karst hydrogeological and environmental studies of the Pamukkale thermal springs*, in G. GÜNAY, A.I. JOHNSON (eds.), *Karst Waters and Environmental Impacts*, Rotterdam, 29-35.
- GÜNTHER H. 1978 = *Zeugnisse ägyptischer Religionsvorstellungen für Ephesus* (EPRO 73), Leiden.
- GUTIÉRREZ GARCIA M.A., LAPUENTE P., RODÀ I. (eds.) 2012 = *Interdisciplinary Studies on Ancient Stone. Proceedings of the IX ASMOsIA International Conference* (Tarragona, June 8-13, 2009) (Documenta 23), Tarragona.
- GUTNIC M., MONOD O., POISSON A., DUMONT J.F. 1979 = *Géologie des Taurides Occidentales (Turquie)*, in *Mémoires de la Société géologique de France* 137, 1-112.
- HABERMANN D., NEUSER R.D., RICHTER K. 1996 = *REE-activated cathodoluminescence of calcite and dolomite: high-resolution spectrometric analysis of CL emission (HRS-CL)*, in *Sedimentary Geology* 101, 1-7.
- HABERMANN D., NEUSER R.D., RICHTER K. 1998 = *Lower limit of Mn²⁺-activated cathodoluminescence of calcite: state of art*, in *Sedimentary Geology* 116, 13-24.
- HAFKENSCHIED E., WORTEL M.J.R., SPAKMAN W. 2006 = *Subduction history of the Tethyan region derived from seismic tomography and tectonic reconstructions*, in *Journal of Geophysical Research* 111, B08401.
- HALFMANN H. 2004 = *Éphèse et Pergame. Urbanisme et commanditaires en Asie Mineure romaine* (Scripta Antiqua 11), Paris.
- HALFMANN H. 1979 = *Die Senatoren aus dem östlichen Teil des Imperium Romanum bis zum Ende des 2. Jh. n. Chr.*, Göttingen.
- HALFMANN H. 2001 = *Städtebau und Bauherren im römischen Kleinasien. Ein Vergleich zwischen Pergamon und Ephesos* (IstMitt Beiheft 43), Tübingen.
- HALL A., WAELEKENS M. 1982 = *Two Dokimeian sculptors in Iconium*, in *AnSt* 32, 151-155.
- HALL B., LEAHY M.G. (eds.) 2008 = *Open Source Approaches in Spatial Data Handling*, Berlin.
- HANCOCK P.L., ALTUNEL E. 1997 = *Faulted archaeological relics at Hierapolis (Pamukkale), Turkey*, in *Journal of Geodynamics* 24, 1, 21-36.
- HANCOCK P.L., BARKA A.A. 1987 = *Kinematic indicators on active normal faults in western Turkey*, in *Journal of Structural Geology* 9, 573-584.
- HANCOCK P.L., CHALMERS R.M.L., ALTUNEL E., ÇAKIR Z. 1999 = *Travertines: using travertines in active fault studies*, in *Journal of Structural Geology* 21, 903-916.
- HANCOCK P.L., CHALMERS R.M.L., ALTUNEL E., ÇAKIR Z., BECHER-HANCOCK A. 2000 = *Creation and destruction of travertine monumental stone by earthquake faulting at Hierapolis, Turkey*, in W.G. MCGUIRE, D.R. GRIFFITHS, P.L. HANCOCK, I.S. STEWART (eds.), *The Archaeology of Geological Catastrophes*, London, 1-14.
- HANSEN E., DOEHNE E., FIEDLER J., LARSON J., MARTIN B., MATTEINI M., RODRIGUEZ-NAVARRO C., PARDO E.S., PRICE C., DE TAGLE A., TEUTONICO J.M., WEISS N. 2003 = *A review of selected inorganic consolidants and protective treatments for porous calcareous materials*, in *Reviews in Conservation* 4, 13-25.
- HARMON C., VALERIE C. 1972 = *Greek Marbles. Determination of Provenance by Isotopic Analysis*, in *Science* 176, 401-403.

- HARRISON R.M., GILL M.V. 1986 = *Painted plaster*, in R.M. HARRISON, L.B. HILL (eds.), *Excavations at Sarchane in Istanbul Vol. I*, Princeton, 197-203.
- HAYASHI K., TAKAHASHI T. 2001 = *High resolution seismic refraction method using surface and borehole data for site characterization of rocks*, in *International Journal of Rock Mechanics and Mine Science* 38, 807-813.
- HAYASHIDA Y., YOSHITAKE R., ITO J. 2013 = *Architectural Study of the Stoa of the Asklepieion at Ancient Messene*, Fukuoka.
- HAZZARD E. 2011 = *OpenLayers 2.10 Beginner's Guide. Create, optimize and deploy stunning cross-browser web maps with the Open Layers Javascript web-mapping library*, Birmingham-Mumbai.
- HEBERDEY R. 1912 = 9. *Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 15, Beibl., 182.
- HEBERDEY R. 1915 = 11. *Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 18, Beibl., 77-88.
- HEDLUND R. 2014 = *Antae in the afternoon: notes on the Hellenistic and Roman architecture of Labraunda*, in L. KARLSSON, S. CARLSSON, J. BLID KULLBERG (eds.), *Labrys. Studies presented to Pontus Hellström* (Acta Universitatis Upsaliensis. Boreas 35), Uppsala, 57-70.
- HEILMEYER W.-D. 1970 = *Korinthische Normalkapitelle. Studien zur Geschichte der römischen Architekturdekoration* (RM Ergänzungshefte 16), Heidelberg.
- HEILMEYER W.-D. 1986 = *Antike Kunst und Kunstproduktion. Werkstattforschung in der klassischen Archäologie*, in *JbPreussKul* 23, 95-123.
- HEILMEYER W.-D. 2007 = *Berliner Marmore aus Kleinasien*, in *JdI* 122, 127-161.
- HELD W. 2008 = *Gergakome. Ein 'alt ehrwürdiges' Heiligtum im kaiserzeitlichen Karien* (IstForsch 49), Tübingen.
- HELLMANN M.-CH. 1992 = *Recherches sur le vocabulaire de l'architecture grecque, d'après les inscriptions de Délos* (BEFAR 278), Paris.
- HELLMANN M.-CH. 1994 = *Les signatures d'architectes en langue grecque: essai de mise au point*, in *ZPE* 104, 151-178.
- HELLMANN M.-CH. 2002 = *L'architecture grecque I. Les principes de la construction*, Paris.
- HELLSTRÖM P. 2007 = *Labraunda. A Guide to the Karian Sanctuary of Zeus Labraundos*, Istanbul.
- HELLSTRÖM P. 2011 = *Feasting at Labraunda and the chronology of the Andrones*, in L. KARLSSON, S. CARLSSON (eds.), *Labraunda and Karia* (Acta Universitatis Upsaliensis. Boreas 32), Uppsala, 149-157.
- HELLSTRÖM P. forthcoming = *Labraunda before the Hekatomids. Excavations on the Temple Terrace 1949-1953*, in H. OLIVIER, K. KONUK (eds.), *Karia Arkana*, Istanbul.
- HELLSTRÖM P., THIEME T. 1982 = *Labraunda. The Temple of Zeus*, in *Labraunda. Swedish Excavations and Researches I*, 3, Stockholm.
- HEMPTON M.R. 1987 = *Constraints on Arabian plate motion and extensional history of the Red Sea*, in *Tectonics* 6, 687-705.
- HENNEMEYER A. 2013 = *Das Athenaheiligtum von Priene. Die Nebenbauten - Altar, Halle und Propylon und die bauliche Entwicklung des Heiligtums, Priene II* (AF 27), Wiesbaden.
- HENRY O. 2013a = *La tombe monumentale*, in *Anatolia Antiqua* 21, 301-310.
- HENRY O. 2013b = *A tribute to the Ionian Renaissance in 4th Century Karia. Defining a Karian Identity under the Hekatomnids*, Paris, 81-90.
- HENRY O. 2014 = *Then Whose tomb is that?*, in L. KARLSSON, S. CARLSSON, J. BLID KULLBERG (eds.), *Labrys. Studies presented to Pontus Hellström* (Acta Universitatis Upsaliensis. Boreas 35), Uppsala, 71-85.
- HENRY O. 2015 = *Labraunda 2014*, in *Anatolia Antiqua* 23, 301-394.
- HENRY O., KELP U. (eds.) 2016 = *Tumulus as sema. Space, politics, culture and religion in the first millennium BC* (Topoi 27), Berlin-Boston.
- HERO A.C. 2006² = *Life of St. Theoktiste of Lesbos*, in A.-M. TALBOT (ed.), *Holy Women of Byzantium. Ten Saints' lives in English Translation* (Byzantine saints' lives in translation 1), Washington, 95-116.

- HERRMANN J.J. JR., ATTANASIO D., TYKOT R.H., VAN DEN HOEK A. 2012 = *Characterization and distribution of marble from Cap de Garde and Mt. Filfila, Algeria*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 300-309.
- HERRMANN J.J. JR., HERZ N., NEWMAN R. (eds.) 2002 = *ASMOSIA V. Interdisciplinary Studies on Ancient Stone. Proceedings of the Fifth International Conference of the Association for the Study of Marble and Other Stones in Antiquity* (Museum of Fine Arts, Boston, 11-15 June 1998), London.
- HERRMANN J.J. JR., VAN DEN HOEK A., TYKOT R. H. 2012 = *Alabastro a pecorella, Aïn Tekbalet, and Bou Hanifia, Algeria: a preliminary report*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 463-470.
- HERRMANN P. 1988 = *Chresimus, procurator lapicidinarum. Zur Verwaltung der kaiserlichen Steinbrüche in der Provinz Asia*, in *Tyche* 3, 119-129.
- HERRMANN P. 1993 = *Inschriften von Sardeis*, in *Chiron* 23, 233-265.
- HERZ N. 1985 = *Isotopic analysis of marble*, in G. RAPP JR., J.A. GIFFORD (eds.), *Archaeological Geology*, London, 331-351.
- HERZ N. 1987 = *Carbon and Oxygen Isotopic Ratios. A Data Base for Classical Greek and Roman Marble*, in *Archaeometry* 29, 1, 35-43.
- HERZ N. 1992 = *Provenance Determination of Neolithic to Classical Mediterranean Marbles by Stable Isotopes*, in *Archaeometry* 34, 2, 185-194.
- HERZ N., DEAN N.E. 1986 = *Stable isotopes and archaeological geology: the Carrara marble, Northern Italy*, in *Applied Geochemistry* 1, 139-151.
- HERZ N., WAELEKENS M. (eds.) 1988 = *Classical Marble. Geochemistry, Technology, Trade* (NATO ASI series. Series E, Applied sciences 153), Dordrecht-Boston.
- HETZEL R., REISCHMANN T. 1996 = *Intrusion age of Pan-African augen gneisses in the southern Menderes Massif and the age of cooling after Alpine ductile extensional deformation*, in *Geological Magazine* 133, 565-572.
- HIERAPOLIS 1957-1987 = *Hierapolis di Frigia, 1957-1987, Catalogo della Mostra*, Milano.
- HIESEL G., STROCKA V.M. 2006 = *Die Bibliothek von Nysa am Mäander. Vorläufiger Bericht über die Kampagnen 2002-2006*, in *AA*, 81-97.
- HILL D.J.A., LIENG ANDREADAKIS L., AHRENS S. 2016 = *The North-East Necropolis survey 2007-2011: methods, preliminary results and representivity*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 109-120.
- HIRT A.M. 2010 = *Imperial Mines and Quarries in the Roman World. Organizational aspects, 27 BC-AD 235*, Oxford.
- HOBDAÏ E. 2007-2008 = *Ambonët e kishave të Shqipërisë*, in *Iliria* 33, 325-350.
- HOEPFNER W. 1991 = *Zum Problem griechischer Holz- und Kassettendecken*, in A. HOFFMANN, E.L. SCHWANDNER, W. HOEPFNER, G. BRANDS (eds.), *Bautechnik der Antike*, Internationales Kolloquium (Berlin, 15.-17. Februar 1990) (Diskussionen zur archäologischen Bauforschung 5), Mainz, 90-98.
- HOEPFNER W. 2011 = *Ionien. Brücke zum Orient*, Darmstadt.
- HOFFMANN A. (ed.) 2005 = *Ägyptische Kulte und ihre Heiligtümer im Osten des römischen Reiches* (Byzas 1), Istanbul.
- HOFFMANN A. 2011 = *Das Asklepieion Teil 5, Die Platzhallen und die zugehörigen Annexbauten in römischer Zeit*, *AvP XI*, 5, Berlin-New York.
- HOLLINSHEAD M.B. 2012 = *Monumental Steps and the Shaping of Ceremony*, in B.D. WESCOAT, R.G. OUSTERHOUT (eds.), *Architecture of the Sacred. Space, Ritual, and Experience from Classical Greece to Byzantium*, Cambridge, 27-65.
- HOLLINSHEAD M.B. 2015 = *Shaping ceremony: monumental steps and Greek architecture* (Wisconsin studies in Classics), Madison, Wisconsin.
- HOREJS B. 2014 = *Rohstoffsurvey*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 35-36.
- HORBOSTEL W. 1973 = *Sarapis: Studien zur Überlieferungsgeschichte, den Erscheinungsformen und Wandlungen der Gestalt eines Gottes* (EPRO 32), Leiden.
- HORSTE M. 2011 = *Princeps iuventutis. Concept, realisation, representation*, in S. BENOIST, A. DAGUET-GAGEY, C. HOËT-VAN CAUWENBERGHE (eds.), *Figures d'empire*,

- fragments de mémoire. Pouvoirs et identités dans le monde romain impérial (II^e s. av. n.è. - VI^e s. de. n. è.)*, Villeneuve D'Ascq, 73-104.
- HORSTKOTTE H. 1996 = *Systematische Aspekte der munera publica in der römischen Kaiserzeit*, in ZPE 111, 233-255.
- HOSTEIN A., MAIRAT J. 2015 = *Les monnaies d'Alexandrie de Troade au milieu du 3^e siècle: liaisons de coins inédites*, in R. BLAND, D. CALAMINO (eds.), *Studies in Ancient Coinage in Honour of Andrew Burnett*, London, 223-235.
- HUBERT-FERRARI A., ARMIJO R., KING G., MEYER B., BARKA A. 2002 = *Morphology, displacement, and slip rates along the North Anatolian Fault, Turkey*, in *Journal of Geophysical Research* 107 (B10), 2235.
- HUBERT-FERRARI A., KING G., VAN DERWOERD J., VILLA I., ALTUNEL E., ARMIJO R. 2009 = *Long-term evolution of the North Anatolian Fault: new constraints from its eastern termination*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 133-154.
- HUEBER F. 1984 = *Beobachtungen zur Kurvatur und Scheinperspektive an der Celsusbibliothek und anderen kaiserzeitlichen Bauten*, in W. HOEPFNER (ed.), *Bauplanung und Bauphysik der Antike* (DiskAB 4), Berlin, 175-200.
- HUGHES J.J., LESLIE A. B 2001 = *The petrography of lime inclusions of historic lime based mortars*, in *Proceedings of the 8th Euroseminar on Microscopy applied to building materials*, Athens, 359-364.
- HÜLSEN J. 1919 = *Das Nymphaeum, Milet I*, 5, Berlin.
- HUMANN C., CICHORIUS C., JUDEICH W., WINTER F. 1898 = *Altortümer von Hierapolis (JdI Ergänzungsheft 4)*, Berlin.
- HÜSING S.K., ZACHARIASSE W.J., VAN HINSBERGEN D.J.J., KRIJGSMAN W., INCEÖZ M., HARZHAUSER M., MANDIC O., KROH A. 2009 = *Oligo-Miocene foreland basin evolution in SE Anatolia: constraints on the closure of the eastern Tethys gateway*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 107-132.
- HUTTNER U. 2003 = *Early Christianity in the Lycus Valley* (Ancient Judaism and Early Christianity 85; Early Christianity in Asia Minor 1), Leiden-Boston.
- IACOVELLA S. 2014 = *Geoserver Cookbook*, Birmingham-Mumbai.
- JAKOBS P.H.F. 1987 = *Die frühchristlichen Ambone Griechenlands* (Habelts Dissertationsdrucke. Reihe Klassische Archäologie 24), Bonn.
- Iaph 2007 = REYNOLDS J.M., ROUECHÉ C., BODARD G. 2007 *Inscriptions of Aphrodisias*, <http://insaph.kcl.ac.uk/iaph2007>.
- Iasklepieion = HABICHT C., *Die Inschriften des Asklepieions*, AvP VIII, 3, Berlin 1969.
- İDİL V. 1999 = *Nysa ve Akharaka/Nysa and Acharaca*, Istanbul.
- İDİL V. 2006 = *Neueste Grabungsergebnisse von der Agora in Nysa am Mäander*, in W. HOEPFNER, L. LEHMANN (eds.), *Die griechische Agora* (Schriften des Instituts für klassische Archäologie der Freien Universität Berlin), Mainz, 66-76.
- İDİL V., KADIOĞLU M. 2005 = *2003 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 26, 1 (Konya, 24-28 Mayıs 2004), Ankara, 387-400.
- İDİL V., KADIOĞLU M. 2006 = *2004 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 27, 2 (Antalya, 30 Mayıs - 3 Haziran 2004), Ankara, 131-146.
- İDİL V., KADIOĞLU M. 2007 = *2005 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 28, 1 (Çanakkale, 29 Mayıs - 2 Haziran 2006), Ankara, 647-670.
- İDİL V., KADIOĞLU M. 2008 = *2006 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 29, 2 (Kocaeli, 28 Mayıs - 1 Haziran 2007), Ankara, 197-226.
- İDİL V., KADIOĞLU M. 2009 = *2007 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 30, 3 (Ankara, 36-30 Mayıs 2008), Ankara, 499-522.
- İDİL V., KADIOĞLU M., BECKMANN M., ÖZBİL SERİN C., TAMSÜ POLAT R. 2010 = *2008 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in KST 31, 2 (Denizli, 25-29 Mayıs 2009), Ankara, 271-295.
- IG = *Inscriptiones Graecae*, Berlin 1873-.

- IGBulg¹² = MIHAILOV G., *Inscriptiones Graecae in Bulgaria repertae, 1. Inscriptiones orae Ponti Euxini. Editio altera emendata*, Sofia 1970.
- IGR = CAGNAT R. (ed.), *Inscriptiones Graecae ad Res Romanas Pertinentes Auctoritate et Impensis Academiae Inscriptionum et Litterarum Humaniorum Collectae et Editae I-IV*, Paris 1906-1927.
- İHLAN S. 2014 = *Restaurierung im Marmorsaal 31*, in H. THÜR, I. ADENSTEDT (eds.), *Das Hanghaus 2 in Ephesos: die Wohneinheit 6, Baubefund, Ausstattung, Funde, FiE VIII*, 9, Wien, 803-829.
- IK = *Inschriften griechischer Städte aus Kleinasien*, Bonn 1972-.
- ILS = DESSAU H., *Inscriptiones Latinae Selectae I-III*, Berlin 1892-1916.
- IMagnesia = KERN O., *Die Inschriften von Magnesia am Maeander*, Berlin 1900.
- IManisa = MALAY H., *Greek and Latin inscriptions in the Manisa Museum* (Ergänzungsbände zu den *Tituli Asiae Minoris* 19; Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, Denkschriften 237), Wien 1994.
- INGLESE C., PIZZO A. 2014 = *I tracciati di cantiere di epoca romana: progetti, esecuzioni e montaggi*, Roma.
- INGLESE C., PIZZO A. 2016 = *I tracciati di cantiere. Disegni esecutivi per la trasmissione e diffusione delle conoscenze tecniche*, Roma.
- İNAN J., ATIK N., ÖZTÜRK A. 2000 = *Vorbericht über die Untersuchungen an der Fassade des Theaters von Perge*, in *AA*, 285-340.
- IPergamon = FRÄNKEL M. (ed.), *Die Inschriften von Pergamon, AvP VIII*, Berlin 1890-1895.
- IPriene = HILLER VON GAERTRINGEN F., *Inschriften von Priene*, Berlin 1906.
- IRT2009 = REYNOLDS J.M., WARD-PERKINS J.B., BODARD G., ROUECHÉ C. (eds.), *Inscriptions of Roman Tripolitania*, <http://inslib.kcl.ac.uk/irt2009/>
- IŞIK F. 1984 = *Die Sarkophage von Aphrodisias*, in B. ANDREAE (ed.), *Symposium über die antiken Sarkophage* (Pisa, 5.-12. September 1982), Marburg, 243-281.
- IŞIK F. 1992 = *Zum Produktionsbeginn von Halbfabrikaten kleinasiatischer Girlandensarkophage*, in *AA*, 121-145.
- IŞIK F. 1998 = *Zu Produktionsbeginn und Ende der kleinasiatischen Girlandensarkophage der Hauptgruppe*, in G. KOCH (ed.), *Akten des Symposiums "125 Jahre Sarkophag-Corpus"* (Marburg, 4.-7. Oktober 1995) (SarkSt 1), Mainz, 278-294.
- IŞIK F. 2007a = *Girlandensarkophage aus Aphrodisias* (SarkSt5), Mainz.
- IŞIK F. 2007b = *Werkstätten der Girlandensarkophage der kleinasiatischen Hauptgruppe*, in G. KOCH (ed.), *Akten des Symposiums des Sarkophag-Corpus 2001* (SarkSt 3), Mainz, 279-289.
- İŞKAN-IŞIK H., ECK W., ENGELMANN H. 2008 = *Der Leuchtturm von Patara und Sex. Marcus Priscus als Statthalter der Provinz Lycia von Nero bis Vespasian*, in *ZPE* 164, 91-121.
- ISMAELLI T. 2009a = *Architettura dorica a Hierapolis di Frigia, Hierapolis di Frigia III*, Istanbul.
- ISMAELLI T. 2009b = *Il monopteros del Santuario di Apollo a Hierapolis di Frigia. Ricerche sull'oracolo alfabetico*, in *IstMitt* 59, 131-192.
- ISMAELLI T. 2010 = *La Via di Frontino a Hierapolis di Frigia. Aspetti tecnici, organizzazione e committenza di un grande cantiere pubblico di prima età imperiale*, in CAMPOREALE, DESSALES, PIZZO 2010, 375-396.
- ISMAELLI T. 2011 = *Una nuova proposta di interpretazione per il Sebasteion di Aphrodisias: attività commerciali e bancarie nel santuario del culto imperiale*, in *MedAnt* 14, 1-2, 149-202.
- ISMAELLI T. 2012a = *La Stoà di Marmo. Le trasformazioni dell'edificio alla luce delle prime ricerche*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 387-418.
- ISMAELLI T. 2012b = *Un ritratto di età gallienica da Hierapolis di Frigia*, in *RA* 2, 243-274.
- ISMAELLI T. 2013a = *Ancient Architectural Restoration in Asia Minor. Typology, Techniques and Meanings Discussed with Reference to Examples of Large-scale Public Buildings in Hierapolis of Phrygia, a Seismic City in Western Turkey*, in *IstMitt* 63, 267-324.

- ISMAELLI T. 2013b = *La tholos ed i materiali architettonici ellenistici*, in D'ANDRIA 2013, 199-207.
- ISMAELLI T. 2016a = *La Stoà di Marmo: nuovi dati dagli scavi della campagna 2011 e dallo studio architettonico del monumento*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 237-278.
- ISMAELLI T. 2016b = *La tholos del Ploutonion, l'edificio augusteo e le preesistenze ellenistiche*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 321-353.
- ISMAELLI T. 2016c = *Il Ginnasio, campagne di scavo 2007-2010*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 529-551.
- ISMAELLI T. 2016d = *Nuovi dati sull'architettura del Ginnasio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 553-596.
- ISMAELLI T. 2016e = *Modelli, architetti e maestranze a Hierapolis di Frigia. Il caso del Tempio A nel Santuario di Apollo*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 477-486.
- ISMAELLI T. 2017a = *Il Tempio A del Santuario di Apollo, Hierapolis di Frigia*, Istanbul.
- ISMAELLI T. 2017b = *Hierapolis di Frigia in età augustea e giulio-claudia: spazi sacri ed immagine urbana tra radici anatoliche e modelli romani*, in L. CAVALIER, M.-C. FERRIÈS, F. DELRIEUX (eds.), *Auguste e l'Asie mineure. Actes du colloque à Bordeaux* (20-22 novembre 2014), Bordeaux, 309-329.
- ISMAELLI T., CATANIA M. 2016 = *Il restauro del Ginnasio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 597-608.
- ISMAELLI T., SCARDOZZI G. forthcoming = *Alcuni monumenti "in search of location": il contributo dello studio delle mura bizantine alla conoscenza delle architetture e della città di epoca imperiale*.
- ISMAELLI T., SCARDOZZI G., BOZZA S. forthcoming = *Nuove ricerche sull'Agora Centrale di Hierapolis*, in *Mare Internum*.
- JACKSON J. 1994 = *Active tectonics of the Aegean region*, in *Annual Review of Earth and Planetary Sciences* 22, 239-271.
- JACKSON J., MCKENZIE D. 1984 = *Active tectonics of the Alpine-Himalayan belt between Turkey and Pakistan*, in *The Geophysical journal of the Royal Astronomical Society* 77, 185-264.
- JACQUES F. 1982 = *Les curateurs des cités africaines au III^e siècle*, in *ANRW II*, 10.2, Berlin, 62-135.
- JACQUES F. 1984 = *Le privilège de liberté. Politique impériale et autonomie municipale dans les cités de l'Occident romain (161-244)* (CEFR 76), Rome.
- JAMES L. 2007 = *And Shall These Mute Stone Speak?*, in L. JAMES (ed.), *Art and Text in Byzantine Culture*, Cambridge, 188-206.
- JARČ S., ZUPANČIČ N. 2009 = *A cathodoluminescence and petrographical study of marbles from the Pohorje area in Slovenia*, in *Chemie der Erde-Geochemistry* 69, 75-80.
- JENEWEIN G. 1999 = *Verkehrte Wege*, in P. SCHERRER, H. TAEUBER, H. THÜR (eds.), *Steine und Wege. Festschrift für Dieter Knibbe zum 65. Geburtstag* (SDAIK 32), Wien, 43-49.
- JEPPESSEN K. 1955 = *The Propylaea*, in *Labraunda, Swedish Excavations and Researches I, 1*, Lund.
- Ji S., ZHU Z., WANG Z. 1998 = *Relationship between Joint Spacing and Bed Thickness in Sedimentary Rocks. Effects of Interbed Slip*, in *Geology Magazine* 135, 637-655.
- JOHNSON A.C. 1936 = *An Economic Survey of Ancient Rome II. Roman Egypt to the Reign of Diocletian*, Baltimore.
- JOLIVET L. 2001 = *A comparison of geodetic and finite strain pattern in the Aegean, geodynamic implications*, in *Earth and Planetary Science Letters* 187, 95-104.
- JOLIVET L., BRUN J.-P. 2010 = *Cenozoic geodynamic evolution of the Aegean*, in *International Journal of Earth Sciences* 99, 109-138.
- JOLIVET L., FACENNA C., GOFFÉ B., BUROV E., AGARD P. 2003 = *Subduction tectonics and exhumation of high-pressure metamorphic rocks in the Mediterranean orogeny*, in *American Journal of Science* 303, 353-409.
- JOLIVET L., FACENNA C., PIROMALLO C. 2009 = *From mantle to crust: stretching the Mediterranean*, in *Earth and Planetary Science Letters* 285, 198-209.

- JOLIVET L., TROTET F., MONIÉ P., VIDAL O., GOFFÉ B., LABROUSSE L., AGARD P., GHORBAL B. 2010 = *Along-strike variations of P-T conditions in accretionary wedges and synorogenic extension, the HP-LT Phyllite-Quartzite Nappe in Crete and the Peloponnese*, in *Tectonophysics* 480, 133-148.
- JOLIVET-LEY C. 2001 = *La Cappadoce médiévale*, Paris.
- JONES A.H.M. 1971 = *Cities of the Eastern Roman Provinces*, Oxford.
- JONES C. 2007 = *Three New Letters of the Emperor Hadrian*, in *ZPE* 161, 145-156.
- JONES C. 2014 = *Earthquakes and Emperors*, in A. KOLB (ed.), *Infrastruktur und Herrschaftsorganisation im Imperium Romanum*, Berlin, 52-65.
- JONES C.P. 1993 = *The Olympieion and the Hadrianeion at Ephesos*, in *JHS* 113, 149-152.
- JONES M., WESTAWAY R. 1991 = *Microseismicity and structure of the Germencik area, western Turkey*, in *Geophysical Journal International* 106, 293-300.
- JOUFFROY H. 1977 = *Le financement des constructions publiques en Italie. Initiative municipale, initiative impériale, évergétisme privé*, in *Ktema* 2, 329-337.
- JUDEICH W. 1898 = *Inscripfen*, in HUMANN ET ALII 1898, 67-180.
- JUNG K. 2006 = *Das Hydrekdocheion des Gaius Laecanius Bassus in Ephesos*, in WIPLINGER 2006, 79-86.
- JUNKELMANN M. 1991⁵ = *Die Legionen des Augustus. Der römische Soldat im archäologischen Experiment*, Mainz.
- KADIOĞLU M. 1999 = *Der Opus Sectile-Boden aus dem Gerontikon-Bouleuterion von Nysa ad Maeandrum*, in *Studien zum antiken Kleinasien IV* (AMS 34), 175-188.
- KADIOĞLU M. 2001 = *Zwei korinthische Kapitelle aus Nysa am Mäander*, in C. ÖZGÜNEL, O. BİNGÖL, V. İDİL, K. GÖRKAY, M. KADIOĞLU (eds.), *Cevdet Bayburtluoğlu için yazılar / Essays in Honour of C. Bayburtluoğlu. Günışığında Anadolu / Anatolia in Daylight*, Istanbul, 156-161.
- KADIOĞLU M. 2006 = *Die Scaenae frons des Theaters von Nysa am Mäander. Forschungen in Nysa am Mäander I*, Mainz.
- KADIOĞLU M. 2007 = *Die opus sectile – Wanderkleidung der Agora von Hierapolis in Phrygia (Regio I)*, in D'ANDRIA, CAGGIA 2007, 413-418.
- KADIOĞLU M. 2008 = *Ein Porträtfragment des Lucius Verus? aus dem Gerontikon von Nysa am Mäander*, in E. WINTER (ed.), *Vom Euphrat an den Bosporus. Kleinasien in der Antike. Festschrift für Elmar Schwertheim zum 65. Geburtstag* (AMS 65, 2), Bonn, 359-366.
- KADIOĞLU M. 2011 = *Vorbericht über die Arbeiten im Gerontikon von Nysa am Mäander (2006-2009)*, in *JdI* 126, 107-154.
- KADIOĞLU M. 2012a = *Teos Rehber Kitap / Guide Book*, Izmir.
- KADIOĞLU M. 2012b = *Teos (1962-1966, 2010-)*, in O. BİNGÖL, A. ÖZTAN, H. TAŞKIRAN (eds.), *DTCF Arkeoloji Bölümü Tarihçesi ve Kazıları (1936-2011) Anadolu/Anatolia Ek Dizi III.2. Dil ve Tarih-Coğrafya Fakültesi 75. Yıl Armağanı*, Ankara, 505-522.
- KADIOĞLU M. 2014 = *Das Gerontikon von Nysa am Mäander. Forschungen in Nysa am Mäander III*, Darmstadt.
- KADIOĞLU M., ADAK M., ÖZBİL C., TAMSÜ POLAT R., ÖZTANER S.H., POLAT Y. 2013 = *2011 Yılı Teos Kazı Çalışmaları (2. Sezon)*, in *KST* 34, 2 (Çorum, 28 Mayıs - 1 Haziran 2012), Ankara, 211-232.
- KADIOĞLU M., KADIOĞLU Y.K. 2008 = *Native of the marble in ancient city. Nysa on the Meander of Hellenistic and Roman Period, Aydın - Western Anatolia - Turkey*, in E.J. CATLOS (ed.), *Donald D. Harrington Symposium on the Geology of the Aegean* (Earth and Environmental Science 2), Bristol, 141-147.
- KADIOĞLU M., ÖZBİL C. 2015 = *Yeni Araştırmalar Işığında Teos*, in *Türk Eskiçağ Bilimleri Enstitüsü Haberler* 40, 4-16.
- KADIOĞLU M., ÖZBİL C., KERSCHNER M., MOMMSEN H. 2015a = *Teos im Licht der neuen Forschungen*, in Ü.YALÇIN, H.-D. BIENERT (eds.), *Anatolien - Brücke der Kulturen. Aktuelle Forschungen und Perspektiven in den deutsch-türkischen Altertumswissenschaften. Tagungsband des internationalen Symposiums "Anatolien - Brücke der Kulturen"* (Bonn, 7.-9. Juli 2014) (*Zeitschrift für Kunst und Kultur im Bergbau*, Beiheft 27), Bonn, 345-366.

- KADIOĞLU M., VON RUMMEL PH. 2003 = *Frühbyzantinische Funde aus dem Theater von Nysa am Mäander*, in *Anadolu* 24, 103-119.
- KADIOĞLU M., YALÇIN D.Ö., ADAK M., ÖZBİL C., TAMSÜ POLAT R., POLAT Y., TUGÇU İ. 2015b = *2012-2013 Teos Kazı Çalışmaları (3.-4. Sezon)*, in *KST* 36, 3 (Gaziantep, 2-4 Haziran 2014), Ankara, 437-471.
- KADIOĞLU S., KADIOĞLU M., KADIOĞLU Y.K. 2013 = *Identifying of buried archaeological remains with ground penetrating radar, polarized microscope and confocal Raman spectroscopy methods in ancient city of Nysa, Aydin-Turkey*, in *JASc* 40, 10, 3569-3583.
- KADIOĞLU S., KADIOĞLU Y.K. 2014 = *Identifying buried archaeological remains with ground penetrating radar, polarized microscope and confocal Raman spectroscopy methods in ancient Nysa on the Maeander*, in KADIOĞLU 2014, 186-189.
- KAKOULLI I., SCHILLING M., MAZUREK J. 2012 = *The mural of Panagia Phorbiotissa. A technical examination*, in WEYL CARR, NICOLAÏDÈS 2012, 313-360.
- KAPPELMAN J., ALÇİÇEK M.C., KAZANCI N., SCHULTZ M., ÖZKUL M., ŞEN Ş. 2008 = *Brief communication: first Homo Erectus from Turkey and implications for migrations into temperate Eurasia*, in *American Journal of Physical Anthropology* 135, 110-116.
- KARAKUS H., ŞİMŞEK S. 2013 = *Tracing deep thermal water circulation systems in the E-W trending Büyük Menderes Graben, western Turkey*, in *Journal of Volcanology and Geothermal Research* 252, 38-52.
- KARAMANDERESİ I.H., ÖLÇENOĞLU K. 2005 = *Geology of the Denizli Sarayköy (Gerali) Geothermal Field, Western Anatolia, Turkey*, in *Proceedings World Geothermal Congress 2005* (Antalya, 24-29 April 2005), 1-10, CD-ROM.
- KARLSSON L. 2013 = *Combining architectural orders at Labraunda: a political statement*, in *4th Century Karia. Defining a Karian Identity under the Hekatomnids* (Varia Anatolica 28), Paris, 65-80.
- KARWIESE S. 1985 = *Koressos. Ein fast vergessener Stadtteil von Ephesos*, in *Pro Arte Antiqua. Festschrift Hedwig Kenner II* (SDAIK 18), Wien, 241-224.
- KARWIESE S. 2005 = *Die Hafenthermen von Ephesos: ihr ursprünglicher Name und ihr erster (?) Gymnasiarch*, in H. THÜR (ed.), "...und verschönerte die Stadt...". Ein ephesischer Priester des Kaiserkultes in seinem Umfeld (SDAIK 27), Wien, 141-146.
- KAUTZSCH R. 1936 = *Kapitellstudien. Beiträge zu einer Geschichte des spätantiken Kapitells im Osten vom vierten bis ins siebente Jahrhundert* (Studien zur spätantiken Kunstgeschichte 9), Berlin-Leipzig.
- KAYMAKÇI N. 2006 = *Kinematic development and paleostress analysis of the Denizli Basin (Western Turkey): implications of spatial variation of relative paleostress magnitudes and orientations*, in *Journal of Asian Earth Sciences* 27, 207-222.
- KAYMAKÇI N., ÖZÇELİK Y., WHITE S.H., VAN DIJK P.M. 2009 = *Tectono-stratigraphy of the Çankiri Basin: late Cretaceous to early Miocene evolution of the Neotethyan suture zone in Turkey*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 67-106.
- KEIL J. 1915 = *Ephesische Funde und Beobachtungen*, in *ÖJh* 18, Beibl., 279-286.
- KEIL J. 1926 = *12. Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 23, Beibl., 265-271.
- KEIL J. 1930 = *XV Vorläufiger Bericht über die Ausgrabungen in Ephesos*, in *ÖJh* 26, Beibl., 17-62.
- KEIL J. 1964 = *Ephesos. Ein Führer durch die Ruinenstätte und ihre Geschichte*, Wien, 102-105.
- KELE S., ÖZKUL M., GÖKGÖZ A., FÖRİZS I., BAYKARA M.O., ALÇİÇEK M.C., NÉMETH T. 2011 = *Stable isotope geochemical and facies study of Pamukkale travertines: new evidences of low-temperature non-equilibrium calcite-water fractionation*, in *Sedimentary Geology* 238, 191-212.
- KELP U. 2014 = *Pergamon Nekropolleri / The Necropoleis of Pergamon*, in PIRSON, SCHOLL 2014, 354-375.
- KENNEDY R.E., TOWNSEND P.A., GROSS J.E., COHEN W.B., BOLSTAD P., WANG Y.Q., ADAMS P. 2009 = *Remote sensing change detection tools for natural resource managers. Understanding concepts and tradeoffs in the design of landscape monitoring projects*, in

- Remote Sensing of Environment* 113, 1382-1396.
- KERDILES H., GRONDONA M., RODRIGUEZ R., SEGUIN B. 1996 = *Frost mapping using NOAA-AVHRR data in the Pampean region, Argentina*, in *Agricultural and Forest Meteorology* 79, 157-182.
- KERSCHNER M., PROCHASKA W. 2011 = *Die Tempel und Altäre der Artemis in Ephesos und ihre Baumaterialien. Naturwissenschaftliche Untersuchungen zur Herkunft der Marmore und ihr archäologischer Kontext*, in *ÖJh* 80, 73-153.
- KESKİN M. 2003 = *Magma generation by slab steepening and breakoff beneath a subduction-accretion complex: an alternative model for collision-related volcanism in Eastern Anatolia, Turkey*, in *Geophysical Research Letters* 30, 24, 1-4.
- KETİN İ. 1968 = *Relation between general tectonic features and the main earthquake regions of Turkey*, in *Bulletin of the Mineral Research and Exploration* 71, 63-67.
- KIERNAN P. 2011 = *Preliminary Report on the Excavations of a Cryptoporticus and Market Building at Alexandria Troas*, in E. SCHWERTHEIM (ed.), *Studien zum antiken Kleinasien VII* (ASM 66), Bonn, 199-216.
- KIILLERICH B. 2006 = *The Aesthetics of Marble and Coloured Stone*, in E. JEFFREYS (ed.), *Proceedings of the 21st International Congress of Byzantine Studies Vol. II* (London, 21-26 August 2006), Aldershot, 238-239.
- KIILLERICH B. 2012 = *Monochromy, Dichromy and Polychromy in Byzantine Art*, in D. SEARBY, E. BALICKA-WITAKOWSKA, J. HELDT (eds.), *Doron Rhodopoikilon. Studies in Honour of Jan Olof Rosenqvist* (Studia Byzantina Upsaliensia 12), Uppsala, 169-183.
- KLAR L.S. 2006 = *The Origins of the Roman Scaenae Frons and the Architecture of Triumphal Games in the Second Century BC*, in S. DILLON, K.E. WELCH (eds.), *Representations of War in Ancient Rome*, Cambridge, 162-183.
- KLEMM R., KLEMM D. 1993 = *Steine und Steinbrüchen im Alten Ägypten*, Berlin.
- KLOPPMANN W., LEROUX L., BROMBLET P., COOPER A.H., NESTLER A., GUERROT C., MONTECH A.T., WORLEY N. 2015 = *Isotope characterisation of historical alabaster quarries in Western Europe*, in *Geophysical Research Abstracts*, Vol. 17, EGU2015-5888-1.
- KNACKFUSS H. 1924 = *Der Südmarkt und die benachbarten Bauanlagen, Milet I*, 7, Berlin.
- KNIBBE D., ENGELMANN H., İPLİKÇİOĞLU B. 1993 = *Neue Inschriften aus Ephesos XII*, in *ÖJh* 62, 113-150.
- KNIBBE D., İPLİKÇİOĞLU B. 1984 = *Neue Inschriften aus Ephesos IX*, in *ÖJh* 55, 107-135.
- KNOLL K., VOSTER CH., WOELK M. 2011 (eds.) = *Katalog der antiken Bildwerke II. Idealskulptur der römischen Kaiserzeit*, München.
- KOCH G. 1993 = *Sarkophag der römischen Kaiserzeit*, Darmstadt.
- KOCH G. 2010a = *Sarkophag der römischen Kaiserzeit in der Türkei*, in *Adalya* 13, 111-182.
- KOCH G. 2010b = *Türkiye'deki Roma İmparatorluk Dönemi Lahitleri. Genel Bir Bakış (Kaynakça Eki İle). Sarkophag der römischen Kaiserzeit in der Türkei. Ein Überblick (mit einer Bibliographie)*, Antalya.
- KOCH G. 2011 = *Sarcophagi di età romana in Asia Minore: una sintesi*, in D'ANDRIA, ROMEO 2011, 9-29.
- KOCH G., SICHTERMANN H. 1982 = *Römische Sarkophag*, München.
- KOÇMAN A. 1993a = *Türkiye İklimi*, in *Ege Üniversitesi Edebiyat Fakültesi Yayınları* 72, 7-58.
- KOÇMAN A. 1993b = *Ege Ovalarının İklimi*, in *Ege Üniversitesi Edebiyat Fakültesi Yayınları* 73, 44-115.
- KOÇYİĞİT A. 2003 = *General neotectonic characteristics and seismicity of central Anatolia*, in *Turkish Association of Petroleum Geologists Bulletin* 5, 1-24.
- KOÇYİĞİT A. 2005 = *The Denizli graben-horst system and the eastern limit of western Anatolian continental extension: basin fill, structure, deformational mode, throw amount and episodic evolutionary history, SW Turkey*, in *Geodinamica Acta*, 18, 3-4, 167-208.
- KOÇYİĞİT A., BEYHAN A. 1998 = *A New Intracontinental Transcurrent Structure: the Central Anatolian Fault Zone, Turkey*, in *Tectonophysics* 284, 317-336.
- KOÇYİĞİT A., CİHAN M., ÖZACAR A. 2001 = *Seismicity of Dombayova and Sandikli (Afyon)*

- Grabens and Kinematic Analysis of their Margin-bounding Faults*, in *Scientific and Technologic Research Council of Turkey*, Scientific Project Report, No. YDABÇAG-199Y007, 60.
- KOÇYİĞİT A., YUSUFOĞLU H., BOZKURT E. 1999 = *Evidence from the Gediz graben for episodic two stage extension in western Turkey*, in *Journal of the Geological Society of London* 156, 605-616.
- KOENIGS W. 2015 = *Der Athenatempel von Priene, Priene III (AF 33)*, Wiesbaden.
- KOENIGS W., RADT W. 1979 = *Ein kaiserzeitlicher Rundbau (Monopteros) in Pergamon*, in *IstMitt* 29, 317-354.
- KOHL M. 2011 = *Liberté individuelle et organisation du travail de lapicides en équipe dans un atelier de construction du haut empire à Pergame. Le cas de la «salle des empereurs» au gymnase des neoi*, in J-P. MOREL (ed.), *Les travailleurs dans l'antiquité: statuts et conditions. 127^e Congrès national des sociétés historiques et scientifiques* (Nancy 2002), Paris, 77-98.
- KOHL J. 1904 = *Die Bauwerke*, in C. HUMANN (ed.), *Magnesia am Maeander. Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891-1893*, Berlin.
- KOKKINIA C. 2003 = *Letters of Roman Authorities on Local Dignitaries. The Case of Vedius Antoninus*, in *ZPE* 142, 197-213.
- KOLB F. 2002² = *Rom. Die Geschichte der Stadt in der Antike*, München.
- KOLLER K. 2005 = *Marmorausstattungen*, in H. THÜR (ed.), *Das Hanghaus 2 in Ephesos. Die Wohneinheit 4, FiE VIII, 6*, Wien, 144-51.
- KOMAREK J., ANAGNOSTIDIS K. 1988 = *Cyanoprokaryota. Teil Chroococcales*, in H. ETTL, G. GÄRTNER, H. HEYNIG, D. MOLLENHAUER (eds.), *Süßwasser-flora von Mitteleuropa*, Stuttgart-Jena, 1-548.
- KOMAREK J., ANAGNOSTIDIS K. 2005 = *Cyanoprokaryota. Teil Oscillatoriales*, in B. BÜDEL, G. GÄRTNER, L. KRIENITZ, M. SCHAGERI (eds.), *Süßwasser-flora von Mitteleuropa*, München, 1-759.
- KONAK N., AKDENİZ N., ÖZTÜRK E.M. 1987 = *Geology of the south of Menderes Massif*, in *Guide Book for the Field Excursion along Western Anatolia, Turkey*, Ankara, 42-53.
- KONAKÇI E. 2014 = *Laodikeia'nın İlk Yerleşimi: Asopos Tepesi*, in ŞİMŞEK 2014a, 87-122.
- KORALAY O.E., DORA O.Ö., CHEN F., SATIR M., CANDAN O. 2004 = *Geochemistry and geochronology of orthogneisses in the Derbent area, eastern part of the Ödemiş-Kiraz sub-massif, Menderes Massif. Pan-African magmatic activity*, in *Turkish Journal of Earth Sciences* 13, 37-61.
- KORALAY T. forthcoming = *Minerologic, petrographic and geochemical properties of traverten building stones in Tripolis antique city (Yenice/Buldan-Denizli)*, in *Proceedings of Travertine and Tufa Workshop* (Denizli, 5-8 December 2015).
- KORALAY T., DUMAN B., DENİZ K., KADIOĞLU Y.K. 2017 = *The provenance of banded travertine from the ancient city of Tripolis (Yenice/Buldan-Denizli) based on the mineropetrographic and geochemical characterization*, in C. ŞİMŞEK, F. D'ANDRIA (eds.), *Landscape and History in the Lykos Valley: Laodikeia and Hierapolis in Phrygia*, Newcastle upon Tyne, 143-164.
- KORALAY T., KILINÇARSLAN S. 2015 = *Mineropetrographic and isotopic characterization of two antique marble quarries in the Denizli region (western Anatolia, Turkey)*, in *Periodico di Mineralogia* 84, 2, 263-288.
- KORALAY T., KILINÇARSLAN S. 2016 = *A Multi-Analytical Approach for Determining the Origin of the Marbles in Temple-A from Laodicea ad Lycum (Denizli-Western Anatolia, Turkey)*, in *Journal of Cultural Heritage* 17, 42-52.
- KORRES M. 2000 = *Υπόγεια λατομεία της Πάρου*, in D. SCHILARDI, S. KATSAROU, D. KATSANOPOULOU, C. BRENNER (eds.), *Paria Lithos. Parian Quarries, Marble and Workshops of Sculpture. Proceedings of the First International Conference of the Archaeology of Paros and the Cyclades* (Paros, 2-5 October 1997), Athens, 61-82.
- KOUROUNIOTIS K. 1921-1922 = *Ελληνικά Ανασκαφαί εν Μικρά Ασία. Ανασκαφαίεν Νύση τῇ ἐπὶ Μαϊάνδρῳ*, in *ADelt* 7, 1-88; 227-246.
- KOZELJ T., WURCH-KOZELJ M. 2002 = *The wood-work of the north-west stoa of Thassos. Analysis of blocks cavities, from the achitrave to the ridge tile, which allow the restitution of each piece of wood-work*, in LAZZARINI 2002a, 47-50.

- KÖSTER R. 1989 = *Ein Kleinkunstmotiv an ungewöhnlichem Ort*, in *IstMitt* 39, 297-306.
- KÖSTER R. 2004 = *Die Bauornamentik von Milet, Die Bauornamentik der frühen und mittleren Kaiserzeit, Milet VII, 1*, Berlin.
- KRAMER J. 1983 = *Zu einigen Architekturteilen des Grabtempels westlich von Side*, in *BJb* 183, 145-166.
- KRAUSS F. 1973 = *Das Theater von Milet. Das hellenistische Theater und der römische Zuschauerbau, Milet IV, 1*, Berlin.
- KREIKENBOM D., MAHLER K.-U., WEBER TH.-M. 2005 = *Urbanistik und städtische Kultur in Westasien und Nordafrika unter den Severern, Beiträge zur Table Ronde in Mainz 2004*, Worms.
- KRINZINGER F. 2010 = *Hanghaus 2 in Ephesos. Die Wohneinheit 1 und 2. Baubefund, Ausstattung, Funde, FiE VIII, 8*, Wien.
- KRÖNER A., ŞENGÖR A.M.C. 1990 = *Archean and Proterozoic ancestry in late Precambrian to early Paleozoic crustal elements of southern Turkey as revealed by single-zircon dating*, in *Geology* 18, 1186-1190.
- KUBIŃSKA J. 1968 = *Les monuments funéraires dans les inscriptions grecques de l'Asie Mineure (EtTrav 5)*, Warszawa.
- KUMSAR H., AYDAN Ö., ŞİMŞEK C., D'ANDRIA F. 2015 = *Historical earthquakes that damaged Hierapolis and Laodikeia antique cities and their implications for earthquake potential of Denizli basin in western Turkey*, in *Bulletin of Engineering Geology and the Environment* 75, 2, 519-536.
- LADSTÄTTER S. 2012 = *Das Hanghaus 2 in Ephesos*, Istanbul.
- LADSTÄTTER S., İLHAN S. 2011 = *The Marble Hall of Terrace House 2*, <http://www.oelai.at/index.php/terrace-house-2-marble-hall.htm>.
- LANCASTER L. 1999 = *Building Trajan's Column*, in *AJA* 103, 419-439.
- LANDWEHR C., ATTANASIO D., BRUNO M., SOBOTT R. 2012-2013 = *The sculptural marbles of Caesarea Mauretaniae (Cherchel, Algeria)*, in *JdI* 127-128, 227-260.
- LAPALUS É. 1939 = *L'Agora des Italiens, Délos 19*, Paris.
- LAPUENTE M.P., BLANC P. 2002 = *Marbles from Hispania: scientific approach based on cathodoluminescence*, in HERRMANN, HERZ, NEWMAN 2002, 143-151.
- LAPUENTE M.P., LEÓN P., NOGALES-BASARRATE T., ROYO H., PREITE-MARTINEZ M., BLANC P. 2012 = *White sculptural materials from Villa Adriana. Study of provenance*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 364-375.
- LAPUENTE M.P., NOGALES T., LEÓN P., ROYO H., PREITE-MARTINEZ M. 2009 = *Black sculptural materials from Villa Adriana: study of provenance*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 376-483.
- LAPUENTE M.P., TURI B., BLANC P. 2000 = *Marbles from Roman Hispania. Stable isotope and cathodoluminescence characterization*, in *Applied Geochemistry* 15, 1469-1493.
- LA ROCCA E. 1994 = *"Memore di Castore": principi come Dioscuri*, in NISTA L. (ed.), *Castores. L'immagine dei Dioscuri a Roma*, Roma, 73-90.
- LASAPONARA R., LEUCCI G., MASINI N., PERSICO R., SCARDOZZI G. 2016 = *Towards an operative use of remote sensing for exploring the past using satellite data. The case study of Hierapolis (Turkey)*, in *Remote Sensing of Environment* 174, 148-164.
- LASAPONARA R., LEUCCI G., MASINI N., PERSICO R., SCARDOZZI G. forthcoming = *Integration of archaeological surveys, remote sensing data and geophysical prospecting for the study of rural settlements in the territory of Hierapolis in Phrygia (Turkey)*, in *Remote Sensing of Environment*.
- LASAPONARA R., MASINI N. 2012 (eds.) = *Satellite Remote Sensing. A New Tool for Archaeology*, Heidelberg-London-New York.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2007 = *Immagini satellitari ad alta risoluzione e ricerca archeologica*, in *ACalc* 18, 187-227.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2008a = *New perspectives for satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in *Advances in Geosciences* 19, 87-96.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2008b = *Satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in R. LASAPONARA, N. MASINI (eds.),

- Advances on Remote Sensing for Archaeology and Cultural Heritage Management. Proceedings of the 1st International EARSeL Workshop* CNR (Roma, September 30-October 4, 2008), Roma, 11-16.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2010 = *Elaborazione di immagini satellitari ad alta risoluzione e ricognizione archeologica per la conoscenza degli insediamenti rurali del territorio di Hierapolis di Frigia (Turchia)*, in D'ANDRIA, MALFITANA, MASINI, SCARDOZZI 2010, 479-494.
- LASAPONARA R., MASINI N., SCARDOZZI G. forthcoming = *Potenzialità dei dati satellitari SAR Cosmo-SkyMed per l'archeologia: primi risultati a Hierapolis di Frigia (Turchia)*, in *Archeologia Aerea* 10.
- LAUFFER S. 1971 = *Diokletians Preisedikt*, Berlin.
- LAUTER H. 1999 = *L'architettura dell'Ellenismo* (Biblioteca di archeologia 27), Milano.
- LAZZARINI L. (ed.) 2002a = *Interdisciplinary Studies on Ancient Stone, ASMOSIA VI. Proceedings of the Sixth International Conference* (Venezia, 15-18 June 2000), Padova.
- LAZZARINI L. 2002b = *La determinazione della provenienza delle pietre decorative usate dai romani*, in DE NUCCIO, UNGARO 2002, 223-265.
- LAZZARINI L. 2005 = *Lama 1994-2004. 10 anni di attività*, Venezia.
- LAZZARINI L. 2007 = *Poikiloi lithoi, versicolores maculae: i marmi colorati della Grecia antica*, Pisa.
- LAZZARINI L., ANTONELLI F. 2003 = *Petrographic and Isotopic Characterization of the Marble of the Island of Tinos (Greece)*, in *Archaeometry* 45, 4, 541-552.
- LAZZARINI L., MOSCHINI G., WAELEKENS M., XUSHENG H. 1985 = *New Light on Same Phrygian Marble Quarries Through a Petrological Study and the Evolution of Ca/Sr Ratio*, in P. PENSABENE (ed.), *Marmi Antichi, problemi d'impiego, di restauro e d'identificazione*, Roma, 47-55.
- LAZZARINI L., MOSCHINI G., STIEVANO B.M. 1980 = *A contribution to the identification of Italian, Greek and Anatolian marbles through a petrological study and the evaluation of Ca/Sr ratio*, in *Archaeometry* 22, 2, 173-182.
- LAZZARINI L., PENSABENE P., TURI B. 1999 = *Isotopic and petrographic characterization of Marmor Lesbium, Island of Lesbos, Greece*, in SCHVOERER 1999, 125-129.
- LAZZARINI L., PONTI G., PREITE MARTINEZ M., ROCKWELL P., TURI B. 2002 = *Historical, technical, petrographic, and isotopic features of Aphrodisian marble*, in HERRMANN, HERZ, NEWMAN 2002, 163-168.
- LAZZARINI L., VISONÀ D., GIAMELLO M., VILLA I. 2012 = *Archaeometric characterisation of one Tunisian and two Italian calcareous alabasters used in antiquity*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 436-444.
- LE CORBUSIER 1954 = *Le Modulor*, Paris (trad. it. E. SAURWEIN, *Il Modulor*, Milano 1974).
- LE PICHON X., ANGELIER J., SIBUET J.-C. 1982 = *Plate boundaries and extensional tectonics*, in *Tectonophysics* 81, 239-256.
- LEBATARD A.E., ALÇİÇEK M.C., ROCHETTE P., KHATIB S., VIALET A., BOULBES N., BOURLES D.L., DEMORY F., GUIPERT G., MAYDA S., TITOV V.V., VIDAL L., DE LUMLEY H. 2014 = *Dating the Homo Erectus bearing travertine from Kocabaş (Denizli, Turkey) at at least 1.1 Ma*, in *Earth and Planetary Science Letters* 390, 8-18.
- LEE Z., CARDER K.L., HAWES S.K., STEWARD R.G., PEACOCK T.G., DAVIS C.O. 1994 = *Model for the interpretation of hyperspectral remote sensing reflectance*, in *Applied Optics* 33, 24, 5721-5732.
- LEHMANN J. 2014 = *Die Gleichzeitigkeit des Ungleichzeitigen. Konstanten und Dynamiken antiker Bauornamentik am Beispiel hispanischer Fundgruppen*, in LIPPS, MASCHKE 2014b, 139-153.
- LEON CH.F. 1971 = *Die Bauornamentik des Trajansforums und ihre Stellung in der früh- und mittelkaiserzeitlichen Architekturdekoration Roms* (Publikationen des Historisches Instituts beim Österreichischen Kulturinstitut in Rom. I. Abteilung Abhandlungen 4), Wien.
- LEPELLEY C. 1979 = *Les cités de l'Afrique romaine au Bas-Empire Vol. I*, Paris.
- LEPELLEY C. 1999 = *Témoignages épigraphiques sur le contrôle des finances municipales par les gouverneurs à partir du règne de Dioclétien*, in *Il capitolo delle entrate nelle finanze municipali in Occidente ed in Oriente* (CEFR 256), Rome, 235-247.

- LEUCCI G. 2015 = *Geofisica applicata all'archeologia e ai beni monumentali*, Palermo.
- LEUCCI G., GRECO F., DE GIORGI L., MAUCERI R. 2007 = *3D seismic refraction tomography and electrical resistivity tomography survey in the castle of Occhiola (Sicily, Italy)*, in *JASc* 34, 233-242.
- LILJENSTOLPE P., VON SCHMALENSEE P. 1996 = *The Roman Stoa of Poleites at Labraynda*, in *OpAth* 21, 8, 125-148.
- LIMONCELLI M. 2009 = *Virtual Archaeology a Hierapolis di Frigia. Restauro virtuale e restituzione 3D degli edifici di ordine dorico*, in ISMAELLI 2009a, 493-503.
- LIMONCELLI M. 2012 = *Il restauro Virtuale in Archeologia*, Roma.
- LIMONCELLI M. 2013 = *Il progetto "Hierapolis Virtuale". Esperienze di restauro virtuale e restituzione in 3D*, in R. D'ANDRIA, K. MANNINO (eds.), *Gli allievi raccontano*, Galatina, 247-253.
- LIMONCELLI M. 2016a = *Hierapolis virtuale: metodologie informatiche integrate per lo studio della trasformazione urbana di una città dell'Asia Minore tra età romana e protobizantina*, Tesi di Dottorato, Università Cattolica del Sacro Cuore, Milano.
- LIMONCELLI M. 2016b = *Il progetto 'Hierapolis Virtuale': analisi integrate per lo studio dell'architettura ierapolitana. L'esempio del teatro extraurbano*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 77-89.
- LIMONCELLI M. 2017 = *Il contributo dell'Archeologia Virtuale per lo studio dell'architettura nell'area del Santuario di Apollo: la simulazione dello spazio e della percezione visiva*, in ISMAELLI 2017a, 524-532.
- LIMONCELLI M., SCARDOZZI G. 2013 = *Dalla cartografia archeologica digitale al restauro virtuale: recenti casi di studio a Hierapolis di Frigia*, in *ACalc* 24, 75-99.
- LIPPS J., MASCHEK D. 2014a = *Antike Bauornamentik. Bemerkungen zum Forschungsstand und zu den Absichten des vorliegenden Bandes*, in LIPPS, MASCHEK 2014b, 9-24.
- LIPPS J., MASCHEK D. (eds.) 2014b = *Antike Bauornamentik. Grenzen und Möglichkeiten ihrer Erforschung* (Studien zur antiken Stadt 12), Wiesbaden.
- LISTER G., BANGA G., FEENSTRA A. 1984 = *Metamorphic core complexes of Cordilleran type in the Cyclades. Aegean Sea, Greece*, in *Geology* 12, 221-225.
- LIVERANI P. 1989 = *L'Antiquarium di Villa Barberini a Castel Gandolfo*, Città del Vaticano.
- LIVERANI P. 2014 = *Per una storia del colore. La scultura policroma romana, un bilancio e qualche prospettiva*, in P. LIVERANI, U. SANTAMARIA (eds.), *Diversamente bianco. La policromia della scultura romana*, Roma, 9-32.
- LLUVERAS A., BONADUCE I., ANDREOTTI A., COLOMBINI M.P. 2010 = *A GC/MS analytical procedure for the characterization of glycerolipids, natural waxes, terpenoid resins, proteinaceous and polysaccharide materials in the same paint micro sample avoiding interferences from inorganic media*, in *Analytical Chemistry* 81, 376-386.
- LO CASCIO E. 1993 = *Dinamiche economiche e politiche fiscali fra i Severi e Aureliano*, in A. CARANDINI (ed.), *Storia di Roma III, 1. L'Età Tardo Antica. Crisi e trasformazioni*, Torino, 247-282.
- LOISEAU CH. 2012 = *Les métaux dans les constructions publiques romaines: applications architecturales et structures de production (I^{er}-III^e siècle ap. J.C.)*, in CAMPOREALE, DESALES, PIZZO 2012, 117-129.
- LOKE M.H. 2001 = *Tutorial: 2-D and 3-D electrical imaging surveys*, www.geoelectrical.com.
- LOLOS Y. 2015 = *L'architecture à Sycione pendant la haut époque hellénistique*, in DES COURTILS J. (ed.), *L'architecture monumentale grecque au III^e siècle a.C.* (Ausonius Mémoires 40), Bordeaux, 51-82.
- LONG L.E. 2012a = *The Regional Marble Quarries*, in RATTÉ, DE STAEBLER 2012, 165-201.
- LONG L.E. 2012b = *Urbanism, Art, and Economy. The Marble Quarrying Industries of Aphrodisias and Roman Asia Minor*, Dissertation University of Michigan, Ann Arbor <https://deepblue.lib.umich.edu/handle/2027.42/93911>.
- LONG L.E. 2017 = *Extracting Economics from Roman Marble Quarries*, in *Economic History Review* 70.1, 52-78.
- LUSUARDI SIENA S., PERASSI C., SACCHI F., SANNAZZARO M. (eds.) 2016 = *Archeologia clas-*

- sica e post-classica tra Italia e Mediterraneo. Scritti in ricordo di Maria Pia Rossignani (Contributi di archeologia 8), Milano.
- MACHEL H.G. 1985 = *Cathodoluminescence in calcite and dolomite and its chemical interpretation*, in *Geoscience Canada* 12, 139-147.
- MACHEL H.G. 2000 = *Application of cathodoluminescence to carbonate diagenesis*, in M. PAGEL, V. BARBIN, P. BLANC, D. OHNENSTETTER (eds.), *Cathodoluminescence in Geosciences*, Berlin, 271-301.
- MACHEL H.G., MASON R.A., MARIANO A.N., MUCCI A. 1991 = *Causes and emission of luminescence in calcite and dolomite*, in C.E. BAKER, O.C. KOPP (eds.), *Luminescence microscopy and spectroscopy: qualitative and quantitative applications* (Society for Sedimentary Geology. Short Course 25), Dallas, 9-25.
- MAGIE D. 1950 = *Roman Rule in Asia Minor to the End of the Third Century After Christ*, Princeton.
- MAGIE D. 2001 = *Anadoluda Romalılar I. Attalos'un Vasiyeti* (transl. by N. Başgelen, Ö. Çapar), Istanbul.
- MAGNESS J. 2005 = *The Date of the Sardis Synagogue in Light of the Numismatic Evidence*, in *AJA* 109, 3, 443-475.
- MAGUIRE H. 2012 = *Nectar and Illusion. Nature in Byzantine Art and Literature*, Oxford.
- MAIRANI A., MATTEINI M., RIZZI M. 2000 = *L' "Eterno Padre" di Baccio Bandinelli: fondamenti e tecniche del trattamento di protezione ad ossalato di calcio artificiale di una scultura marmorea*, in *OPD Restauro* 12, Firenze, 146-150.
- MAISCHBERGER M. 1997 = *Marmor in Rom. Anlieferung, Lager- und Werkplätze in der Kaiserzeit* (Palilia 1), Wiesbaden.
- MAISCHBERGER M. 2009a = *Das Nymphäum*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 97-107.
- MAISCHBERGER M. 2009b = *Das Nordtor des Südmarktes, sog. Markttor*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 109-119.
- MALDONADO T. 1993 = *Reale e Virtuale*, Milano.
- MAMA IV = BUCKLER W.H., CALDER W.M., GUTHRIE M.K.C. (eds.), *Monumenta Asiae Minoris Antiqua IV. Monuments and documents from eastern Asia and western Galatia*, Manchester 1933.
- MAMA IX = COX C.W.M., CAMERON A., CULLEN J., LEVICK B., NASH D. (eds.), *Monumenta Asiae Minoris Antiqua IX. Monuments from the Aezanitis*, London 1988.
- MANGO C.A. 1972 = *The Art of the Byzantine Empire 312-1453. Sources and Documents* (Sources and documents in the history of art series), Engewood Cliff.
- MANFRA L., MASI U., TURI B. 1975 = *Carbon and oxygen isotope ratios of marbles from some ancient quarries of western Anatolia and their archaeological significance*, in *Archaeometry* 17, 2, 215-221.
- MANIA U. 2011 = *Die rote Halle in Pergamon. Ausstattung und Funktion* (PF 15), Mainz.
- MANIATIS Y., TAMBAKOPOULOS D., DOTSIKA E. 2010 = *Marble provenance investigation of Roman sarcophagi from Thessaloniki*, in *Archaeometry* 52, 1, 45-58.
- MANIERI ELIA G. 2010 = *Metodo e Tecniche del Restauro Architetonico*, Roma.
- MANNONI T., BOATO A. 2005 = *Archeologia e storia del cantiere di costruzione*, in *Archeologia de la Architectura* 4, 39-53.
- MANSEL A.M. 1949 = *Excavations and researches in the necropolis of Perge*, in A.M. MANSEL, A. AKARCA, *Excavations and researches at Perge* (TTKY 5, 8), 44-61.
- MANSEL A.M. 1975 = *Die Nymphaeen von Perge*, in *IstMitt* 25, 367-372.
- MARABINI S. 2015 = *Note illustrative della carta geologica di Hierapolis*, in *ATLANTE* 2015, 7-11.
- MARABINI S., SCARDOZZI G. 2015 = *La ricerca geo-archeologica a Hierapolis*, in *ATLANTE* 2015, 227-268.
- MARANO Y.A. 2014 = *Le cave di marmo nella tarda antichità: aspetti organizzativi e produttivi*, in BONETTO, CAMPOREALE, PIZZO 2014, 413-427.
- MAROCCHI M., DELLISANTI F., BARGOSSO G.M., GASPAROTTO G., GRILLINI G.C., ROSSI P.L.

- 2009 = *Mineralogical petrographic characterisation and provenance of "Porta Nuova" stones: a XVI century gate in Ravenna (Italy)*, in *Periodico di Mineralogia* 78, 2, 13-28.
- MARSHALL D.J. 1988 = *Cathodoluminescence of geological materials*, London.
- MARTIN A. 1990 = *Review to RITTI 1985 e D'ANDRIA, RITTI 1985*, in *Latomus* 49, 237-239.
- MARTIN R. 1965 = *Manuel d'architecture grecque 1. Matériaux et techniques*, Paris.
- MASCHEK D. 2013 = *Die "Nicchioni" von Todi. Ein Monument der legio XXXXI nach der Schlacht von Naulochus*, in *RM* 119, 139-168.
- MASCLE J., HUGUEN C., BENKHELIL J., CHOMOT-ROOKE N., CHAUMILLON E., FOUCHER J.P., GRIBOULARD R., KOPF A., LAMARCHE G., VOLKONSKAIA A., WOODSIDE J., ZITTER T. 1999 = *Images may show start of European-African plate collision*, in *Eos* 80, 37, 421-428.
- MASINO F. 2012 = *Projects for presentation and use of the theatre in Hierapolis*, in MASINO, MIGHETTO, SOBRÀ 2012, 163-182.
- MASINO F. 2015 = *The introduction of marble in the cavea of the Theatre of Hierapolis: building process and patronage*, in PENSABENE, GASPERINI 2015, 225-232.
- MASINO F. 2016 = *Alabastro e marmi per la cavea del Teatro di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 141-154.
- MASINO F., MIGHETTO P., SOBRÀ G. (eds.) 2012 = *Restoration and management of ancient theatres in Turkey. Methods, research, results* (Archeologia e storia 11), Galatina.
- MASINO F., SOBRÀ G. 2011 = *A monumental altar of Hadrianic age at Hierapolis in Phrygia*, in T. NOGARES BASARRATE, I. RODÀ DE LLANZA (eds.), *Roma y las Provincias. Modelo y Difusión I*, Roma, 169-181.
- MASINO F., SOBRÀ G. 2012a = *L'Altare del Dodektheon di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 259-291.
- MASINO F., SOBRÀ G. 2012b = *Ricerche e interventi nel Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 207-233.
- MASINO F., SOBRÀ G. 2016 = *Il paesaggio monumentale della Necropoli Nord: un gruppo di edifici funerari e le sue trasformazioni tra I e IV secolo d.C.*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 435-448.
- MATTEINI M. 2003 = *The mineral approach to the conservation of mural paintings: Barium hydroxide and artificial oxalates*, in R. GOWING, A. HERITAGE, *Conserving the Painted Past. Developing Approaches to Wall Painting Conservation. Postprints of an International Conference Organized by English Heritage* (London, 2-4 December 1999), London, 110-115.
- MATTEINI M., BOTTICELLI G. 2010 = *Metodi di consolidamento dei dipinti murali e dei manufatti lapidei tra tradizione e innovazione*, in *Salone dell'Arte e del Restauro di Firenze* (Firenze, 12 novembre 2010), oral communication.
- MATTEINI M., FRATINI F., RESCIC S. 2007 = *Carbonate lithotypes passivated with the ammonium oxalate treatment. Colorimetric and morphological study of treated surfaces*, in *Science and Technology for Cultural Heritage* 16, 1-2, 129-141.
- MATTEINI M., MOLES A., GIOVANNONI S. 1994 = *Calcium oxalate as a protective mineral system for wall paintings. Methodology and analyses*, in V. FASSINA, H. OTT, F. ZEZZA (eds.), *Proceedings of the 3rd International Symposium on the Conservation of Monuments in the Mediterranean Basin. Stone and monuments. Methodologies for the Analyses of Weathering and Conservation*, Venice, 155-162.
- MATTEINI M., MOLES A. 1986 = *Le patine di ossalato di calcio sui manufatti in marmo*, in A. GIUSTI (ed.), *Restauro del marmo, Opere e Problemi (OPD Restauro)*, Firenze, 65-73.
- MATTEINI M., MOLES A., LANTERNA G., NEPOTI M.R. 1996 = *Preliminary monitoring on painted plasters and marble surfaces of a mineral protective treatment based on artificially formed calcium oxalate*, in M. REALINI, L. TONIOLO (eds.), *Il International Symposium "The Oxalate Films in the Conservation of Works of Art". Proceedings Centro CNR "Gino Bozza". Per lo studio delle cause di deperimento e dei metodi di conservazione delle opere d'arte* (Milan, 25-27 March 1996), Castello d'Argile, 425-440.
- MATTEINI M., RESCIC S., BOTTICELLI G., FRATINI F. 2011 = *Ammonium phosphates as consolidating agents for carbonatic stone materials used in architecture and cultural he-*

- ritage: preliminary research, in *International Journal of Architectural Heritage* 5, 6, 717-736.
- MATTERN T. 2001 = *Gesims und Ornament. Zur stadtrömischen Architektur von der Republik bis Septimius Severus*, Münster.
- MATTHEWS H. 2014 = *Greco-Roman Cities of Aegean Turkey. History, Archaeology, Architecture*, Istanbul.
- MATTHEWS K.J., LEESE M.N., HUGHES M.J., HERZ N., BOWMAN S.G.E. 1995 = *Establishing the provenance of marble using statistical combinations of stable isotope and neutron activation analysis data*, in Y. MANIATIS, N. HERZ, Y. BASIAKOS (eds.), *The Study of Marble and Other Stones Used in Antiquity. Proceedings of the ASMOSIA III International Conference* (Paraskevi, 17-19 May 1993), London, 181-186.
- MATTHEWS K.J., MOENS L., WALKER S., WAELEKENS M., DE PAEPE P. 1992 = *The re-evaluation of stable isotope data for Pentelic marble*, in WAELEKENS, HERZ, MOENS 1992, 203-212.
- MAZZOCCHIN G.A., ZACCARIA RUGGIU A. 2012 = *Analisi di frammenti di intonaco dalla Casa dell'Iscrizione Dipinta, appendice a ZACCARIA RUGGIU A., Un quartiere residenziale: l'insula 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 419-442.
- MCALPINE L.J. 2016 = *Luxury in Fantasy and Reality. Exotic Marble*, in E.K. GAZDA, J.R. CLARKE (eds.), *Leisure and Luxury in the Age of Nero. The Villas of Oplontis Near Pompeii* (Kelsey Museum publication 14), Ann Arbor, 111-118.
- MCCORMICK M. 1986 = *Eternal Victory. Triumphal Rulership in Late Antiquity, Byzantium and the Early Eedieval West*, Cambridge.
- McKENZIE D.P. 1972 = *Active tectonic of the Mediterranean region*, in *Royal Astronomical Society Geophysical Journal* 30, 109-185.
- MEGAW A.H.S. 1974 = *Byzantine Architecture and Decoration in Cyprus. Metropolitan or Provincial?*, in *DOP* 28, 60-62.
- MEGAW A.H.S. 2007 = *Kourion. Excavations in the Episcopal Precinct* (Dumbarton Oaks Studies 38), Washington.
- MEIGGS R. 1973² = *Roman Ostia*, Oxford.
- MELEZHNIK V.A., BINGEN B., FALICK A.F., GOROKHOV I.M., KUZNETSOV A.B., SANDSTAD J.S., SOLLI A., BJERKGARD T., HENDERSON I., BOYD R., JAMAL D., MONIZ A. 2008 = *Isotope chemostratigraphy of marbles in northeastern Mozambique apparent depositional ages and regional implications*, in *Precambrian Research* 162, 540-558.
- MELFOS V. 2004 = *Mineralogical and Stable Isotopic Study of Ancient White Marble Quarries in Larisa, Thessaly, Greece*, in *Bulletin of the Geological Society of Greece* 36, 3, 1164-1172.
- MELLO E., MELONI S., MONNA D., ODDONE M. 1988 = *A Computer-Based Pattern Recognition Approach to the Provenance Study of Mediterranean Marbles Through Trace Elements Analysis*, in HERZ, WAELEKENS 1988, 283-291.
- MELUCCO VACCARO A. 1989 = *Archeologia e restauro. Tradizione e attualità*, Milano.
- MELUCCO VACCARO A. 2000 = *Archeologia e restauro: storia e metodologia del problema*, Roma.
- MERKELBACH R., STAUBER J. 2002 = *Steinepigramme aus dem griechischen Osten 4. Die Südküste Kleinasiens, Syrien und Palaestina*, München.
- MERT İ.H. 2008 = *Untersuchungen zur hellenistischen und kaiserzeitlichen Bauornamentik von Stratonikeia* (IstForsch 50), Tübingen.
- MEULENKAMP J.E., WORTEL M.J.R., VAN WAMEL W.A., SPAKMAN W., HOGERDUYN STRATING E. 1988 = *On the Hellenic subduction zone and the geodynamical evolution of Crete since the late Middle Miocene*, in *Tectonophysics* 146, 203-215.
- MESCI B.L., TATAR O., PIPER J.D.A., GÜRSOY H., ALTUNEL E., CROWLEY S. 2013 = *The efficacy of travertine as a palaeoenvironmental indicator: palaeomagnetic study of neotectonic examples from Denizli, Turkey*, in *Turkish Journal of Earth Sciences* 22, 191-203.
- MIELSCH H. 1985 = *Buntmarmore aus Rom im Antikenmuseum Berlin*, Berlin.
- MIFSUD T., CASSAR J. 2006 = *The treatment of weathered Globigerina Limestone: the surface conversion of calcium carbonate to calcium oxalate*, in A. DE BUERGO, G. HERAS, V. CALVO (eds.), *Heritage, Weathering and Conservation-Fort*, London, 727-734.

- MIGEOTTE L. 2014 = *Les finances des cités grecques*, Paris.
- MIGHETTO P. 2012a = *Il cantiere del nuovo palcoscenico del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 235-247.
- MIGHETTO P. 2012b = *The restoration of the stage in the theatre of Hierapolis. Project and site work*, in MASINO, MIGHETTO, SOBRÀ 2012, 205-216.
- MILANOVIC B. 2006 = *An Estimate of Average Income and Inequality in Byzantium around Year 1000*, in *Review of Income and Wealth* 52, 449-470.
- Milet I.5 = HÜLSEN J., *Das Nymphaeum, Milet I*, 5, Berlin 1919.
- Milet I.9 = VON GERKAN A., KRISCHEN F., *Thermen und Palaestren, Milet I*, 9, Berlin 1928.
- Milet VI.1 = REHM A., HERRMANN P., *Inschriften von Milet I, Milet VI*, 1, Berlin 1906.
- MILLAR F. 1977 = *The Emperor in the Roman World*, London-Toronto.
- MILLAR F. 1984 = *Condemnation to Hard Labour in the Roman Empire, from the Julio-Claudians to Constantine*, in *BSR* 52, 137-143.
- MIRANDA E. 1999 = *La comunità giudaica di Hierapolis di Frigia*, in *EpigrAnat* 31, 109-156.
- MIRANDA DE MARTINO E. 2014 = *Architrave con dedica a Diocleziano dal territorio di Hierapolis*, in *ScAnt* 20, 2, 71-81.
- MIRANDA DE MARTINO E., RITTI T., SCARDOZZI G. 2012 = *L'area sacra dei Motaleis e il santuario di Apollo Karios nel territorio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 687-738.
- MITCHELL S. 1987 = *Imperial Building in the Eastern Roman Provinces*, in *HarvStClPhil* 91, 333-365.
- MITCHELL S. 1993 = *Anatolia. Land, Men and Gods*, Oxford.
- MITCHELL S. 1995 = *Cremna in Pisidia. An Ancient City in Peace and in War*, Swansea.
- MITCHELL S., WAELEKENS M. 1998 = *Pisidian Antioch. The Site and its Monuments*, London.
- MITZANI A. 1996-1997 = *To παλαιοχριστιανικό κιβώριο της Κατοπολιανής Πάρου*, in *DeltChrA* 19, 319-334.
- MODUGNO F., RIBECCHINI E. 2009 = *GC/MS in the Characterization of Resinous Material*, in M.P. COLOMBINI, F. MODUGNO (eds.), *Organic Mass Spectrometry in Art and Archaeology*, 215-235; <http://onlinelibrary.wiley.com/doi/10.1002/9780470741917.ch1/summary>.
- MOENS L., DE PAEPE P., WAELEKENS M. 1992 = *Multidisciplinary research and cooperation: keys to a successful provenance determination of white marble*, in WAELEKENS, HERZ, MOENS 1992, 247-254.
- MOENS L., ROOS P., DE RUDDER J., DE PAEPE P., VAN HENDE J., WAELEKENS M. 1988 = *A multimethod approach to the identification of white marbles used in antique artefacts*, in HERZ, WAELEKENS 1988, 243-250.
- MONNA D., PENSABENE P. 1977 = *Marmi dell'Asia Minore*, Roma.
- MONNA D., PENSABENE P., SODINI J.P. 1985 = *L'identification des marbres: sa nécessité, ses méthodes, ses limites*, in P. PENSABENE (ed.), *Marmi Antichi, problemi d'impiego, di restauro e d'identificazione*, Roma, 15-34.
- MONTEGROSSI G., TASSI F., VASELLI O., BIDINI E., MINISSALE A. 2006 = *A new, rapid and reliable method for the determination of reduced sulphur (ΣS²⁻) species in natural discharges*, in *Applied Geochemistry* 21, 849-857.
- MORETTI G. 1923-1924 = *Sculture in Adalia*, in *ASAtene* 6-7, 479-507.
- MORETTI J.C. 1992 = *Architecture des théâtres en Asie Mineure (1980-1989)*, in *Topoi* 2, 9-32.
- MORETTI J.C. 2001 = *Théâtre et société en Grèce antique*, Paris.
- MORETTI J.C. 2009 = *Les lieux de culte dans les théâtres grecs*, in J.C. MORETTI (ed.), *Fronts de scène et lieux de culte dans le théâtre antique* (Travaux de la Maison de l'Orient et de la Méditerranée 52), Lyon, 23-52.
- MORETTI J.C. 2014 = *Le temple d'Apollon et le fonctionnement de l'oracle*, in J.C. MORETTI (ed.), *Le sanctuaire de Claros et son oracle*, Actes du Colloque International (Lyon, 13-14 Janvier 2012) (Travaux de la Maison de l'Orient et de la Méditerranée 65), Lyon, 33-49.

- MORGENSTERN J. (ed.) 1993 = *The Fort at Deregazi, and other material remains in its vicinity* (IstForsch 40), Tübingen.
- MOSCH S., NIKOLAYEW D., EWIAK O., SIEGESMUND S. 2011 = *Optimized Extraction of Dimension Stone Blocks*, in *Environmental Earth Sciences* 63, 7, 1911-1924.
- MOSCHINI D. 1999 = *Oltre il visibile: restauro "fisico" per conservare e restauro "virtuale" per valorizzare*, Viterbo.
- MROZEK S. 1981 = *Munificentia privata und die private Bautätigkeit in den Städten Italiens während des Prinzipates*, in *Acta Antiqua* 29, 369-377.
- MROZEK S. 1989 = *Lohnarbeit im klassischen Altertum. Ein Beitrag zur Sozial- und Wirtschaftsgeschichte*, Bonn.
- MUDELSEE M., SCHULZ M. 1997 = *The Mid-Pleistocene climate transition: onset of 100 ka cycle lags ice volume build-up by 280 ka*, in *Earth PlanetScience Letters* 151, 117-123.
- MÜLLER H. 2009 = *Hadrian an die Pergamener. Eine Fallstudie*, in R. HAENSCH (ed.), *Selbstdarstellung und Kommunikation. Die Veröffentlichung staatlicher Urkunden auf Stein und Bronze in der römischen Welt*, München, 367-406.
- MULLER W., VOGEL G. 2000 = *Atlante di Architettura*, Milano.
- MUTLU H., GÜLEÇ N. 1998 = *Hydrogeochemical outline of thermal waters and geothermometry applications in Anatolia, Turkey*, in *Journal of Volcanology and Geothermal Research* 85, 495-515.
- MYLONPOULOS J. 2006 = *Greek Sanctuaries as Places of Communication through Rituals: an Archaeological Perspective*, in E. STAVRIANOPOULOU (ed.), *Ritual and communication in the Graeco-Roman World* (Kernos Suppl. 11), Liège, 69-110.
- NAUMANN R. 1979 = *Der Zeustempel zu Aizanoi*, Berlin.
- NAUMANN R., KANTAR S. 1950 = *Die Agora von Smirna*, in *Kleinasien und Bysanz* (IstForsch 17), Berlin, 69-114.
- NAUMANN R., NAUMANN F. 1973 = *Der Rundbau in Aezani* (IstMitt Beiheft 10), Tübingen.
- NECDET A., MUTLUER M., İŞİK Ş. 1993 = *Bölgesel Türkiye Coğrafyası (Regional Geography of Turkey)*, Izmir, 94-97.
- NEGRI G. 1985 = *Diritto minerario romano. Studi esegetici sul regime delle cave private nel pensiero dei giuristi classici I*, Milano.
- NEGRI S., LEUCCI G. 2006 = *Geophysical investigation of the temple of Apollo (Hierapolis, Turkey)*, in *JASc* 33, 1505-1513.
- NERI E. 2016 = *I mosaici parietali della Hierapolis bizantina: una prima segnalazione*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 503-513.
- NERI E., CAGGIA P. 2016 = *Fragments de la décoration pariétale de l'église de St. Philippe à Hiéropolis (Phrygie): matériaux, techniques, motifs. Approches archéologiques et archéométriques*, in L.N. JIMENEZ (ed.), *Estudios sobre mosaicos antiguos y medievales. Actes du XIII colloque de l'AIEMA* (Madrid, 14-18 de Septiembre 2015), Roma, 285-294.
- NG D.Y. 2015 = *Commemoration and Élite Benefaction of Buildings and Spectacles in the Roman World*, in *JRS* 105, 101-123.
- NICCOLUCCI F. (ed.) 2002 = *Virtual Archaeology*, in *Proceedings of the VAST Euroconference* (Arezzo, 24-25 Novembre 2000), Oxford.
- NICCOLUCCI F., HERMON S. (eds.) 2010 = *Beyond the Artifact. Digital Interpretation of the Past. Proceedings of CAA 2004* (Prato, 13-17 April 2004), Oxford.
- NIELSEN I. 2002 = *Cultic Theatres and Ritual Drama. A Study in Regional Development and Religious Interchange between East and West in Antiquity* (Aarhus Studies in Mediterranean Antiquity 4), Aarhus.
- NIELSEN I. 2008 = *Das kultische Theater: ein Beispiel architektonischer Innovation im Orient*, in F. PIRSON, U. WULF-RHEIDT (eds.), *Austausch und Inspiration. Kulturkontakt als Impuls architektonischer Innovation*, Mainz, 152-159.
- NIEMANN G., WILBERG W. 1923 = *Der südliche Torbau*, in E. REISCH (ed.), *FiE III*, Wien.
- NIEWÖHNER P. 2007 = *Aizanoi, Dokimion und Anatolien. Stadt und Land, Siedlungs- und Steinmetzwesen vom späteren 4. bis ins 6. Jh. n. Chr., Aizanoi I* (AF 23), Wiesbaden.
- NIEWÖHNER P. 2013 = *Phrygian Marble and stonemasonry as markers of regional distin-*

- ctiveness in Late Antiquity, in P. THONEMANN (ed.), *Roman Phrygia. Culture and Society*, Cambridge, 215-248.
- NIEWÖHNER P. (ed.) 2016 = *Die byzantinischen Basiliken von Milet* (Bauwerke in Milet 11), Berlin-Boston.
- NIEWÖHNER P., AUDLEY-MILLER L., PROCHASKA W. 2013 = *Marbles, quarries and workshops on the highlands of Northern Macedonia*, in *AA* 1, 95-145.
- NIMIS P.L., PINNA D., SALVADORI O. 1992 = *Licheni e conservazione dei monumenti*, Bologna.
- NOHLEN K. 2011 = *Ein Tempel für den Kaiserkult. Das Trajaneum von Pergamon*, in R. GRÜSSINGER, V. KÄSTNER, A. SCHOLL (eds.), *Pergamon. Panorama der antiken Metropole. Begleitbuch zur Ausstellung*, Berlin, 159-166.
- NOHLEN K., RADT W. 1978 = *Kapıkaya. Ein Felsheiligtum bei Pergamon*, *AvP XII*, Berlin.
- NOLLÉ J. 2007 = *Kleinasiatische Losorakel. Astragal- und Alphabetchresmologien der hoch kaiserzeitlichen Orakelreinassance* (Vestigia 57), München.
- NORMA UNI 10924 2001 = *Malte per elementi costruttivi e decorativi: classificazione e terminologia*, Milano.
- NYLANDER C. 1970 = *Ionians in Pasargadae*, Uppsala.
- OBERLEITNER W. 2009 = *Das Partherdenkmal von Ephesos. Ein Siegesmonument für Lucius Verus und Marcus Aurelius* (Schriften des Kunsthistorischen Museums 11), Wien.
- OĞUZHANOĞLU U. 2014 = *Laodikeia'dan Batı Anadolu Erken Tunç Çağı'na Yeni Katkılar*, in ŞİMŞEK 2014a, 71-86.
- OKAY A.I. 2001 = *Stratigraphic and metamorphic inversions in the central Menderes Massif: a new structural model*, in *International Journal of Earth Sciences* 89, 709-727.
- OKAY A.I. 2008 = *Geology of Turkey. A Synopsis*, in *Anschnitt* 21, 19-42.
- OKAY A.I., BOZKURT E., SATIR M., YİĞİTBAŞ E., CROWLEY Q.G., SHANG C.K. 2008 = *Defining the southern margin of Avalonia in the Pontides: geochronological data from the Late Proterozoic and Ordovician granitoids from NW Turkey*, in *Tectonophysics* 461, 252-264.
- OKAY A.I., SATIR M., MALUSKI H., SIYAKO M., MONIE P., METZGER R., AKYÜZ S. 1996 = *Paleo- and Neo-Tethyan events in northwest Turkey: geological and geochronological constraints*, in A. YIN, M. HARRISON (eds.), *Tectonics of Asia*, Cambridge, 420-441.
- OKAY A.I., SATIR M., SHANG C.K. 2008 = *Ordovician metagranitoid from the Anatolide-Tauride Block, northwest Turkey: geodynamic implications*, in *Terra Nova* 20, 280-288.
- OKAY A.I., TÜYSÜZ O. 1999 = *Tethyan sutures of northern Turkey*, in B. DURAND, L. JOLIVET, F. HORVÁTH, M. SÉRANNE (eds.), *The Mediterranean Basins: Tertiary extension within the Alpine orogeny* (Geological Society London Special Publications 156), London, 475-515.
- ONIAN J. 1980 = *Abstraction and Imagination in Late Antiquity*, in *Art History* 3, 1-23.
- ORLANDOS A. 1952 = *Ἡ ξυλόστεγος παλαιοχριστιανικὴ βασιλικὴ τῆς μεσογειακῆς λεκάνης*, Athinai.
- ORLANDOS A. 1968 = *Les matériaux de construction et la technique architecturale des anciens grecs I-II*, Paris.
- ORTOLANI G. 1989 = *Lavorazione di pietre e marmi nel mondo antico*, in BORGHINI 1989, 19-42.
- OUTSCHAR U. 1990 = *Zum Monument des C. Memmius*, in *ÖJh* 60, 57-85.
- OUTSCHAR U. 1996 = *Zur Baudekoration und typologischen Stellung des Tetrapylons*, in ROUECHÉ, SMITH 1996, 215-224.
- ÖĞÜŞ E. 2014 = *Columnar Sarcophagi from Aphrodisias. Elite Emulation in the Greek East*, in *AJA* 118, 1, 113-136.
- ÖĞÜŞ E. 2016 = *Two sarcophagi made by travelling sculptors?*, in R.R.R. SMITH, J. LENAGHAN, A. SOKOLICEK, K. WELCH (eds.), *Aphrodisias Papers 5. Excavation and research at Aphrodisias, 2006-2012*, Portsmouth, 325-331.
- ÖKSE TUBA A. 2007 = *Ancient mountain routes connecting Central Anatolia to the Upper Euphrates region*, in *AnSt* 57, 2007, 35-45.
- ÖZGAN R. 2003 = *Die kaiserzeitlichen Sarkophage in Konya und Umgebung*, Bonn.

- ÖZKUL M. 2005 = *Travertine deposits of Denizli Extensional Basin in Western Turkey: a general review*, in *Proceedings of 1st International Symposium on Travertine* (Denizli, 21-25 September 2005), Denizli, 18-24.
- ÖZKUL M., ENGİN B., ALÇİÇEK M.C., KORAY T., DEMİRTAŞLI H. 2004 = *Thermoluminescence dating of Quaternary hot spring travertines and some implications on graben evolution, Denizli, Western Turkey*, in W.B.F. RYAN, A. MALINVERNO (eds.), *The Mediterranean Tethys and the development of new concepts of top-down tectonics*. 32nd International Geological Congress (Florence, 20-28 August 2004), electronic version, 335-339.
- ÖZKUL M., GÖKGÖZ A., HORVATINČIĆ N. 2010 = *Depositional properties and geochemistry of Holocene perched springline tufa deposits and associated spring waters: a case study from the Denizli province, Western Turkey*, in H.M. PEDLEY (ed.), *Tufas and Speleothems. Unravelling the Microbial and Physical Controls* (Geological Society London Special Publications 336), London, 245-262.
- ÖZKUL M., KELE S., GÖKGÖZ A., SHEN C.C., JONES B., BAYKARA M.O., FÖRİZS I., NÉMETH T., CHANG Y.W., ALÇİÇEK M.C. 2013 = *Comparison of the Quaternary travertine sites in the Denizli extensional basin based on their depositional and geochemical data*, in *Sedimentary Geology* 294, 179-204.
- ÖZKUL M., KUMSAR H., GÖKGÖZ A. 2000 = *Caratteri geologici, geografici ed idrogeologici del bacino del Fiume Çürüksu*, in D'ANDRIA, SILVESTRELLI 2000, 327-339.
- ÖZKUL M., VAROL B., ALÇİÇEK M.C. 2002 = *Depositional environments and petrography of the Denizli travertines*, in *Bulletin of the Mineral Research and Exploration* 125, 13-29.
- ÖZLER H.M. 2000 = *Hydrogeology and geochemistry in the Çürüksu (Denizli) hydrothermal field, western Turkey*, in *Environmental Geology* 39, 1169-1180.
- ÖZTANER S. H., AKDOĞU ARCA E.N., GÖKALP ÖZDİL N. 2014 = *Nysa ad Maeandrum'daki Yeni Bulgular Üzerine Bir Değerlendirme*, in Ç. AŞKIT, S. KALAYCIOĞLU, R. KAYAPINAR, C. ÜSTÜNEL KEYİNCİ, R. ÖZTÜRK (eds.), *In Memoriam Filiz Öktem*, Ankara, 225-245.
- ÖZTANER S.H. 2016 = *La Basilique Civile de Nysa du Méandre*, in *Anatolia Antiqua* 24, 311-320.
- ÖZTÜRK A. 2009 = *Die Architektur der "Scaenae frons" des Theaters in Perge*, Berlin-New York.
- PAMİR H.N., ERENTÖZ C. 1974 = *Explanatory text for the Denizli sheet of the Geological Map of Turkey, 1:500,000 scale*, General Directorate of Mineral Research and Exploration, Ankara.
- PANARELLI P. 2015 = *Il Ploutonion a Hierapolis di Frigia. Lo scavo e i materiali*, Università Cattolica del Sacro Cuore di Milano. PhD Thesis.
- PANARELLI P. 2016 = *Il cosiddetto "Santuario delle Sorgenti" (Ploutonion): le attività di scavo 2008-2011*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 293-320.
- PANARELLI P. forthcoming = *The Ploutonion of Hierapolis in Phrygia in the Late Ancient and Proto-Byzantine Period*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Lao-dikeia-Denizli, 22-23 May 2015).
- PANZRAM S. 2002 = *Stadt und Elite. Tarraco, Corduba und Augusta Emerita zwischen Republik und Spätantike* (Historia Einzelschriften 161), Stuttgart.
- PARASNIS D.S. 1997 = *Principles of Applied Geophysics*, London.
- PARIBENI A. 1989 = *L'uso e il gusto del marmo in età bizantina attraverso le descrizioni e le rappresentazioni antiche*, in E. DOLCI (ed.), *Il marmo nella civiltà romana. La produzione e il commercio*, Carrara, 163-175.
- PARMAN E. 2002 = *Ortaçağda Bizans döneminde Frigya (Phrygia) ve Bölge Müzelerindeki Bizans taş eserleri*, Eskişehir.
- PATARAKIS B. 2012 = *New Evidence on Lead Flasks and Devotional Patterns. From Crusader Jerusalem to Byzantium*, in D. SULLIVAN, E. FISHER, S. PAPAIOANNOU (eds.), *Byzantine Religious Culture. Studies in Honor of Alice-Mary Talbot* (The Medieval Mediterranean. Peoples, economies and Cultures 42), Leiden, 239-266.
- PATON J.M., STEVENS G.P. 1927 = *The Erechtheum*, Cambridge.

- PAUL G. 1996 = *Die Anastylose des Tetracyklons in Aphrodisias*, in ROUECHÉ, SMITH 1996, 201-214.
- PAVOLINI C. 2006 = *Ostia* (Guide Archeologiche Laterza 11), Roma.
- PECCHIONI E., FRATINI F., CANTISANI C. 2008 = *Le malte antiche e moderne tra tradizione e innovazione*, Bologna.
- PECCHIONI E., FRATINI F., CANTISANI E. 2014 = *Atlas of the ancient mortars in thin section under the microscope*, Firenze.
- PEDERSEN P. 2013 = *The 4th Century BC "Ionian Renaissance" and Karian Identity*, in O. HENRY (ed.), *4th Century Karia. Defining a Karian Identity under the Hekatomnids* (Varia Anatolica 28), Paris, 33-64.
- PEDONE S. 2006 = *La scultura a champlévé negli edifici medio-bizantini: gli esempi di Hosios Loukas e di Dafni*, in *RolSA* 5, 17-49.
- PEDONE S. 2012 = *Il colore scolpito. Raffinatezze cromatiche nella scultura ad incrostazione del Medioevo Mediterraneo*, in A. ACCONCIA LONGO, G. CAVALLO, A. GUIGLIA, A. IACOBINI (eds.), *Sapienza Bizantina. Un secolo di ricerche sulla civiltà di Bisanzio all'Università di Roma* (Sapienza Università di Roma, 10 ottobre 2008), Roma, 179-199.
- PEDONE S. 2016 = *Bisanzio (ri)colorata: tecniche, effetti e problemi aperti*, in P.A. ANDREUCCETTI, D. BINDANI (eds.), *Il Colore nel Medioevo. Arte, Simbolo, Tecnica. Tra materiali costruttivi e colori aggiunti: mosaici, intarsi e plastica lapidea. Atti delle Giornate di Studio* (Lucca, 24-26 ottobre 2013), Lucca, 87-101.
- PEGORETTI G. 1843 = *Manuale pratico per l'estimazione dei lavori architettonici, stradali, idraulici e di fortificazione*, 2 vols., Milano.
- PEIRANO D. 2008 = *La cattedrale. La storia, il museo*, Torino.
- PEIRANO D., GARBEROGLIO E. 2010-2011 = *Amboni iasii: una rilettura di due inediti* (Atti dell'Accademia delle Scienze di Ferrara 88), Ferrara, 339-357.
- PELLINO G. 2005 = *Considerazioni sull'assetto decorativo di alcuni teatri d'età imperiale in Asia Minore*, in *Orizzonti* 6, 49-78.
- PELLINO G. 2011 = *Una statua di provincia orientale dall'agorà di Hierapolis di Phrygia*, in D'ANDRIA, ROMEO 2011, 251-268.
- PENNACCHIETTI F.A. 1967 = *Nuove iscrizioni di Hierapolis di Frigia*, in *Accademia delle Scienze di Torino - Atti* 101, 287-328.
- PENSABENE P. 1976 = *Sull'impiego del marmo di Cap de Garde*, in L. GUERRINI (ed.), *Scritti in memoria di Giovanni Becatti* (Studi Miscellanei 22), Roma, 179-190.
- PENSABENE P. 1986 = *La decorazione architettonica, l'impiego del marmo e l'importazione di manufatti orientali a Roma, Italia e in Africa (II-VI d.C.)*, in A. GIARDINA (ed.), *Società Romana e Impero tardoantico III. Le merci, gli insediamenti*, Roma, 285-429.
- PENSABENE P. 1995 = *Le vie del marmo. I blocchi di cava di Roma e di Ostia. Il fenomeno del marmo nella Roma Antica*, Roma.
- PENSABENE P. 1997 = *Marmi d'importazione, pietre locali e committenza nella decorazione architettonica di età severiana in alcuni centri delle province Syria et Palestina e Arabia*, in *ArchCl* 49, 275-422.
- PENSABENE P. (ed.) 1998a = *Marmi antichi II. Cave e tecnica di lavorazione, provenienze e distribuzione* (Studi Miscellanei 31), Roma.
- PENSABENE P. 1998b = *Il fenomeno del marmo nella Roma tardo-repubblicana e imperiale*, in PENSABENE 1998a, 333-362.
- PENSABENE P. 1998c = *Le colonne sbazzate di cipollino nei distretti di Myloi e di Aetos (Karystos)*, in PENSABENE 1998a, 311-326.
- PENSABENE P. 2001 = *Pentelico e proconnesio in Tripolitania: coordinamento e concorrenza nella distribuzione?*, in *ArchCl* 52, 63-127.
- PENSABENE P. 2002a = *Le principali cave di marmo bianco*, in DE NUCCIO, UNGARO 2002, 203-222.
- PENSABENE P. 2002b = *Il fenomeno del marmo nel mondo romano*, in DE NUCCIO, UNGARO 2002, 3-67.
- PENSABENE P. 2006 = *Le scuole di Nicomedia e Afrodisia e i pilastri della basilica severiana di Leptis Magna*, in *Marmora* 2, 41-58.

- PENSABENE P. 2007 = *Gli elementi marmorei della scena: classificazione tipologica e inquadramento nella storia degli studi della decorazione architettonica in Asia Minore*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 229-388.
- PENSABENE P. 2010 = *Cave di marmo bianco e pavonazzetto in Frigia. Sulla produzione e sui dati epigrafici*, in *Marmora* 6, 71-134.
- PENSABENE P. 2011 = *Su alcuni aspetti produttivi delle "scuole" di scultura di Docimio, Afrodisia e Nicomedia*, in D'ANDRIA, ROMEO 2011, 37-61.
- PENSABENE P. 2013 = *I marmi nella Roma antica*, Roma.
- PENSABENE P. 2014 = *Sigle di cava, amministrazione imperiale, appalti e commercio*, in BONETTO, CAMPOREALE, PIZZO 2014, 41-57.
- PENSABENE P. 2015 = *Marmi pubblici e marmi privati. Note in margine ad un recente volume di Ben Russell*, in *ArchCl* 66, 575-593.
- PENSABENE P., GASPARINI E. 2008 = *Ordini architettonici e prestigio*, in P. PENSABENE, P. DI VITA (eds.), *Marmi colorati e marmi ritrovati nella villa romana del Casale. Catalogo della mostra archeologica*, Piazza Armerina, 35-50.
- PENSABENE P., GASPARINI E. (eds.) 2015 = *Asmosia X. Proceedings of the Tenth International Conference. Interdisciplinary Studies on Ancient Stone* (Rome, 21-26 May 2012), Roma.
- PENSABENE P., LAZZARINI L. 1998 = *Il problema del bigio antico e del bigio morato: contributo allo studio delle cave di Teos e Chios*, in PENSABENE 1998a, 141-173.
- PENTECOST A., BAYARI S., YESERTENER C. 1997 = *Phototrophic microorganisms of the Pamukkale travertine, Turkey. Their distribution and influence on travertine deposition*, in *Geomicrobiology Journal* 14, 269-283.
- PERGOLI CAMPANELLI A. 2011 = *Il restauro una storia antica*, in *Palladio* 48, 89-112.
- PERGOLI CAMPANELLI A. 2015 = *La nascita del restauro. Dall'Antichità all'Alto Medioevo*, Milano.
- PERUSINI G. 1989 = *Il restauro dei dipinti e delle sculture lignee. Storia, teorie e tecniche*, Udine.
- PESCHLOW U. 2006 = *Dividing interior space in early Byzantine churches: the barriers between the nave and aisles*, in S.E.F. GERSTEL (ed.), *Thresholds of the Sacred*, Washington, 53-71.
- PESCHLOW U. 2008 = *Das Südtor von Perge*, in İ. DELEMEN (ed.), *Euergetes. Prof. Dr. Haluk Abbasoğlu'na 65. Yaş Armaganı* (Armağan kitaplar dizisi 1), Antalya, 971-987.
- PESCHLOW-BINDOCAT A. 1994 = *Steinbruch und Tempel. Die cave di Cusa von Selinunt und die Marmorbrücke von Milet*, in *AW* 25, 122-139.
- PESCHLOW-BINDOKAT A., GERMANN K. 1981 = *Die Steinbrüche von Milet und Herakleia am Latmos*, in *JdI* 96, 157-235.
- PETERS J.M., HUSON W.J. 1985 = *The Pliny and Strabo trenches (Eastern Mediterranean): integration of seismic reflection data and Sea Beam bathymetry maps*, in *Marine Geology* 64, 1-17.
- PETZL G. 1990 = *Epigraphische Funde aus Lydien*, in *EpigrAnat* 15, 49-72.
- PETZL G. 1996 = *Neue Inschriften aus Lydien I*, in *EpigrAnat* 26, 1-29.
- PETZL G., SCHWERTHEIM E. 2006 = *Hadrian und die dionysischen Künstler. Drei in Alexandria Troas neugefundene Briefe des Kaisers an die Künstler-Vereinigung* (AMS 58), Bonn.
- PFANNER M. 1983 = *Der Titusbogen* (Beiträge zur Erschließung hellenistischer und kaiserzeitlicher Skulptur und Architektur 2), Mainz.
- PIAZZESI G. 1989 = *Gli edifici: ipotesi ricostruttive*, in *ArchCl* 41, 125-198.
- PIESKER K., GANZERT J. 2012 = *Das Theater von Patara. Ergebnisse der Untersuchungen 2004 bis 2008, Patara II, 2*, Istanbul.
- PIKE S. 1999 = *Preliminary results of a systematic characterization study of Mount Pentelicon, Attica, Greece*, in SCHVOERER 1999, 165-170.
- PIKE S. 2000 = *Archaeological geology and geochemistry of Pentelic marble, Mount Pentelikon, Attica, Greece*, University of Georgia, PhD Thesis.
- PIPER J.D.A., GÜRSOY H., TATAR O., ISSEVEN T., KOÇYİĞİT A. 2002 = *Palaeo-magnetic evidence for the Gondwanic origin of the Taurides and rotation of the Isparta Angle, southern Turkey*, in *Geological Journal* 37, 317-336.

- PIR² = GROAG G., STEIN A., *Prosopographia Imperii Romani, saec. I. II. III.*, Berlin 1933-2015.
- PIRSON F. 2014a = *Kent ve Çevresi. Gelenek ve Yenilik Arasında Pergamon Araştırmaları / The City and its Landscape. Tradition and Innovation in the Investigation of Pergamon*, in PIRSON, SCHOLL 2014, 50-63.
- PIRSON F. 2014b = *Pergamon - Bericht über die Arbeiten in der Kampagne 2013*, in AA, 101-176.
- PIRSON F., SCHOLL A. (eds.) 2014 = *Pergamon. Anadolu'da Hellenistik Bir Başkent / Pergamon. A Hellenistic capital in Anatolia* (Yapı Kredi Yayınları 4282; Anadolu uygarlıkları serisi 4), Istanbul.
- PLATTNER G.A. 2002 = *Ein stadtrömisches Kapitell aus Ephesos*, in *ÖJh* 71, 237-248.
- PLATTNER G.A. 2003 = *Korinthische Kapitelle der frühen und mittleren Kaiserzeit in Ephesos*, in B. ASAMER, W. WOHLMAYR (eds.), *Akten des 9. Österreichischen Archäologentages am Institut für Klassische Archäologie der Paris Lodron-Universität Salzburg*, Wien, 157-160.
- PLATTNER G.A. 2004 = *Transfer von Architekturkonzepten und Ornamentformen zwischen Kleinasien und Rom in der Kaiserzeit*, in *Römische historische Mitteilungen* 46, 17-35.
- PLATTNER G.A. 2007 = *Elemente stadtrömischer Bautypen und Ornamentformen in der kleinasiatischen Architektur*, in M. MEYER (ed.), *Neue Zeiten, neue Sitten. Zu Rezeption und Integration römischen und italischen Kulturguts in Kleinasien* (Wiener Forschungen zur Archäologie 12), Wien, 125-132.
- PLATTNER G.A. 2008 = *Werkstatt und Muster. Überlegungen zu Steinmetzbetrieben in Rom und Keinasien*, in G. GRABHERR, B. KAINRATH (eds.), *Akten des 11. Österreichischen Archäologentages* (Innsbruck, 23.-25. März 2006), Innsbruck, 225-229.
- PLATTNER G.A. 2009a = *Zum Baubetrieb Kleinasien in der römischen Kaiserzeit*, in BACHMANN 2009, 393-407.
- PLATTNER G.A. 2009b = *Zur Bauornamentik des Oktogons von Ephesos*, in S. LADSTÄTTER (ed.), *Neue Forschungen zur Kuretenstraße von Ephesos* (AF 15), Wien, 101-110.
- PLATTNER G.A. 2014 = *Werkstatt und Muster. Zur Methode der Scheidung von Arbeitsprozessen und Stilelementen*, in LIPPS, MASCHEK 2014b, 53-68.
- PLATTNER G.A. 2017 = *Die augusteische Globalisierung als 'Katalysator' kleinasiatischer Architektur? Traditionen und Innovationen eines Epochenwandels*, in L. CAVALIER, M.-C. FERRIÈS, F. DELRIEUX (eds.), *Auguste e l'Asie mineure. Actes du colloque à Bordeaux* (20-22 Novembre 2014), Bordeaux, 291-308.
- PLATTNER G.A., SCHMIDT-COLINET A. 2005 = *Beobachtungen zu drei kaiserzeitlichen Bauten in Ephesos*, in B. BRANDT, V. GASSNER, S. LADSTÄTTER (eds.), *Synergia. Festschrift Friedrich Krinzinger* 1, Wien, 243-255.
- PLEKET H.W. 2003 = *Economy and urbanization. Was there an impact of empire in Asia Minor?*, in E. SCHWERTHEIM, E. WINTER (eds.), *Stadt und Stadtentwicklung in Kleinasien* (ASM 50), Bonn, 85-95.
- POISSON A. 1977 = *Recherches géologiques dans les Taurides Occidentales (Turquie)*, Thèse d'état, Université de Paris-Sud, Orsay.
- POLIKRETI K., MANIATIS Y. 2002 = *A New Methodology for The Provenance of Marble Based on EPR Spectroscopy*, in *Archaeometry* 44, 1, 1-21.
- POLITO C. 2012 = *Saggi di scavo nell'area del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 177-205.
- POLLARD D., AYDIN A. 1988 = *Progress in Understanding Joints over the Past Century*, in *Bulletin of the Geological Society of America* 100, 1181-1204.
- POMA G. 2015 = *Aspetti giuridici e legislativi della gestione delle cave in età romana*, in C. GUARNIERI (ed.), *Il vetro di pietra. Il lapis specularis nel mondo romano dall'estrazione all'uso*, Faenza, 31-44.
- PONT A.-V. 2007 = *L'empereur 'fondateur': enquête sur les motifs de la reconnaissance civique*, in *REG* 120, 526-552.
- PONT A.-V. 2008 = *L'évergétisme impérial en Asie mineure d'après les sources byzantines: le cas du temple d'Hadrien à Cyzique*, in *BAntFr*, 165-172.
- PONT A.-V. 2009 = *Valeurs culturelles et politiques du beau paysage urbain à Smyrne et*

- à Nicomédie, in P. FLEURY, O. DESBORDES (eds.), *Roma illustrata. Images et représentations de la Ville*, Caen, 341-364.
- PONT A.-V. 2010a = *Septime Sévère à Byzance: l'invention d'un fondateur*, in *AntTard* 18, 191-198.
- PONT A.-V. 2010b = "Orner la cité". *Enjeux culturels et politiques du paysage urbain dans l'Asie gréco-romaine* (Scripta Antiqua 24), Paris.
- PONT A.-V. 2011 = *La place du culte impérial dans l'espace urbain d'Éphèse: initiative, contrôle, interprétation*, in N. BELAYCHE, J.-D. DUBOIS (eds.), *L'oiseau et le poisson. Cohabitations religieuses dans les mondes grec et romain* (Religions dans l'histoire 6), Paris, 127-147.
- PONTI G. 1996 = *Ancient Quarrying at Aphrodisias in Light of the Geological Configuration*, in ROUECHÉ, SMITH 1996, 105-110.
- POULSEN B. 1991 = *The Dioscuri and Ruler Ideology*, in *SymbOslo* 66, 119-146.
- PRALONG A. 1980 = *Trouvailles dans une carrière phrygienne inconnue: une inscription rupestre et un sarcophage 'in situ'*, in *RA*, 251-262.
- PRELL M. 1997 = *Sozialökonomische Untersuchungen zur Armut im antiken Rom. Von den Gracchen bis Kaiser Diokletian* (Beiträge zur Wirtschafts- und Sozialgeschichte 77), Stuttgart.
- PRICE S. 1984 = *Rituals and Power. The Roman Imperial Cult in Asia Minor*, Cambridge.
- PRICE S. 2005 = *Local Mythology in the Greek East*, in C.J. HOWGEGO, V. HEUCHERT, A.M. BURNETT (eds.), *Coinage and Identity in the Roman Provinces*, Oxford, 115-124.
- PROCHASKA W. 2014 = *Ephesos. Marmorsurvey*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts* 37, <http://www.oelai.at/index.php/jahresberichte.html>.
- PROCHASKA W., GRILLO S.M. 2010 = *A new method for the determination of the provenance of white marbles by chemical analysis of inclusion fluids: the marbles of the mausoleum of Belevi/Turkey*, in *Archaeometry* 52, 1, 59-82.
- PROCHASKA W., GRILLO S.M. 2012 = *The marble quarries of the metropolis of Ephesos and some examples of the use for marbles in Ephesian architecture and sculpturing*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 584-591.
- PUGLIESE CARRATELLI G. 1963-1964 = *Χρησμοί di Apollo Kareios e di Apollo Klarios a Hierapolis in Frigia*, in *ASAtene* 25-26, 351-370.
- PÜLZ A. 2010 = *Zum Stadtbild von Ephesos in byzantinischer Zeit*, in F. DAIM, J. DRAUSCHKE (eds.), *Byzanz. Das Römerreich im Mittelalter* (Monographien des Römisch-Germanischen Zentralmuseums 84, 2, 2), Mainz, 541-571.
- PÜLZ S. 1989a = *Untersuchungen zur kaiserzeitlichen Bauornamentik von Didyma (IstMitt Beiheft 35)*, Tübingen.
- PÜLZ S. 1989b = *Zur Bauornamentik des Zeustempels von Euromos*, in *IstMitt* 39, 451-453.
- QUATEMBER U. 2010a = *The "Temple of Hadrian" on Curetes Street in Ephesus. New Research into its Building History*, in *JRA* 23, 376-394.
- QUATEMBER U. 2010b = *Das Nymphaeum Traiani in Ephesos*, *FiE* XI, 2, Wien.
- QUATEMBER U. 2011 = *Architectural decoration*, in L. BIER, *The Bouleuterion at Ephesos*, *FiE* IX, 5, Wien, 65-74.
- QUATEMBER U. 2014 = *Ornament im Kontext. Der Beitrag der Bauforschung zur Untersuchung von Architekturdekoration*, in LIPPS, MASCHEK 2014b, 99-116.
- RADT W. 1999 = *Pergamon. Geschichte und Bauten einer antiken Metropole*, Darmstadt.
- RAGGHIANI C.L. 1978 = *Capire l'arte col computer*, in *Critica d'arte* 18, fasc. 160-162, 3-13.
- RAMAGE N.H., RAMAGE A. 1991 = *Römische Kunst, von Romulus zu Konstantin*, Köln.
- RAMALLO ASENSIO S.F., RÖRING N. (eds.) 2010 = *La Scaenae Frons en la arquitectura teatral romana, Proceedings of the International Symposium* (Cartagena, 12-14 March 2009), Murcia.
- RAMSAY W.M. 1895 = *The Cities and Bishoprics of Phrygia I, 1. The Lykos Valley and South-Western Phrygia*, Oxford.
- RAMSAY W.M. 1897 = *The Cities and Bishoprics of Phrygia I, 2. West and West-Central Phrygia*, Oxford.

- RAMSAY W.M. 1928 = *Asianic Elements in Greek Civilisation*, London.
- RAMSAY W.M. 1960 = *Anadolu'nun Tarihi Coğrafyası* (translated by M. Pektaş), Istanbul.
- RATHMAYR E. 2006 = *Götter und Kaiserkult in privaten Wohnbereich anhand von Skulpturen aus dem Hanghaus 2 in Ephesos*, in *Römische Historische Mitteilungen* 48, 103-133.
- RATHMAYR E. 2009 = *Das Haus des Ritters C. Flavius Aptus. Beobachtungen zur Einflussnahme von Hausbesitzern an Architektur und Ausstattung in der Wohneinheit 6 des Hanghauses 2 in Ephesos*, in *IstMitt* 59, 306-337.
- RATTÉ C. 2002 = *The Urban Development of Aphrodisias in the Late Hellenistic and Early Imperial Periods*, in BERNIS ET ALII 2002, 5-32.
- RATTÉ C., DE STAEBLER P. (eds.) 2012 = *The Aphrodisias Regional Survey, Aphrodisias V*, Darmstadt.
- RATTÉ C., SMITH R.R.R. 2008 = *Archaeological Research at Aphrodisias in Caria, 2002-2005*, in *AJA* 112, 4, 713-751.
- RATTÉ C., SMITH R.R.R. (eds.) 2008 = *Aphrodisias Papers 4. New research on the city and its monuments* (JRA Supplementary Series 70), Portsmouth.
- REALINI M., MATTEINI M., COLOMBO C. C., BIRROZZI C., FERRIANI B. 2004 = *Monitoraggio di superfici policrome trattate con ossalato di ammonio*, in *Lo stato dell'arte 2: conservazione e restauro, confronto di esperienze. Il congresso nazionale IGIHC* (Genova, 27-29 settembre 2004), Padova, 330-338.
- REEDER R.J. 1991 = *An overview of zoning in carbonate minerals*, in *Luminescence Microscopy and Spectroscopy. Qualitative and Quantitative Applications*, in *Society for sedimentary geology* 25, 77-82.
- REMONDINO F., CAMPANA S. 2014 = *3D Recording and Modelling in Archaeology and Cultural Heritage*, Oxford.
- REMONDINO F., HAKIM S. 2006 = *Image based 3d Modelling. A review*, in *The Photogrammetric Record* 21, 269-291.
- RESTLE M. 1995 = *Maltechnik*, in *RBK* 5, 1237-1274.
- REYNOLDS J. 1991 = *Epigraphic Evidence for the Construction of the Theatre: 1st c. B.C. to mid 3rd c. A.D.*, in SMITH, ERİM 1991, 15-28.
- REYNOLDS J. 2000 = *New Letters from Hadrian to Aphrodisias. Trials, Taxes, Gladiators and an Aqueduct*, in *JRA* 13, 5-20.
- REYNOLDS J. M., WARD-PERKINS J.B. 1952 = *The Inscriptions of Roman Tripolitania*, Rome.
- RICHTER D.K., GÖTTE TH., GÖTZE J., NEUSER R.D. 2003 = *Progress in application of cathodoluminescence (CL) in sedimentary petrology*, in *Mineral Petrology* 79, 127-166.
- RICHTER R. 1994 = *Derivation of temperature and emittance from airborne multispectral thermal infrared scanner data*, in *Infrared Physics and Technology* 35, 6, 817-826.
- RIGGS S., CIOLLI G., KROISING H., BARTOLINI G. 2015 = *PostgreSQL 9 Administration Cookbook*, Birmingham-Mumbai.
- RIMMELÉ G., PARRA T., GOFFÉ B., OBERHÄNSLI R., JOLIVET L., CANDAN O. 2005 = *Exhumation paths of high-pressure-low-temperature metamorphic rocks from the Lycian Nappes and the Menderes Massif (SW Turkey): a multi-equilibrium approach*, in *Journal of Petrology* 46, 641-669.
- RING U., COLLINS A.S. 2005 = *U-Pb SIMS dating of synkinematic granites: timing of core complex formation in the northern Anatolide belt of western Turkey*, in *Journal of the Geological Society of London* 162, 1-10.
- RING U., GESSNER K., GÜNGÖR T., PASSCHIER C.W. 1999 = *The Menderes Massif of western Turkey and the Cycladic Massif in the Aegean. Do they really correlate?*, in *Journal of the Geological Society of London* 156, 3-6.
- RING U., GLODNY J. 2010 = *No need for lithospheric extension for exhuming (U)HP rocks by normal faulting*, in *Journal of the Geological Society of London* 167, 225-228.
- RING U., GLODNY J., WILL T., THOMSON S.N. 2007 = *An Oligocene extrusion wedge of blueschist-facies nappes on Evia, Aegean Sea, Greece: implications for the early exhumation of high-pressure rocks*, in *Journal of the Geological Society of London* 164, 637-652.
- RING U., GLODNY J., WILL T., THOMSON S.N. 2010 = *The Hellenic subduction system: high-*

- pressure metamorphism, exhumation, normal faulting, and large-scale extension, in *Annual Review of Earth and Planetary Sciences* 38, 45-76.
- RING U., KUMERICS C. 2008 = *Vertical ductile thinning and its contribution to the exhumation of high-pressure rocks: the Cycladic blueschist unit in the Aegean*, in *Journal of the Geological Society of London* 165, 1019-1030.
- RING U., WILL T., GLODNY J., KUMERICS C., GESSNER K., THOMSON S.N., GÜNGÖR T., MONIÉ P., OKRUSCH M., DRÜPPEL K. 2007 = *Early exhumation of high-pressure rocks in extrusion wedges: the Cycladic blueschist unit in the eastern Aegean, Greece and Turkey*, in *Tectonics* 26 (TC2001).
- RITTI 1979 = *Due iscrizioni di età augustea da Hierapolis*, in *Epigraphica* 41, 183-187.
- RITTI T. 1983a = *Epigrafi dedicatorie imperiali di Hierapolis di Frigia*, in *RendLincei* 8, 38, 171-182.
- RITTI T. 1983b = *Ipyxia della gerusia a Hierapolis di Frigia*, in *RendLincei* 8, 38, 221-230.
- RITTI T. 1985 = *Fonti letterarie ed epigrafiche, Hierapolis. Scavi e Ricerche I* (Archaeologica 53), Roma.
- RITTI T. 1988 = *Il sofista Antipatros di Hierapolis*, in *Miscellanea greca e romana* 13, 71-128.
- RITTI T. 1989-1990 = *Hierapolis di Frigia: santuari e dediche votive*, in *ScAnt* 3-4, 861-874.
- RITTI T. 2002 = *Documenti epigrafici dalla regione di Hierapolis*, in *EpigrAnat* 34, 41-70.
- RITTI T. 2003 = *La neocoria di Hierapolis di Frigia*, in *Epigraphica. Atti delle giornate di studio di Roma e di Atene in memoria di Margherita Guarducci (1902-1999)* (Opuscula epigraphica 10), Roma, 177-215.
- RITTI T. 2004 = *Iura sepulcrorum a Hierapolis di Frigia nel quadro dell'epigrafia sepolcrale microasiatica: iscrizioni edite e inedite*, in *Libitina e dintorni. Libitina e i luci sepolcrali, le leges libitinariae campane, Iura sepulcrorum: vecchie e nuove iscrizioni* (Atti dell'XI Rencontre franco-italienne sur l'épigraphie, Libitina 3), Roma, 455-625.
- RITTI T. 2005 = *I Dodici dèi di Hierapolis*, in D. RONCHETTA (ed.), *Paolo Verzone. 1902-1986. Tra Storia dell'Architettura Restauro e Archeologia*, Torino, 158-168.
- RITTI T. 2006 = *Guida epigrafica a Hierapolis di Frigia (Pamukkale) /Phrygia Hierapolis'i (Pamukkale) eski yazıtlar rehberi*, Istanbul.
- RITTI T. 2007a = *Iscrizioni pertinenti all'edificio teatrale*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 389-439.
- RITTI T. 2007b = *Schema di una sega idraulica su un sarcofago di Hierapolis*, in D'ANDRIA, CAGGIA 2007, 619-626.
- RITTI T. 2011 = *Andriantes kai eikones...met'epigraphes oikeias. Contributi dell'epigrafia ierapolitana di età imperiale alla conoscenza delle opere figurative*, in D'ANDRIA, ROMEO 2011, 173-192.
- RITTI T. 2011-2012 = *Alcune iscrizioni rinvenute nella chiesa di S. Filippo*, in D'ANDRIA 2011-2012, 53-61.
- RITTI T. 2016 = *Per la storia sociale ed economica di Hierapolis di Frigia. Le fondazioni sociali e funerarie*, in *MemLinc* 36, 421-657.
- RITTI T. 2017 = *Storia e istituzioni di Hierapolis, Hierapolis di Frigia IX*, Istanbul.
- RITTI T., GREWE K., KESSENER P. 2007 = *A relief of a water-powered stone saw mill on a sarcophagus at Hierapolis and its implications*, in *JRA* 20, 138-163.
- RITTI T., MIRANDA E., GUIZZI F. 2007 = *La ricerca epigrafica: risultati dell'ultimo quadriennio e prospettive future*, in D'ANDRIA, CAGGIA 2007, 583-618.
- RITTI T., MIRANDA E., GUIZZI F. 2008, *Museo Archeologico di Denizli-Hierapolis. Catalogo delle iscrizioni greche e latine. Distretto di Denizli*, Napoli.
- RITTI T., YILMAZ S. 1998 = *Gladiatori e venationes a Hierapolis di Frigia*, in *MemAccLinc* 10, 4, 445-542.
- ROBERT J., ROBERT L. 1971 = *Bulletin épigraphique*, in *REG* 84, 397-540.
- ROBERT L. 1940 = *Les gladiateurs dans l'Orient grec*, Paris.
- ROBERT L. 1950 = *Hellenica IX. Inscriptions et reliefs d'Asie Mineure*, Paris.
- ROBERT L. 1962 = *Villes d'Asie Mineure: études de géographie ancienne*, Paris.
- ROBERT L. 1978 = *Documents d'Asie Mineure*, in *BCH* 102, 395-543.

- ROBERT L. 1989 = *Les fouilles de Claros. Conférence donnée à l'Université d'Ankara à la fin de quatre campagnes de fouilles, Limoges 1954*, in *Opera Minora Selecta VI*, Amsterdam, 523-549.
- ROBINSON D.M. 1924 = *A Preliminary Report on the Excavations at Pisidian Antioch and at Sizma*, in *AJA* 28, 435-444.
- ROCCO G. 2013 = *Monumenti di Kos I, La stoà meridionale dell'agorà (Thiasos Monografie 3)*, Roma, 143-156.
- ROCKWELL P. 1993 = *The Art of Stoneworking*, Cambridge.
- ROCKWELL P. 1996 = *The Marble Quarries: a preliminary survey*, in ROUECHÉ, SMITH 1996, 81-104.
- RÖDER J. 1971 = *Marmor Phrygium. Die antiken Marmorbrüche von Iscehisar in Westanatolien*, in *JdI* 86, 254-312.
- ROHMANN J. 1995 = *Einige Bemerkungen zum Ursprung des feingezahnten Akanthus*, in *IstMitt* 45, 109-121.
- ROHMANN J. 1998a = *Die Kapitellproduktion der römischen Kaiserzeit in Pergamon* (PF 10), Berlin.
- ROHMANN J. 1998b = *Die Kapitelle des Trajanstempels von Pergamon*, in U. PESCHLOW, S. MÖLLERS (eds.), *Spätantike und byzantinische Bauskulptur, Beiträge des Symposions* (Mainz, Februar 1994), Stuttgart, 25-35.
- ROHN C. 2010 = *Die Scaenae Frons von Aizanoi: eine Fassade innerhalb der Gesamtanlage Theater-Stadion*, in RAMALLO ASENSIO, RÖRING 2010, 343-354.
- ROMEO I. 2011 = *The Beautiful Tomb and civic identity in Julio-Claudian Hierapolis*, in D'ANDRIA, ROMEO 2011, 193-210.
- ROMEO I. 2014 = *Stile e officina*, in ROMEO, PANARITI, UNGARO 2014, 247-258.
- ROMEO I., PANARITI D., UNGARO R. 2014 = *La Tomba Bella: un heroon giulio-claudio e il suo sarcofago, Hierapolis di Frigia VI*, Istanbul.
- RONCHETTA D. 2012 = *Necropoli Nord. Indagini nell'area della Porta di Frontino*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 495-511.
- RONCHETTA D., MIGHETTO P. 2007 = *La Necropoli Nord. Verso il progetto di conoscenza: nuovi dati dalle campagne 2000-2003*, in D'ANDRIA, CAGGIA 2007, 433-455.
- ROSSIGNANI M.P. 2008 = *"Dadi brunelleschiani" nell'architettura romana dell'Asia Minore*, in C. DE CARLI, F. TEDESCHI (eds.), *Il presente si fa storia. Scritti in onore di Luciano Caramel*, Milano, 635-641.
- ROSSIGNANI M.P., BARATTO C. 2012 = *Ricerche sulla Stoà-basilica dell'Agorà Nord*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 515-532.
- ROSSIGNANI M.P., SACCHI F. 2007 = *La Stoà-basilica dall'Agorà settentrionale (Regio I)*, in D'ANDRIA, CAGGIA 2007, 359-411.
- ROSSIGNANI M.P., SACCHI F. 2011 = *Progetto architettonico e cicli figurativi nella Stoà-basilica di Hierapolis di Frigia*, in D'ANDRIA, ROMEO 2011, 234-247.
- ROSTOVZEV M.I. 1973 = *Storia economica e sociale dell'Impero romano*, Firenze.
- ROYO-PLUMED H. 2016 = *Mármoles de la Cordillera Pirenaica: afloramientos norpirenaicos y asociados al "Nappe des Marbres". Caracterización y uso en época romana*, University of Zaragoza, PhD Thesis.
- ROUECHÉ C., SMITH R.R.R. (eds.) 1996 = *Aphrodisias Papers 3. The setting and quarries, mythological and other sculptural decoration, architectural development, Portico of Tiberius, and Tetrastylon* (JRA Supplementary Series 20), Ann Arbor.
- ROWAN C. 2012 = *Under Divine Auspices. Divine Ideology and the Visualisation of Imperial Power in the Severan Period*, New York.
- RPC Consolidated Supplement = RIPOLLÈS P.P., BURNETT A., AMANDRY M., CARRADICE I., SPOERRI BUTCHER M. (eds.), *Roman Provincial Coinage, Consolidated Supplement I-III (1992-2015)*, http://rpc.ashmus.ox.ac.uk/supp/rpc_cons_supp_1-3.pdf.
- RUBIN B. 2011 = *Ruler Cult and Colonial Identity. The Imperial Sanctuary at Pisidian Antioch*, in GAZDA, NG 2011, 33-60.
- RUFFING K. 2008 = *Die berufliche Spezialisierung in Handel und Handwerk. Untersuchungen zu ihrer Entwicklung und zu ihren Bedingungen in der römischen Kaiserzeit*

- im östlichen Mittelmeerraum auf der Grundlage griechischer Inschriften und Papyri* (Pharos 24), Rahden-Leidorf.
- RUGE W. 1924 = *Laodikeia*, in *RE* XII, 1, 722-724.
- RUMSCHEID F. 1994 = *Untersuchungen zur Kleinasiatischen Bauornamentik des Hellenismus* (Beiträge zur Erschliessung hellenistischer und kaiserzeitlicher Skulptur und Architektur 14), Mainz.
- RUMSCHEID F. 1999 = *Review to VANDEPUT 1997*, in *GGA* 251, 38-48.
- RUMSCHEID F. 2012 = *Arbeitsrationalisierung im Bauwesen: von der Bosse zum Reliefor-nament*, in B. SÖĞÜT (ed.), *Stratonikeia 'dan Lagina 'ya. Ahmet Adil Tirpan Armağani 65. Yaş Armağani*, Istanbul, 529-534.
- RUSSELL B. 2010 = *The Roman sarcophagus 'industry': a reconsideration*, in J. ELSNER, J. HUSKINSON (eds.), *Life, Death and Representation. Some New Work on Roman Sar-cophagi* (Millennium Studies 29), Berlin-New York, 119-147.
- RUSSELL B. 2013a = *The Economics of the Roman Stone Trade*, Oxford.
- RUSSELL B. 2013b = *Gazetteer of Stone Quarries in the Roman World*, http://oxrep.classics.ox.ac.uk/docs/Stone_Quarries_Database.pdf.
- RUSSELL B. 2016 = *Mapping the Marble Quarries*, in R.R.R. SMITH, J. LENAGHAN, A. SO-KOLICEK, K. WELCH (eds.), *Aphrodisias Papers 5* (JRA Supplementary Series 103), Por-tsmouth, RI, 255-268.
- RUSSO E. 1999 = *La scultura a Efeso in età paleocristiana e bizantina. Primi lineamenti*, in R. PILLINGER, O. KRESTEN, F. KRINZINGER, E. RUSSO (ed.), *Efeso paleocristiana e bi-zantina / Frühchristliches und byzantinisches Ephesos. Atti del convegno internazio-nale* (Roma, 22-24 febbraio 1996), Wien, 26-53.
- RUSSO E. 2008 = *Sculture architettoniche e decorative paleocristiane e bizantine nel Kazım Yaman Parkı di Kuşadası*, in *Bizantinistica* 2, 9, 41-60.
- Sardis* = BUCKLER W.H., ROBINSON D.M., *Sardis VII, 1, Greek and Latin Inscriptions* (Pu-blications of the American Society for the Excavation of Sardis 7, 1), Leyden 1932.
- SARRE F. 1896 = *Reise in Kleinasien*, Berlin.
- SACCHI F., BONZANO F. 2012 = *L'ordine del Tempio di Apollo a Hierapolis: prime acqui-sizioni*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 325-357.
- SANDMEIER K.J. 2011 = *ReflexW version 6.0. User Manual*, Sandmeier Software, Karls-ruhe.
- SCAPPIN L. 2007 = *L'impiego del metallo nell'architettura antica*, in C.G. MALACRINO, E. SORBO (eds.), *Architetti, architettura e città nel Mediterraneo antico*, Milano, 291-305.
- SCARDOZZI G. 2007a = *L'urbanistica di Hierapolis di Frigia: ricerche topografiche, im-magini satellitari e fotografie aeree*, in *Archeologia Aerea* 2, 83-134.
- SCARDOZZI G. 2007b = *Remote sensing and archaeological survey in the Hierapolis of Phry-gia territory, Turkey*, in *Remote Sensing for Environmental Monitoring, GIS Applica-tions, and Geology. Conference 6749 "Remote Sensing and Archaeology"* (Florence, 17-20 September 2007) (Proceedings of SPIE Europe Remote Sensing, vol. 6749/04), 1-12.
- SCARDOZZI G. 2008a = *Hierapolis of Phrygia Project: integration of archaeological sur-vey and remote sensing data*, in R. LASAPONARA, N. MASINI (eds.), *Remote sensing for Archaeology and Cultural Heritage Management. Proceedings of the 1st International Workshop* (Roma, 30 September - 4 October 2008), Rome, 425-428.
- SCARDOZZI G. 2008b = *Old high resolution satellite images for landscape archaeology: case studies from Turkey and Iraq*, in *Remote Sensing for Environmental Monitoring, GIS Applications, and Geology. Proceedings of SPIE Europe Remote Sensing, Conference 7110 "Remote Sensing and Archaeology"* (Cardiff, 15-18 September 2008), vol. 7110/03, 1-14.
- SCARDOZZI G. 2008c = *Le fasi di trasformazione dell'impianto urbano*, in *ATLANTE* 2008, 31-47.
- SCARDOZZI G. 2010 = *Hierapolis di Frigia, dalle cave ai cantieri di demolizione. L'ap-provvigionamento di materiali lapidei nella città di età imperiale e proto-bizantina*, in CAMPOREALE, DESSALES, PIZZO 2010, 351-374.
- SCARDOZZI G. 2010-2011 = *Il contributo delle immagini satellitari "storiche" e recenti alle ricerche di topografia antica*, in *Archeologia Aerea* 4-5, 281-288.

- SCARDOZZI G. 2012a = *Ricognizioni archeologiche nel territorio di Hierapolis (campagne 2005-2006): gli acquedotti, le cave di materiali lapidei, gli insediamenti rurali, i tumuli funerari*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 109-143.
- SCARDOZZI G. 2012b = *Ancient marble and alabaster quarries near Hierapolis in Phrygia (Turkey): new data from archaeological surveys*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 573-583.
- SCARDOZZI G. 2012c = *Un nuovo miliario dal territorio di Hierapolis di Frigia. Contributo alla ricostruzione della viabilità antica nella valle del Lykos*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 739-766.
- SCARDOZZI G. 2012d = *Integrated methodologies for the archaeological map of an ancient city and its territory: the case of Hierapolis in Phrygia*, in LASAPONARA, MASINI 2012, 129-156.
- SCARDOZZI G. 2012e = *New data on the North Theatre of Hierapolis in Phrygia: archaeological, topographical and geophysical surveys*, in MASINO, MIGHETTO, SOBRA 2012, 217-235.
- SCARDOZZI G. 2012f = *Indagini multidisciplinari per la ricostruzione del paesaggio urbano: ricerche sulla topografia antica di Hierapolis di Frigia*, in G.J. BURGERS, C. CORSI, S. KEAY, F. VERMEULEN (eds.), *The contribution of urban landscape survey in Italy and the Mediterranean*, Oxford, 72-83.
- SCARDOZZI G. 2013a = *Contributo alla conoscenza della topografia antica di Tripolis sul Meandro*, in JAT 23, 31-70.
- SCARDOZZI G. 2013b = *Antiche divisioni agrarie in Asia Minore: problematiche e strumenti di ricerca*, in *Archeologia Aerea* 7, 124-148.
- SCARDOZZI G. 2015a = *Metodologie di acquisizione dei dati archeologici*, in *ATLANTE* 2015, 18-27.
- SCARDOZZI G. 2015b = *Caratteristiche e trasformazioni dell'impianto urbano tra l'età ellenistica e l'epoca ottomana*, in *ATLANTE* 2015, 35-57.
- SCARDOZZI G. 2015c = *Le necropoli: inquadramento topografico generale e sviluppo storico*, in *ATLANTE* 2015, 69-77.
- SCARDOZZI G. 2015d = *Indagini di scavo presso la Stoà delle Sorgenti e il cd. "edificio retangolare": risultati preliminari*, in *ATLANTE* 2015, 269-286.
- SCARDOZZI G. forthcoming = *Marmora Phrygiae. Un progetto per lo studio delle antiche cave di marmo e di alabastro di Hierapolis di Frigia e delle strategie di approvvigionamento dei materiali lapidei: approcci metodologici e prospettive di ricerca*, in *Atti del Convegno DECOR - Decorazione e architettura nel mondo romano* (Roma, 21-23 maggio 2014).
- SCARDOZZI G., GIESE S., HÜBNER C. 2013 = *Integrated Geophysical Investigations in Hierapolis of Phrygia (Turkey)*, in *Near Surface Geophysics* 11, 101-113.
- SCHEIDEL W. 2010 = *Real Wages in Early Economies. Evidence for Living Standards from 1800 BCE to 1300 CE*, in *Journal of the Economic and Social History of the Orient* 53, 425-462.
- SCHEIDEL W., FRIESEN ST. J. 2009 = *The Size of the Economy and the Distribution of Income in the Roman Empire*, in *JRS* 99, 61-91.
- SCHERRER P. 1997 = *Das Ehrenggrab des Kaiserpriesters am Embolos. Eine Personensuche*, in H. THÜR (ed.), "...und verschönerte die Stadt...". *Ein ephesischer Priester des Kaiserkultes in seinem Umfeld* (SDAIK 27), Wien, 113-139.
- SCHERRER P. 1999 = *Am Olympieion vorbei ...? Pausanias' Wegbeschreibung in Ephesos und der hadrianische Neokorietempel*, in P. SCHERRER, H. TAEUBER, H. THÜR (eds.), *Steine und Wege. Festschrift für Dieter Knibbe zum 65. Geburtstag* (SDAIK 32), Wien, 137-144.
- SCHERRER P. 2005 = *Das sogenannte Serapeion in Ephesos: ein Mouseion?* in A. HOFFMANN (ed.), *Ägyptische Kulte und ihre Heiligtümer im Osten des römischen Reiches* (Byzas 1), 109-138.
- SCHERRER P. 2007 = *Von Apasa nach Hagios Theologos*, in *ÖJh* 76, 321-351.
- SCHINDLER H. 1998 = *Beitrag zur Flechtenflora von Westanatolien, Türkei*, in *Herzogia* 13, 234-237.

- SCHJØLER T. 2007 = *A unique sarcophagus: cranks and connecting rods in the ancient world*, in *International Molinology*, 74, 12-14.
- SCHMIDT A. 2013 = *Earth Resistance for Archaeologists*, New York.
- SCHMIDT A., TSETSKHLADZE G. 2013 = *Raster was Yesterday: Using Vector Engines to Process Geophysical Data*, in *Archaeological Prospection* 20, 1, 59-65.
- SCHMIDT-COLINET A. 1991 = *Eine severische Priesterin aus Syrien in Perge*, in *IstMitt* 41, 439-445.
- SCHMIDT-COLINET A. 1992 = *Das Tempelgrab Nr. 36 in Palmyra. Studien zur palmyrenischen Grabarchitektur und ihrer Ausstattung* (Damaszener Forschungen 4), Mainz.
- SCHÖRNER G. 1995 = *Römische Rankenfrieze. Untersuchungen zur Baudekoration der späten Republik und der frühen und mittleren Kaiserzeit im Westen des Imperium Romanum* (Beiträge zur Erschließung hellenistischer und kaiserzeitlicher Skulptur und Architektur 15), Mainz.
- SCHÖRNER G. 1997 = *Entwurf und arbeitsteilige Fertigung in der Gallia Narbonensis. Die Rankenfrieze des Quellheiligtums und der Maison Carrée in Nîmes*, in *KölnJb* 30, 145-157.
- SCHÖRNER G. 1999 = *Rankenornamentik der römischen Kaiserzeit in Ephesos. Einheimische Traditionen, stadtrömische Modelle*, in FRIESINGER, KRINZINGER 1999, 565-568.
- SCHNEIDER EQUINI E. 1971-1973 = *La necropoli di Hierapolis di Frigia. Contributi allo studio dell'architettura funeraria di età romana in Asia Minore*, in *MonAnt* 48, Serie miscellanea 1, 2, 95-138.
- SCHNEIDER R.M. 1986 = *Bunte Barbaren. Orientalenstatuen aus farbigem Marmor in der römischen Repräsentationskunst*, Worms.
- SCHNEIDER U. 1981 = *Zwei mittelalterliche Chorschranken im Dom San Ciriaco von Ancona. Beiträge zur Geschichte der Inkrustationskunst in Byzanz und Italien*, in *Acta Historiae Artium Academiae Scientiarum Hungaricae* 27, 129-186.
- SCHULTE C. 1994 = *Die "Grammateis" in Ephesos. Schreiberamt und Sozialstruktur in einer Provinzhauptstadt*, Stuttgart.
- SCHULZ TH. 2009 = *Baukonstruktion und Bautechnik des Zeustempels von Aizanoi im Vergleich zu anderen Pseudodipteroi*, in BACHMANN 2009, 509-525.
- SCHULZ TH. 2011 = *Gebälk- und Dachkonstruktion der Pseudodipteroi - Der Tempel des Apollon Smintheios in der Troas im Vergleich mit dem Zeustempel von Aizanoi*, in A. VON KIENLIN (ed.), *Holztragwerke in der Antike. Internationale Konferenz* (München, 30. März.-01. April 2007) (Byzas 11), Istanbul, 203-216.
- SCHVOERER M. (ed.) 1999 = *Archéomatériaux. Marbres et Autres Roches. ASMOSIA IV. Actes de la IV^{ème} Conférence Internationale de l'Association pour l'Étude des Marbres et Autres Roches Utilisés dans le Passé* (Bordeaux-Talence, 9-13 octobre 1995), Bordeaux.
- SEAGER A., KRAABEL A.T. 1983 = *The Synagogue and the Jewish Community*, in G.M.A. HANGMAN (ed.), *Sardis from Prehistoric to Roman Times. Results of the Archaeological Exploration of Sardis 1958-1975*, Cambridge-London, 169-190.
- SEAL J. 2012 = *Meander. East to West along a Turkish River*, London.
- SECCARONI C., MOIOLI P. 2002 = *Fluorescenza X. Prontuario per l'analisi XRF portatile applicata a superfici policrome*, Firenze.
- SEG = *Supplementum Epigraphicum Graecum*, Amsterdam 1923-.
- SEIPEL W. 2006 = *Das Partherdenkmal von Ephesos. Akten des Kolloquiums* (Wien, 27.-28. April 2003) (Schriften des Kunsthistorischen Museums 10), Wien.
- SEMERARO G. 2007 = *Ricerche archeologiche nel Santuario di Apollo (Regio VII) 2001-2003*, in D'ANDRIA, CAGGIA 2007, 169-209.
- SEMERARO G. 2008 = *The sanctuary of Apollo in Hierapolis: a stratigraphical approach to a cult context*, in *1. Uluslararası Antik Dönemede Kehanet Apollon'un Anadolu Kültürleri Sempozyum Bildirileri = 1st International Symposium on Oracle in Antiquity and the Cult of Apollo in Asia Minor* (Izmir, Ege University 17-20th of August 2005) (*ADerg* 12, 2), 179-190.
- SEMERARO G. 2012 = *Ricerche nel Santuario di Apollo*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 293-324.

- SEMERARO G. 2014 = *Archaeology of the cult in the Sanctuary of Apollo in Hierapolis*, in *ScAnt* 20, 2, 11-29.
- SEMERARO G. 2016 = *Ricerche nel Santuario di Apollo (2007-2011)*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 191-222.
- SEMERARO G., NOTARSTEFANO F. 2013 = *Integrated methodologies for the study of cultural contexts. Case studies from the Mediterranean area: Malta and Hierapolis*, in L. GIARDINO, G. TAGLIAMONTE (eds.), *Archeologia dei luoghi e delle pratiche di culto. Atti del Convegno* (Cavallino, 26-27 gennaio 2012), Bari, 57-68.
- SEMPER G. 1851 = *On the Study of Polychromy and its Revival*, in E. FALKENER (ed.), *The Museum of Classical Antiquities*, London, 228-246.
- ŞAHİN S. 2008 = *Der neronische Leuchtturm und die vespasianischen Thermen von Patara*, in *Gephyra* 5, 1-32.
- ŞAHİN S. 2009 = *Patara deniz feneri: eleştiriye eleştiri*, in O. TEKİN, A. EROL (eds.), *Ancient history, numismatics and epigraphy in the Mediterranean world. Studies in memory of Clemens E. Bosch and Sabahat Atlan and in honour of Nezahat Baydur*, Istanbul, 331-344.
- ŞENEL M. 1997 = *Geological Map of Turkey, 1: 100,000 scale, Denizli-J9 Quadrangle, and accompanying 18 page explanatory booklet*, General Directorate of Mineral Research and Exploration, Ankara.
- ŞENGÖR A.M.C., GÖRÜR N., ŞAROĞLU F. 1985 = *Strike-Slip faulting and related basin formation in zones of tectonic escape: Turkey as a case study*, in K.T. BIDDLE, N. CHRISTIE-BLICK (eds.), *Strike-Slip Deformation, Basin Formation and Sedimentation* (Society of Economic Paleontologists and Mineralogists, Special Publication 37), Tulsa, 227-264.
- ŞENGÖR A.M.C., SATIR M., AKKÖK R. 1984 = *Timing of tectonic events in the Menderes Massif, Western Turkey: implications for tectonic evolution and evidence for Pan-African basement in Turkey*, in *Tectonics* 3, 7, 697-707.
- ŞENGÖR A.M.C., TÜYSÜZ O., İMREN C., SAKINÇ M., EYİDOĞAN H., GÖRÜR N., LE PICHON X., RANGIN C. 2005 = *The North Anatolian Fault: a new look*, in *Annual Reviews in Earth and Planetary Sciences* 33, 37-112.
- ŞENGÖR A.M.C., YILMAZ Y. 1981 = *Tethyan evolution of Turkey: a plate tectonic approach*, in *Tectonophysics* 75, 181-241.
- SERIN U. 2004 = *Early Christian and Byzantine churches at Iasos in Caria. An architectural survey*, Città del Vaticano.
- SERRÃO S., BRACCI S., TIANO P., MATTEINI M. 2005 = *Studio dell'efficacia e della compatibilità di un trattamento protettivo a base di ossalato di ammonio su affresco*, in G. BISCONTIN, G. DRIUSSI (eds.), *Sulle Pitture Murali. Riflessioni, conoscenza, interventi. Atti del Convegno di Studi* (Bressanone, 12-15 luglio 2005) (Scienza e Beni Culturali 21), Marghera, 187-196.
- SEYER M. 2014 = *Limyra. Geophysik*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 62-64.
- SEYİTOĞLU G., BENDA L., SCOTT B.C. 1994 = *Neogene palynological and isotopic age data from Gördes Basin, West Turkey*, in *Newsletter on Stratigraphy* 31, 133-142.
- SEYİTOĞLU G., İSİK V., ÇEMEN İ. 2004 = *Complete Tertiary exhumation history of the Menderes Massif, western Turkey: an alternative working hypothesis*, in *Terra Nova* 16, 358-363.
- SEYİTOĞLU G., SCOTT B. 1992 = *The age of the Büyük Menderes graben (west Turkey) and its tectonic implications*, in *Geological Magazine* 129, 239-242.
- SHEPPARD C.D. 1969 = *Byzantine carved marble slabs*, in *ArtB* 51, 1, 65-71.
- SHOE L.T. 1949 = *Dark Stone in Greek Architecture*, in *Commemorative Studies in Honor of Theodore Leslie* (Hesperia Supplements 8), 341-352, 481-482.
- SHOE MERITT L. 1969 = *The geographical distribution of Greek and Roman Ionic bases*, in *Hesperia* 38, 186-204.
- SILVESTRELLI F. 2007 = *Il Ninfeo dei Tritoni (Regio II): le fasi età bizantina e postbizantina. Relazione preliminare delle campagne di scavo 1994-2001*, in D'ANDRIA, CAGGIA 2007, 333-357.

- SINN F. 2011a = n. 79 *Kopf einer Göttin mit Diadem*, in KNOLL, VOSTER, WOELK 2011, 414-416.
- SINN F. 2011b = n. 80 *Kopf einer Göttin mit Diadem*, in KNOLL, VOSTER, WOELK 2011, 417-419.
- ŞİMŞEK C. 1997 = *Hierapolis Güney Nekropolü*, Selçuk Üniversitesi, Sosyal Bilimler Enstitüsü, Arkeoloji-Sanat Tarihi Anabilim Dalı, Klasik Arkeoloji Bilim Dalı, Doktora Tezi, Konya.
- ŞİMŞEK C. 1998 = *Laodikya ana küme girlandı lahidleri*, in *Arkeoloji ve Sanat* 85, 2-28.
- ŞİMŞEK C. 2000 = *Nuovi scavi nelle Terme-Ginnasio di epoca romana di Hierapolis*, in D'ANDRIA, SILVESTRELLI 2000, 167-196.
- ŞİMŞEK C. 2002 = *Kolossai*, in *Arkeoloji ve Sanat* 107, 3-16.
- ŞİMŞEK C. 2006 = *A Menorah with a Cross Carved on a Column of Nymphaeum A at Laodicea ad Lycum*, in *JRA* 19, 343-346.
- ŞİMŞEK C. 2007 = *Laodikeia (Laodikeia ad Lycum)*, Istanbul.
- ŞİMŞEK C. 2011 = *Tarihin İçinden: Laodikeia'dan Ladik'e Denizli*, in *Denizli Tanrıların Kutsadığı Vadi*, Istanbul, 85-122.
- ŞİMŞEK C. 2013 = *Laodikeia (Laodikeia ad Lycum). Laodikeia çalışmaları 2*, Istanbul.
- ŞİMŞEK C. (ed.) 2014a = *10. Yılında Laodikeia (2003-2013 Yılları)*, *Laodikeia Çalışmaları 3*, Istanbul.
- ŞİMŞEK C. 2014b = *Lykos Vadisi İçinde Yer Alan Laodikeia*, in ŞİMŞEK 2014a, 33-69.
- ŞİMŞEK C. 2015a = *1900 Yıllık Su Yasası Bulundu*, in *Bilim ve Teknik*, 576, 66-67.
- ŞİMŞEK C. 2015b = *Church of Laodikeia, Christianity in the Lykos Valley*, Denizli.
- ŞİMŞEK C. 2017 = *Urban Planning of Laodikeia on the Lykos in the Light of New Evidence*, in C. ŞİMŞEK, F. D'ANDRIA (eds.), *Landscape and History in the Lykos Valley. Laodikeia and Hierapolis in Phrygia*, Cambridge, 1-51.
- ŞİMŞEK C., BİLGİN M., OKUNAK M. 2011 = *Laodikeia Nekropolü (2004-2010 Yılları)*, Istanbul.
- ŞİMŞEK C., BİLGİN M., OKUNAK M. 2015 = *Laodikeia Nekropoller ve Mezar Tipleri*, in *Arkeoloji Dergisi* 20, 111-157.
- ŞİMŞEK C., CEYLAN A. 2003 = *Laodikeia'da Tespit Edilen Bir Deprem ve Diocletianus'a İthaf Edilen Bir Yazıt (Lykos Laodikeia'sı)*, in *Archivum Anatolicum/Anadolu Arşivleri* 6, 1, 147-163.
- ŞİMŞEK Ş. 1984 = *Denizli-Kızıldere-Tekkehamam-Tosunlar-Buldan-Yenice Alanının Jeolojisi ve Jeotermal Enerji Olanakları*, in *Bulletin of Mineral Research and Exploration Institute of Turkey (MTA)*, Scientific Report No. 7846 (unpublished).
- ŞİMŞEK Ş., GÜNAY G., ELHATİP E., EKMEKÇİ M. 2000 = *Environmental protection of geothermal waters and travertines at Pamukkale, Turkey*, in *Geothermics* 29, 557-572.
- SKYDSGAARD J. E. 1983 = *Public Building and Society in Ancient Rome*, in K. DE FINE LICHT (ed.), *Città e architettura nella Roma imperiale. Atti del seminario nel 25° anniversario dell'Accademia di Danimarca* (Roma, 27 ottobre 1981) (*AnalRom Supplement* 10), Odense, 223-227.
- SMITH D.K., EDGAR A. 2006 = *Building information models BIM*, <http://www.wbdg.org/design/bim.php>.
- SMITH R.R.R., ERİM K.T. (eds.) 1991 = *Aphrodisias Papers 2. The theatre, a sculptor's workshop, philosophers, and coin types (JRA Supplementary Series 2)*, Ann Arbor.
- SMITH R.R.R. 1993 = *The Monument of C. Julius Zoilos, Aphrodisias I*, Mainz.
- SMITH R.R.R. 2008 = *Sarcophagi and Roman citizenship*, in RATTÉ, SMITH 2008, 347-394.
- SMITH R.R.R. 2011 = *Marble Workshops at Aphrodisias*, in D'ANDRIA, ROMEO 2011, 62-76.
- SMITH R.R.R. 2013 = *The Marble Reliefs from the Julio-Claudian Sebasteion, Aphrodisias VI*, Mainz.
- SMITH R.R.R. 2015 = *Citizens and the kings in the Tomba Bella at Hierapolis*, in *JRA* 28, 803-810.
- SMITH R.R.R., ERTUĞ A. 2015 = *Ancient Theaters of Anatolia*, Istanbul.
- SMITH R.R.R., RATTÉ C. 1997 = *Archaeological Research at Aphrodisias in Caria, 1995*, in *AJA* 101, 1, 1-22.

- SMITH R.R.R., RATTÉ C. 1998 = *Archaeological Research at Aphrodisias in Caria*, 1996, in *AJA* 102, 2, 225-250.
- SOBRÀ G. 2012 = *The analysis of the fragments from the scaenae frons of the Theatre in Hierapolis*, in MASINO, MIGHETTO, SOBRÀ 2012, 183-204.
- SOBRÀ G. 2015 = *Architectural language and diffusion of decorative models: a group of unpublished figured capitals from Hierapolis in Phrygia*, in PENSABENE, GASPARINI 2015, 1050-1055.
- SOBRÀ G. 2016 = *Nuovi elementi per la conoscenza degli ordini superiori della frontescena del Teatro di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 155-170.
- SOBRÀ G., MASINO F. 2010 = *La frontescena severiana del teatro di Hierapolis di Frigia. Architettura, decorazione e maestranze*, in RAMALLO ASENSIO, RÖRING 2010, 373-412.
- SOBRÀ G., MASINO F. 2014 = *Theatre Buildings of the Early Imperial Age in Asia Minor. Some Dating Elements*, in I. KONCANI UHAÇ (ed.), *The Dating of Stone Monuments and Criteria for Determination of Chronology. Proceedings of the 12th International Colloquium on Roman Provincial Art* (Pula, 23-28 May 2011), Pula, 173-176.
- SOBRINO J.A., JIMÉNEZ-MUÑOZ J.C., ZARCO-TEJADA P.J., SEPULCRE-CANTÒ G., DE MIGUEL E. 2006 = *Land surface temperature derived from airborne hyperspectral scanner thermal infrared data*, in *Remote Sensing of Environment* 102, 99-115.
- SODINI J.P. 1989 = *Le commerce des marbres à l'époque protobyzantine*, in V. KRAVARI, J. LEFORT, C. MORRISSON (eds.), *Hommes et richesses dans l'Empire byzantine, I: IV^e-VI^e siècle* (Réalités byzantine 1), Paris, 161-186.
- SODINI J.P. 2000 = *Le commerce des marbres en Méditerranée. V Reunión d'Arqueologia Cristiana Hispànica* (Cartagena, 16-19 abril 1998), Barcelona, 423-448.
- SODINI J.P. 2002 = *Atria et cours dans les sites de pèlerinage du monde byzantin*, in *Avant-nefs et espaces d'accueil dans l'église entre le IV^e et le XII^e siècle*, Paris, 37-49.
- SODINI J.P. 2002 = *Marble and stoneworking in Byzantium, seventh-fifteenth centuries*, in A.E. LAIOU (ed.), *The economic history of Byzantium. From the seventh through the fifteenth century I* (Dumbarton Oaks Studies 39), Washington, 129-146.
- SOUSA L., OLIVEIRA A., ALVES I. 2016 = *Influence of Fracture System on the Exploitation of Building Stones. The Case of the Mondim de Basto Granite (North Portugal)*, in *Environmental Earth Sciences* 75, 1, 1-16.
- SÖZBİLİR H. 2002 = *Revised stratigraphy and facies analysis of the Palaeocene-Eocene supra-allochthonous sediments and their tectonic significance (Denizli, SW Turkey)*, in *Turkish Journal of Earth Science* 11, 1-27.
- SPAKMAN W., WORTEL M.J.R., VLAAR N.J. 1988 = *The Hellenic subduction zone: a tomographic image and its geodynamic implications*, in *Geophysical Research Letters* 15, 1, 60-63.
- SPANU M. 2011 = *The theatre of Diokaisareia, Diokaisareia in Kilikien II*, Berlin.
- SPIERS W.L. 1918-1919 = *The note-book and account book of Nicholas Stone* (The Walpole Society 7), Oxford.
- SQUARCIAPINO M. 1943 = *La scuola di Afrodisia* (Studi e materiali del Museo dell'Impero Romano), Roma.
- STAMPER J.W. 2005 = *The Architecture of Roman Temples. The Republic to the Middle Empire*, Cambridge.
- STAMPFLI G.M., BOREL G.D. 2004 = *The TRANSMED transects in space and time: constraints on the paleotectonic evolution of the Mediterranean domain*, in W. CAVAZZA, F. ROURE, W. SPAKMAN, G.M. STAMPFLI, P. ZIEGLER (eds.), *The TRANSMED Atlas: the Mediterranean Region from Crust to Mantle*, Berlin, 53-76.
- STAVRIANOPOULOU E. 2006 = *Introduction* in E. STAVRIANOPOULOU (ed.), *Ritual and communication in the Graeco-Roman World* (Kernos Suppl. 11), Liège, 7-22.
- ŠTASTNÁ A., PŘIKRYL R., JEHLÍČKA J. 2009 = *Methodology of analytical study for provenance determination of calcitic, calcite-dolomitic and impure marbles from historical quarries in the Czech Republic*, in *Journal of Cultural Heritage* 10, 82-93.
- STEARNS C. 2012 = *Geoarchaeological Investigations*, RATTÉ, DE STAEBLER 2012, 135-164.
- STILLER H. 1895 = *Das Traianeum, AvP V, 2*, Berlin.
- STILLWELL R. 1941 = *Antioch-on-the-Orontes 3. The Excavations, 1937-1939*, Princeton.

- STINSON P. 2016 = *The Civil Basilica, Aphrodisias VII*, Wiesbaden.
- STOLL M., PHULPIN T., SCHMUGGE T. 1993 = *Intercalibration of two airborne thermal infrared radiometers: TIMS and PRT5. Application to land surface temperature retrieval*, in *International Journal of Remote Sensing* 14, 13, 2463-2481.
- STRASSER J.-Y. 2010 = *Qu'on fouette les concurrents... À propos des lettres d'Hadrien retrouvées à Alexandrie de Troade*, in *REG* 123, 585-622.
- STROCKA V.M. 1971 = *Kleinasiatische Klinensarkophag-Deckel*, in *AA*, 62-86.
- STROCKA V.M. 1981 = *Das Markttor von Milet* (Winckelmannsprogramm der Archäologischen Gesellschaft zu Berlin 128), Berlin.
- STROCKA V.M. 1984 = *Sepulkral-Allegorien auf dokimeischen Sarkophagen*, in B. ANDREAE (ed.), *Symposium über die antiken Sarkophage* (Pisa, 5. bis 12. September 1982), Marburg, 197-241.
- STROCKA V.M. 1988 = *Wechselwirkungen der stadtrömischen und kleinasiatischen Architektur unter Trajan und Hadrian*, in *IstMitt* 38, 291-307.
- STROCKA V.M., HOFFMANN S., HIESEL G. 2012 = *Die Bibliothek von Nysa am Mäander. Forschungen in Nysa am Mäander 2*, Darmstadt.
- STRONG D.E. 1953 = *Late Hadrianic Architectural Ornament in Rome*, in *BSR* 21, 118-151.
- STRONG D.E. 1961 = *Roman Imperial Sculpture*, London.
- STRONG D., CLARIDGE A. = *Marble Sculpture*, in D. STRONG, D. BROWN (eds.), *Roman crafts*, London, 195-207.
- SUN S. 1990 = *Denizli-Uşak Arasının Jeolojisi ve Linyit Olanakları*, in *Bulletin of Mineral Research and Exploration Institute of Turkey (MTA)*, Scientific Report No. 9985 (unpublished).
- Taelman D., Elburg M., Smet I., De Paepe P., Lopes L., Vanhaecke F., Vermeulen F. 2013 = *Roman Marble from Lusitania - Petrographic and Geochemical Characterisation*, in *JASc* 40, 2227-2236.
- Taft R.F. 2006 = *The Decline of Communion in Byzantium and the Distancing of the Congregation from the Liturgical Action. Cause, Effect, or Neither?*, in S.E.F. GERSTEL (ed.), *Thresholds of the Sacred*, Washington, 27-50.
- Taft R.F., Parenti S. 2014 = *Il Grande Ingresso. Storia della liturgia di S. Giovanni Crisostomo* (Ανάλεκτα Κρυπτοφέρνης 10), Grottaferrata.
- Tait A., Zheng X. 2003 = *Mapping frost occurrence using satellite data*, in *Journal of Applied Meteorology* 42, 2, 193-203.
- TAM V, 1 = HERRMANN P., *Tituli Asiae Minoris V. Tituli Lydiae linguis Graeca et Latina conscripti 1. Regio septentrionalis ad orientem vergens*, Vindobonae 1981.
- TAM V, 2 = HERRMANN P., KEIL J., *Tituli Asiae Minoris V. Tituli Lydiae linguis Graeca et Latina conscripti 2. Regio septentrionalis ad occidentem vergens*, Vindobonae 1989.
- TANCKE K. 1989 = *Figuralkassetten griechischer und römischer Steindecken* (Europäische Hochschulschriften. Reihe 38, Archäologie 20), Frankfurt am Main.
- TASSI F., VASELLI O., LUCHETTI G., MONTAGROSSI G., MINISALE A. 2008 = *Metodo per la determinazione dei gas disciolti in acque naturali*, Internal Report CNR-IGG, Florence, n° 10450-11, 1-12.
- TAYMAZ T., TAN O. 2001 = *Source parameters of June 6, 2000. Orta-Çankiri (Mw = 6.0) and December 15, 2000 Sultandag-Aksehir (Mw = 6.0) earthquakes obtained from inversion of teleseismic P- and SH-body-waveforms*, in *Symposia on Seismotectonics of the Northwestern Anatolia-Aegean and Recent Turkish Earthquakes* (Istanbul, 8 May 2001), Extended Abstract, Istanbul, 96-107.
- TEMİN P. 2006 = *The Economy of the Early Roman Empire*, in *Journal of Economic Perspectives* 20, 133-151.
- TEXIER CH. 2002 = *Küçük Asya, Coğrafyası, Tarihi ve Arkeolojisi II* (Translated by A. Suat), Ankara.
- TESTA G., LILYQUIST CH. 2011 = *Strontium isotopes as a promising tool to determine calcite-alabaster provenance*, in ΠΕΙΡΑΓΜΕΝΑ. Ι' ΔΙΕΘΝΟΥΣ ΚΡΗΤΟΛΟΓΙΚΟΥ ΣΥΝΕΔΡΙΟΥ (XANIA, 1-8 OKTΩBPIOY 2006), Xania, 323-336.
- THEODORESCU D. 1996 = *La frons scaenae du théâtre: innovations et particularités à l'époque de Zoilos*, in SMITH, ROUECHÉ 1996, 127-148.

- THIERRY N. 1975 = *Une iconographie inédite de la Céne dans un réfectoire rupestre de Capadoce*, in *REByz* 33, 177-185.
- THIERRY N. 1977 = *Peintures d'Asie mineure et de Transcaucasie aux X^e et XI^e s.*, Paris.
- THOMAS E. 2014 = *The Severan Period*, in R. ULRICH, C. QUENEMOEN (eds.), *A Companion to Roman Architecture*, Chichester.
- THOMASSON B.E. 1984 = *Laterculi praesidium 1*, Göteborg.
- THOMSON S.N., STÖCKHERT B., BRIX M.R. 1999 = *Miocene high-pressure metamorphic rocks of Crete, Greece: rapid exhumation by buoyant escape*, in U. RING, M.T. BRANDON, G.S. LISTER, S.D. WILLET (eds.), *Exhumation Processes. Normal Faulting. Ductile Flow and Erosion* (Geological Society London Special Publications 154), London, 87-107.
- THONEMANN P. 2011 = *The Maeander Valley. A Historical Geography from Antiquity to Byzantium*, Cambridge.
- THONEMANN P. 2012 = *Abercius of Hierapolis. Christianization and Social Memory in Late Antique Asia Minor*, in B. DIGNAS, R.R.R. SMITH (eds.), *Historical and Religious Memory in the Ancient World*, Oxford.
- THÜR H. 1985 = *Ephesische Bauhöfen in der Zeit der Flavii und der Adoptivkaiser*, in M. KANDLER (ed.), *Lebendige Altertumswissenschaft, Festgabe zur Vollendung des 70. Lebensjahres von Hermann Vetters*, Wien, 181-187.
- THÜR H. 1989 = *Das Hadrianstor in Ephesos*, *FiE XI*, 1, Wien.
- THÜR H. 1990 = *Arsinoe IV, eine Schwester Kleopatras VII, Grabinhaberin des Oktogons von Ephesos? Ein Vorschlag*, in *ÖJh* 60, 43-56.
- THÜR H. 2005 = *Das Hanghaus 2 in Ephesos. Die Wohneinheit 4. Baubefund, Ausstattung, Funde*, *FiE VIII*, 6, Wien.
- TIREL C., GAUTIER P., VAN HINSBERGEN D.J.J., WORTEL M.J.R. 2009 = *Sequential development of metamorphic core complexes: numerical simulations and comparison to the Cyclades, Greece*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 257-292.
- TOBIN F. 2014 = *The exedra of Demetrios, son of Python, at Labraunda*, in *Opuscula* 7, 32-37.
- TODOROVIĆ U.T. 2014 = *Transcendental Byzantine Body. Reading Dionysius the Pseudo-Areopagite, Gregory of Nyssa and Plotinus in the Unfolded Marble Panels of Hagia Sophia*, in *The Athens Dialogues*, e-journal, <http://athensdialogues.chs.harvard.edu/cgi-bin/WebObjects/athensdialogues.woa/1/wo/NjPdtmviextKuxirm0UjW0/8.0.59.15.0.3.13.5.1.0.1>.
- TOMA N. 2014 = *Von Marmorblock über Halbfabrikat zu korinthischem Kapitell. Zur Kapitellproduktion in der Kaiserzeit*, in LIPPS, MASCHKE 2014b, 83-98.
- TOMA N. 2015a = *Marmor und die Monumentalisierung der urbanen Landschaften römischer Städte. Der Handel mit vorgefertigten Marmorbauteilen und seine Auswirkungen auf das römische Bauwesen und auf das Erscheinungsbild römischer Städte in der Kaiserzeit (1.-3. Jh. n. Chr.)*, unveröffentlichte Dissertation an der Philosophischen Fakultät der Christian-Albrechts-Universität zu Kiel.
- TOMA N. 2015b = *Carving a Corinthian capital. New technical aspects regarding the carving process*, in PENSABENE, GASPARINI 2015, 811-821.
- TOPRAK S., TAŞKIN F., KOÇ A.C. 2009 = *Prediction of earthquake damage to urban water distribution system: a case study for Denizli, Turkey*, in *Bulletin of Engineering Geology and the Environment* 68, 499-510.
- TOPUZ G., ALTHERR R., SCHWARZ W.H., DOKUZ A., MEYER H.-P. 2007 = *Variscan amphibolite-facies rocks from the Kurtoğlu metamorphic complex (Gümüşhane area, Eastern Pontides, Turkey)*, in *International Journal of Earth Sciences* 96, 861-873.
- TORSVIK T.H., COCKS L.R.M. 2009 = *The Lower Palaeozoic palaeogeographical evolution of the northeastern and eastern peri-Gondwanan margin from Turkey to New Zealand* (Geological Society London Special Publications 325), London, 3-21.
- TORSVIK T.H., MÜLLER R.D., VAN DER VOO R., STEINBERGER B., GAINA C. 2008 = *Global plate motion frames: toward a unified model*, in *Reviews of Geophysics* 41, RG3004.
- TOSCANO RAFFA A., SULFARO N., TERRANOVA C. 2012 = *Hierapolis di Frigia: il Ninfeo del*

- Santuario di Apollo*, in S. BUSÀ, P. POMPEIANO, A. STERRANTINO, A. TOSCANO RAFFA, A. VENTO (eds.), *Uno sguardo extra moenia. Riflessioni su identità culturale e circolazione di idee tra Oriente e Occidente*, Marina di Patti, 211-230.
- TRAVERSARI G. 1960 = *Gli spettacoli in acqua nel teatro tardo antico*, Roma.
- TRAVLOS J. 1971 = *Pictorial dictionary of Ancient Athens*, New York.
- TREGGIARI S. 1980 = *Urban Labour in Rome: mercennarii and tabernarii*, in P. GARNSEY (ed.), *Non-slave Labour in the Greco-Roman World*, Cambridge, 48-64.
- TRÉMAUX P. 1858 = *Exploration archéologique en Asie Mineure*, Paris.
- TRILLING J. 1998 = *The Image Not Made by Hands and the Byzantine Way of Seeing*, in H. KESSLER, G. WOLF (eds.), *The Holy Face and the Paradox of Representation*, Bologna, 109-128.
- TRILLMICH W. 1990 = *Colonia Augusta Emerita, Die Hauptstadt von Lusitanien*, in TRILLMICH, ZANKER 1990, 299-318.
- TRILLMICH W. 1994 = *Aspekte der 'Augustus-Nachfolge' des Kaisers Claudius*, in V.M. STROCKA (ed.), *Die Regierungszeit des Kaisers Claudius (41-54 n. Chr.). Umbruch oder Episode?* International Symposium (Freiburg, 16.-18. Februar 1991), Mainz, 69-89.
- TRILLMICH W., HAUSCHILD TH., BLECH M., NIEMEYER H.G., NÜNNERICH-ASMUS A., KREILINGER U. 1993 = *Denkmäler der Römerzeit (HispAnt 2)*, Mainz.
- TRILLMICH W., ZANKER P. (eds.) 1990 = *Stadt und Ideologie. Die Monumentalisierung hispanischer Städte zwischen Republik und Kaiserzeit* (Madrid, 19-23 Oktober 1987) (AbhMünchen 103), München.
- TUCHELT K. 1983 = *Bemerkungen zum Tempelbezirk von Antiochia ad Pisidiaum*, in B. KURT, R.M. BOEHMER, H. HAUPTMANN (eds.), *Beiträge zur Altertumskunde Kleinasien, Festschrift für Kurt Bittel*, Mainz, 501-522.
- TURNBOW H.N. 2011 = *Sarcophagi and Funerary Display in Roman Aphrodisias*, Dissertation New York University.
- TÜRKÜZÜN M. 1993 = *Zwei Säulensarkophage aus der Südwestnekropole in Aizanoi*, in *AA*, 517-526.
- TZESHKLADZE G. forthcoming = *The Phrygian Lands over Time (from Prehistory to the Middle of the 1st Millennium AD). Proceedings of the International Conference* (Eskişehir, 2-8 November 2015).
- TZESHKLADZE G., ADAMS J., AVRAM A., AVRAM S., DANDROW E., MADDEN A., MARANZANA P., NASERDIN L., SCHMIDT A. 2012 = *Pessinus in Phrygia: brief preliminary report of the 2011 field season*, in G. TZESHKLADZE (ed.), *The Black Sea, Paphlagonia, Pontus and Phrygia in Antiquity. Aspects of archaeology and ancient history* (BARIntSer 2432), Oxford, 329-356.
- TZESHKLADZE G., AVRAM A., AVRAM S., DANDROW E., GOODMAN A., HYSI L., MADDEN A., MARANZANA P., MASSÉGLIA P., MONDIN C., SCHMIDT A., STEWART S., WILLIAMS L., YOUNG S. 2015 = *Pessinus, 2013*, in *KST* 36, 1 (Gaziantep, 2-4 Haziran 2014), Ankara, 73-122.
- ULBERT T. 1969-1970 = *Byzantinische Reliefplatten des 6. bis 8. Jahrhunderts*, in *IstMitt* 19-20, 339-357.
- UNDERWOOD P.A. 1967 = *The Kariye Djami*, 1, New York, 300-309.
- UNI 11432:2011 = *Beni culturali - Materiali lapidei naturali ed artificiali - Misura della capacità di assorbimento di acqua mediante spugna di contatto*.
- UNI EN 15886:2010 (English/Italian) = *Conservation of cultural property - Test methods - Colour measurement of surfaces*.
- UNGARO R. 2016 = *Nota su alcuni elementi architettonici di età romana dall'area del Santuario di San Filippo a Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 775-797.
- USAMENTIAGA R., VENEGAS P., GUEREDIAGA J., VEGA L., MOLLEDA J., BULNES F.G. 2014 = *Infrared Thermography for Temperature Measurement and Non-Destructive Testing*, in *Sensors* 14, 7, 12305-12348.
- UYSAL I.T., FENG Y., ZHAO J., ALTUNEL E., WEATHERLEY D., KARABACAK V., CENGİZ O., GOLDING S.D., LAWRENCE M.G., COLLERSON K.D. 2007 = *U-series dating and geochemical tracing of late Quaternary travertine in co-seismic fissures*, in *Earth and Planetary Science Letters* 257, 450-462.

- UYSAL I.T., FENG Y., ZHAO J., IŞIK V., NURIEL P., GOLDING S.D. 2009a = *Hydrothermal CO₂ degassing in seismically active zones during the late Quaternary*, in *Chemical Geology* 265, 442-454.
- UYSAL I.T., ZHAO J., FENG Y., GOLDING S.D. 2009b = *CO₂-driven hydrothermal eruptions in geothermal systems of Turkey*, in *Proceedings of the Thirty-Fourth Workshop on Geothermal Reservoir Engineering* (Stanford, California, February 9-11, 2009), Stanford, 1-4.
- UZ D.M. 1986 = *Teos Dionysos Tapınağı Temenos Alanı*, in *AST 3* (Ankara, 20-24 Mayıs 1985), Ankara, 227-242.
- UZ D.M. 1990 = *The temple of Dionysos in Teos*, in W. HOEPFNER, E.-L. SCHWANDENR (eds.), *Hermogenes und die hochhellenistische Architektur, Internationales Kolloquium* (Berlin, 28.-29. Juli 1988), Mainz, 51-61.
- UZ D.M. 2013 = *Teos'taki Dionysos Tapınağı*, Ankara.
- UZUNOĞLU H. 2015 = *Das Verkehrsnetz von Nord-Ionien (Teos-Lebedos-Klazomenai) anhand alter und neuer Meilensteine*, in *Philia* 1, 166-177.
- VAN BREMEN R. 1996 = *The Limits of Participation. Women and the Civic Life in the Greek East in the Hellenistic and Roman Periods*, Amsterdam.
- VAN HEESCH 2007 = *Some Aspects of Wage Payments and Coinage in Ancient Rome, First to Third Centuries CE*, in J. LUCASSEN (ed.), *Wages and Currency. Global Comparisons from Antiquity to the Twentieth Century*, New York, 77-96.
- VAN HINSBERGEN D.J.J. 2010 = *A key extensional metamorphic complex reviewed and restored. The Menderes Massif of western Turkey*, in *Earth Science Reviews* 102, 60-76.
- VAN HINSBERGEN D.J.J., DEKKERS M.J., KOÇ A. 2010 = *Testing Miocene remagnetization of Bey Dağları. Timing and amount of Neogene rotations in SW Turkey*, in *Turkish Journal of Earth Sciences* 19, 123-156.
- VAN HINSBERGEN D.J.J., HAFKENSCHIED E., SPAKMAN W., MEULENKAMP J.E., WORTEL M.J.R. 2005 = *Nappe stacking resulting from subduction of oceanic and continental lithosphere below Greece*, in *Geology* 33, 4, 325-328.
- VAN HINSBERGEN D.J.J., KRIJGSMAN W., LANGEREIS C.G., CORNÉE J.J., DUERMEIJER C.E., VAN VUGT N. 2007 = *Discrete Plio-Pleistocene phases of tilting and counter clockwise rotation in the southeastern Aegean arc (Rhodos, Greece): early Pliocene formation of the south Aegean left-lateral strike-slip system*, in *Journal of the Geological Society of London* 164, 1133-1144.
- VAN NOTEN K., CLAES H., SOETE J., FOUBERT A., ÖZKUL M., SWENNEN R. 2013 = *Fracture networks and strike-slip deformation along reactivated normal faults in Quaternary travertine deposits, Denizli Basin, western Turkey*, in *Tectonophysics* 588, 154-170.
- VANDEPUT L. 1995 = *Dating by means of architectural decoration. Possibilities and limits*, in M. WAELEKENS, J. POBLOME (eds.), *Sagalassos III, Report on the fourth excavation campaign of 1993* (ActaALovMono 7), Leuven, 129-136.
- VANDEPUT L. 1997 = *The architectural decoration in Roman AsiaMinor. Sagalassos: a case study* (SEMA 1), Turnhout.
- VANDEPUT L., BÜYÜKKOLANCI M. 1999 = *Das Große Propylon in Kremna in Pisidien*, in *IstMitt* 49, 213-248.
- VANHAEVERBEKE H., WAELEKENS M. 2002 = *The Northwestern necropolis of Hierapolis (Phrygia). The chronological and topographical distribution of the travertine sarcophagi and their way of production*, in DE BERNARDI FERRERO 2002a, 119-145.
- VANHAEVERBEKE H., WAELEKENS M., RITTI T. 1999 = *Is plump later? The Possibilities of dating sarcophagi by means of their proportions checked by PCA-Analysis on the Northwestern Necropolis sarcophagi of Hierapolis (Phrygia, Turkey)*, in J.A. BARCELÓ, I. BRIZ, A. VILA (eds.), *New Techniques for Old Times. CAA98. Computer Applications and Quantitative Methods in Archaeology. Proceedings of the 26th Conference* (Barcelona, March 1998) (BARIntSer 757), Oxford, 201-208.
- VEMI V. 1989 = *Les chapiteaux ioniques à imposte de Grèce à l'époque paléochrétienne* (BCH Supplément 17), Athènes-Paris.
- VERLINDE A. 2015 = *The Roman sanctuary site at Pessinus: from Phrygian to Byzantine times*, (Monographs on Antiquity 7), Leuven.
- VERRI G. 2009 = *The spatial resolved characterization of Egyptian Blue, Han Blue and Han*

- Purple by photo-induced luminescence digital imaging*, in *Analytical and Bioanalytical Chemistry* 394, 4, 1011-1021.
- VERRI G., CLEMENTI C., COMELLI D., CATHER S., PIQUÉ F. 2008 = *Post-capture data analyses as an aid to the interpretation of ultraviolet-induced fluorescence images*, in D.G. STORK, J. CODDINGTON (eds.), *Computer Image Analyses in the Study of Art*, Bellingham, 681001-681012.
- VERZONE P. 1960 = *Il Martirium ottagono a Hierapolis di Frigia*, in *Palladio* 1-2, 1-20.
- VERZONE P. 1961-1962 = *Le campagne 1960 e 1961 a Hierapolis di Frigia*, in *ASAtene* 39-40, 633-647.
- VERZONE P. 1965 = *Hierapolis christiana*, in G. BOVINI (ed.), *Corsi di cultura sull'arte ravennate e bizantina XII*, Ravenna, 613-627.
- VERZONE P. 1971 = s.v. "*Hierapolis*", in *RBK* 2, 1208-1212.
- VERZONE P. 1978 = *Hierapolis di Frigia nei lavori della Missione archeologica italiana*, in *Un decennio di ricerche archeologiche I* (Quaderni de 'La ricerca scientifica', CNR, 100), Roma, 391-475.
- VERZONE P. 2003 = *Il ninfeo di Side in Pamfilia*, in *Palladio* 31, 5-22.
- VETTORI S., BRACCI S., CAGGIA P., CANTISANI E., CUZMAN O.A., ISMAELLI T., RIMINESI C., SACCHI B., SCARDOZZI G., D'ANDRIA F. 2016a = *Decay phenomena of marbles in the archaeological site of Hierapolis of Phrygiae (Denizli, Turkey)*, in J. HUGHES, T. HOWIND (eds.), *Science and Art. A Future for Stone. Proceedings of the 13th International Congress on the Deterioration and Conservation of Stone* (Paisley, 6th-10th September 2016), Paisley, 165-172.
- VETTORI S., BRACCI S., CANTISANI E., RIMINESI C., SACCHI B., D'ANDRIA F. 2016b = *A multi-analytical approach to investigate the state of conservation of the wall paintings of Insula 104 in Hierapolis (Turkey)*, in *Microchemical Journal* 128, 279-287.
- VETTORI S., D'ANDRIA F., BRACCI S., CAGGIA P., CANTISANI E., ISMAELLI T., RIMINESI C., SACCHI B., SCARDOZZI G. 2014 = *Preliminary conservation issues study of unearthed marble ruins in the Ploutonion of Hierapolis (Denizli, Turkey)*, ISA 2014, 40th International Symposium on Archaeometry (Los Angeles, 19-23 May 2014), Program and Abstract Book, 177-178.
- VEYNE P. 1976 = *Le pain et le cirque*, Paris.
- VIALET A., GUIPERT G., ALÇİÇEK M.C. 2012 = *Homo Erectus found still further west. Reconstruction of the Kocabaş cranium (Denizli, Turkey)*, in *Comptes Rendus Palevol* 11, 89-95.
- VIOLLET LE DUC E. 1869 = *Dictionnaire Raisonné de l'Architecture Française*, Paris (trad. it. M.A. CRIPPA, *L'architettura ragionata. Estratti dal dizionario*, Milano 1982).
- VLAD BORRELLI L. 2010 = *Conservazione e restauro delle antichità. Profilo storico*, Roma.
- VOGEL-WEIDEMANN U. 1982 = *Die Statthalter von Africa und Asia in den Jahren 14-68 n. Chr.: eine Untersuchung zum Verhältnis Princeps und Senat* (Antiquitas, Reihe 1, Abhandlungen zur alten Geschichte 31), Bonn.
- VOLPE R. 2002 = *Un antico giornale di cantiere delle Terme di Traiano*, in *RM* 109, 377-394.
- VOLPE R. 2010 = *Organizzazione e tempi di lavoro nel cantiere delle terme di Traiano sul colle Oppio*, in CAMPOREALE, DESSALES, PIZZO 2010, 81-91.
- VOLPE R., ROSSI F.M. 2012 = *Nuovi dati sull'edera sud-ovest delle Terme di Traiano sul Colle Oppio. Percorsi, iscrizioni dipinte e tempi di costruzione*, in CAMPOREALE, DESSALES, PIZZO 2012, 69-81.
- VON DIEST W. 1913 = *Nysa ad Maeandrum, nach Forschungen und Aufnahmen in den Jahren 1907 und 1909* (JdI Ergänzungsheft 10), Berlin.
- VON HEAD B. 1906 = *Catalogue of the Greek Coins of Phrygia*, London.
- VON HEAD B. 1977 = *Historia Nummorum. A Manual of Greek Numismatics*, London.
- VON HESBERG H. 1978-1980 = *Zur Datierung des Theaters in der Domitiansvilla von Castel Gandolfo*, in *RendPontAc* 51-52, 305-324.
- VON HESBERG H. 1990a = *Bauornament als kulturelle Leitform*, in TRILLMICH, ZANKER 1990, 341-366.
- VON HESBERG H. 1990b = *Platzanlagen und Hallenbauten in der Zeit des frühen Helle-*

- nismus, in *Akten des XIII. Internationalen Kongresses für Klassische Archäologie* (Berlin, 24.-30. Juli 1988), Mainz, 231-241.
- VON HESBERG H. 1994a = *Die Architekturteile*, in G. HELLENKEMPER-SALIES (ed.), *Das Wrack*, Cologne, 175-194.
- VON HESBERG H. 1994b = *Formen privater Repräsentation in der Baukunst des 2. und 1. Jahrhunderts v. Chr.* (Arbeiten zur Archäologie), Köln.
- VON HESBERG H. 2005 = *Römische Baukunst*, München.
- VON KIENLIN A. 1998-1999 = *Zur baulichen Entwicklung der Agora von Priene*, in *Boreas* 21-22, 241-259.
- VON MERCKLIN E. 1962 = *Antike Figuralkapitelle*, Berlin.
- WADDINGTON W.H. 1872 = *Fastes des provinces asiatiques de l'Empire romain depuis leur origine jusqu'au règne de Dioclétien*, Paris.
- WAEKENS M. 1982 = *Dokimeion. Die Werkstatt der repräsentativen kleinasiatischen Sarkophage. Chronologie und Typologie ihrer Produktion* (AF 11), Berlin.
- WAEKENS M. (ed.) 1986 = *Marmi e sarcofagi frigi*, in *AnnPisa* 16, 661-678.
- WAEKENS M. 1986 = *The Imperial Sanctuary at Pessinus. Archaeological, Epigraphical and Numismatic Evidence for its Date and Identification*, in *EpigrAnat* 7, 37-73.
- WAEKENS M. 1988 = *Production patterns of sarcophagi in Phrygia*, in HERZ, WAEKENS 1988, 139-144.
- WAEKENS M. 1994 = *Cave di marmo*, in *EAA*, II Suppl., Roma, 71-88.
- WAEKENS M. 1997 = *Interdisciplinarity in Classical Archaeology. A Case Study: the Sagalassos Archaeological Research Project (Southwest Turkey)*, in M. WAEKENS, J. POBLOME (eds.), *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995* (ActaALovMono 9), Leuven, 225-252.
- WAEKENS M., DE PAEPE P., MOENS L. 1987 = *Survey in the White Quarries of Anatolia*, in *AST* 4, 113-126.
- WAEKENS M., DE PAEPE P., MOENS L. 1988a = *Quarry and the marble trade in antiquity*, in HERZ, WAEKENS 1988, 11-28.
- WAEKENS M., DE PAEPE P., MOENS L. 1988b = *Patterns of extraction and production in the white marble quarries of the Mediterranean: history, present problems and prospects*, in J.C. FANT (ed.), *Ancient Marble Quarrying and Trade* (BARIntSer 453), Oxford, 81-116.
- WAEKENS M., HERZ N., MOENS L. (eds.) 1992 = *Ancient Stones. Quarrying, Trade and Provenance* (ActaALovMono 4), Louvain.
- WAEKENS M., MUCHEZ P., LOOTS L., DEGRYSE P., VANDEPUT L., ERCAN S., MOENS L., DE PAEPE P. 2002 = *Marble and the Marble Trade at Sagalassos (Turkey)*, in HERRMANN, HERZ, NEWMAN 2002, 370-80.
- WALKER S., MATTHEWS K.J. 1997 = *The marbles of the Mausoleum*, in I. JENKIS, J.B. WAYWELL (eds.), *Sculptors and Sculpture of Caria and the Dodecanese*, London, 49-67.
- WALKER S., WALKER S., MATTHEWS K.J. 1988 = *Recent work in stable isotope analysis of white marble at the British Museum*, in J.C. FANT (ed.), *Ancient Marble Quarrying and Trade. Papers from a colloquium held at the annual meeting of the Archaeological Institute of America* (San Antonio, Texas, December 1986) (BARIntSer 453), Oxford, 117-126.
- WANKEL H. 1979 = *Die Inschriften von Ephesos Ia* (IK 11.1), Bonn.
- WARD-PERKINS J.B. 1951 = *Tripolitania and the Marble Trade*, in *JRS* 41, 89-104.
- WARD-PERKINS J.B. 1980 = *Nicomedia and the Marble Trade*, in *BSR* 48, 23-69.
- WARD-PERKINS J.B. 1981 = *Roman Imperial Architecture*, Harmondsworth.
- WARD-PERKINS J.B. 1993 = *The Severan Buildings of Lepcis Magna* (Libyan Studies Monograph 2), London.
- WARD-PERKINS J.B., DODGE H. (eds.) 1992 = *Marble in antiquity: collected papers of J.B. Ward-Perkins* (Archaeological monographs of the British School at Rome 6), London.
- WARDA J., FREY F., HELLER D., KUSHEL D., VITALE T., WEAVER G. 2011² = *Ultraviolet photography*, in J. WARDA (ed.), *AIC Guide to Digital Photography and Conservation Documentation*, Washington.

- WESTAWAY R. 1990 = *Block rotation in western Turkey 1st observational evidence*, in *Journal of Geophysical Research* 95, 857-884.
- WESTAWAY R. 1993 = *Neogene evolution of the Denizli region of western Turkey*, in *Journal of Structural Geology* 15, 37-53.
- WESTAWAY R. 1998 = *Dependence of active normal fault dips on lower crustal flow regimes*, in *Journal of Geological Society of London* 155, 233-253.
- WESTAWAY R., GUILLOU H., YURTMEN S., DEMIR T., SCAILLET S., ROWBOTHAM G. 2005 = *Constraints on the timing and regional conditions at the start of the present phase of crustal extension in western Turkey, from observations in and around the Denizli region*, in *Geodinamica Acta* 18, 3-4, 209-238.
- WESTAWAY R., PRINGLE M., YURTMEN S., DEMIR T., BRIDGLAND D., ROWBOTHAM G., MADDY D. 2003 = *Pliocene and Quaternary surface uplift of western Turkey revealed by long-term river terrace sequences*, in *Current Science* 84, 1090-1101.
- WESTHOLM A. 1963 = *The architecture of the Hieron*, Lund.
- WEYL CARR A., NICOLAÏDÈS A. (eds.) 2012 = *Asinou across times. Studies in the architecture and murals of the Panagia Phorbiotissa, Cyprus*, Princeton.
- WIEGARTZ H. 1965 = *Kleinasiatische Säulensarkophage. Untersuchungen zum Sarkophagtypus und zu den figürlichen Darstellungen*, Berlin.
- WIEGARTZ H. 1974 = *Marmorhandel, Sarkophagerstellung und die Lokalisierung der kleinasiatischen Säulensarkophage*, in *Mansel'e armağan. Mélanges Mansel 1*, Ankara, 345-383.
- WIENHOLZ H. 2014 = *Baalbek und die Freiheit der Ausführung*, in LIPPS, MASCHKE 2014b, 117-128.
- WILL E. 1985 = *Le sanctuaire de la Déesse Syrienne, Délos 35*, Paris.
- WILLIAMS T.B. 2014 = *Good Works in 1 Peter: Negotiating Social Conflict and Christian Identity in the Greco-Roman World* (Wissenschaftliche Untersuchungen zum Neuen Testament 337), Tübingen.
- WILSON-JONES M. 2000 = *Principles of Roman Architecture*, New Haven.
- WINFIELD D. 2012 = *The murals of the Narthex: the paintings of the Twelfth Century. Part Two: the mural of St. Georges: technique and conservation*, in WEYL CARR, NICOLAÏDÈS 2012, 102-112.
- WINTER E. 1996 = *Staatliche Baupolitik und Baufürsorge in den römischen Provinzen des kaiserzeitlichen Kleinasien* (AMS 20), Bonn.
- WINTER J. E. 1990 = *Studies in Hellenistic Architecture*, Toronto.
- WIPLINGER G. (ed.) 2006 = *Cura Aquarum in Ephesus. Proceedings of the Twelfth International Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region II* (Ephesus-Selçuk, 2-10 October 2004) (BABesch Supplement 12), Leuven.
- WITTE-ORR J. 2003 = *Technical study of frescoes and mosaics from the lower city church*, in C.S. LIGHTFOOT (ed.), *Amorium Reports II. Research papers and technical Reports* (BARIntSer 1170), London.
- WOODSIDE J., MASCLE J., HUGUEN C., VOLKONSKAIA A. 2000 = *The Rhodes basin, a post-Miocene tectonic trough*, in *Marine Geology* 165, 1-12.
- WULF-RHEIDT U. 2009 = *Warum konnte der römische Ziegelbau in Kleinasien keine Erfolgsgeschichte werden?*, in BACHMANN 2009, 497-507.
- XYDIS S.G. 1947 = *The Chancel Barrier, Solea, and Ambo of Hagia Sophia*, in *ArtB* 29, 1-24.
- YALÇINER C.Ç., BANO M., KADIOĞLU M., KARABACAK V., MEGHRAOUI M., ALTUNEL E. 2009 = *New temple discovery at the Archaeological site of Nysa (western Turkey) using GPR Method*, in *JASc* 36, 8, 1680-1689.
- YALÇINER C.Ç. 2013 = *Investigation of the subsurface geometry of fissure-ridge travertine with GPR, Pamukkale, western Turkey*, in *Journal of Geophysics and Engineering* 10, 1-10.
- YAVUZ A.B., BRUNO M., ATTANASIO D. 2011 = *An updated, multi-method database of Ephesos marbles*, in *Archaeometry* 53, 2, 215-240.
- YAVUZ A.B., BRUNO M., ATTANASIO D. 2012 = *A new source of bigio antico marble: the*

- ancient quarries of Iznik (Turkey), in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 255-262.
- YAVUZ M., ÇOBANOĞLU G. 2007 = *Lichen Flora of Pamukkale (Hierapolis), Turkey*, in *Pakistan Journal of Biological Science* 10, 2998-3001.
- YEGÜL F. 1986 = *The Bath-Gymnasium Complex at Sardis, Archaeological Exploration of Sardis Report 3*, Cambridge-London.
- YILDIZ H., ŞİMŞEK C. 2000 = *Sarcophagi a ghirlande dalla necropoli di Laodicea al Lykos*, in D'ANDRIA, SILVESTRELLI 2000, 99-140.
- YILMAZ Y. 2001 = *Some striking features of the Anatolian geology*, in *Fourth International Turkish Geology Symposium*, Abstract Volume, Çukurova University, Adana, 13.
- YOUNES A., GAIED M. E., GALLALA W. 2012 = *Stone blocks used for the building of the Thysdrus and Thapsus amphitheatres in Tunisia*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 452-462.
- YUKSEL F., BRAMWELL B., YUKSEL A. 1999 = *Stakeholder interviews and tourism planning at Pamukkale, Turkey*, in *Tourism Management* 20, 351-360.
- ZABRANA L. 2011 = *Vorbericht zur sog. Tribüne im Artemision von Ephesos - ein neues Odeion im Heiligtum der Artemis*, in *ÖJh* 80, 341-364.
- ZACCARIA RUGGIU A. 2007 = *Regio VIII, insula 104. Le strutture abitative: fasi e trasformazioni*, in D'ANDRIA, CAGGIA 2007, 211-256.
- ZACCARIA RUGGIU A. 2012 = *Un quartiere residenziale: l'insula 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 419-442.
- ZACCARIA RUGGIU A. 2014 = *Sistemi decorativi dall'insula residenziale 104 a Hierapolis di Frigia*, in N. ZIMMERMANN (ed.), *Antike Malerei zwischen Lokalstil und Zeitstil. Akten des XI. Internationalen Kolloquiums der AIPMA (Association Internationale pour la Peinture Murale Antique)* (Selçuk, 13.-17. September 2010) (AF 23), Wien, 209-220.
- ZACCARIA RUGGIU A. 2016 = *Scavi e restauri nell'insula abitativa 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 279-292.
- ZACCARIA RUGGIU A., BORTOLIN R. forthcoming = *Hierapolis di Frigia. Le abitazioni dell'Insula 104*, Istanbul.
- ZACCARIA RUGGIU A., MAZZOCCHIN G.A. 2012 = *Appendice: analisi di frammenti di intonaco dalla Casa dell'Iscrizione Dipinta*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 443-452.
- ZACHARIASSE W.J., VAN HINSBERGEN D.J.J., FORTUIN A.R. 2008 = *Mass wasting and uplift on Crete and Karpathos (Greece) during the early Pliocene related to beginning of south Aegean left-lateral, strike slip tectonics*, in *Geological Society of America Bulletin* 120, 976-993.
- ZANKER P. 1989 = *Augusto e il potere delle immagini*, Torino.
- ZIMMERMANN M. 2011 = *Pergamon. Geschichte, Kultur, Archäologie*, München.
- ZUIDERHOEK A. 2009 = *The Politics of Munificence in the Roman Empire. Citizens, Elites, and Benefactors in Asia Minor*, Cambridge.
- ZUIDERHOEK A. 2010 = *Oligarchs and Benefactors. Elite Demography and Euergetism in the Greek East of the Roman Empire*, in O.M. VAN NIJF, R. ALSTON (eds.), *Political Culture in the Greek City after the Classical Age*, Leuven, 185-195.
- ZUIDERHOEK A. 2013 = *Cities, Buildings and Benefactors in the Roman East*, in C.P. DICKENSON, O.M. VAN NIJF (eds.), *Public Space in the Post-Classical City*, Leuven, 173-192.
- ZWINGMANN N. 2012 = *Antiker Tourismus in Kleinasien und den vorgelagerten Inseln: Selbstvergewisserung in der Fremde* (Antiquitas Reihe 1, Abhandlungen zur alten Geschichte 59), Bonn.

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