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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

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**Καλά Χριστούγεννα!
Merry Christmas!**

Newsletter of the Hellenic Society of Archaeometry

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

ΠΡΟΣΚΛΗΣΗ ΣΥΜΜΕΤΟΧΗΣ ΣΤΟ 5^Ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΨΗΦΙΟΠΟΙΗΣΗΣ ΠΟΛΙΤΙΣΤΙΚΗΣ ΚΛΗΡΟΝΟΜΙΑΣ, ΤΕΤΑΡΤΗ 6– ΣΑΒΒΑΤΟ 9 ΜΑΡΤΙΟΥ 2024, ΔΗΜΟΤΙΚΗ ΠΙΝΑΚΟΘΗΚΗ ΛΑΡΙΣΑΣ - 5TH PAN- HELLENIC CONFERENCE ON DIGITAL CULTURAL HERITAGE-EUROMED)

Καταληκτική ημερομηνία υποβολής περιλήψεων εργασιών ή POSTERS από τους συγγραφείς 25 Ιανουαρίου 2024

ΝΕΑ ΗΜΕΡΟΜΗΝΙΑ ΠΡΑΓΜΑΤΟΠΟΙΗΣΗΣ ΤΟΥ ΣΥΝΕΔΡΙΟΥ ΛΑΡΙΣΑ, Τετάρτη 6– Σάββατο 9 Μαρτίου 2024, Δημοτική Πινακοθήκη Λάρισας

Η μεγάλη συνάντηση των Νέων Τεχνολογιών με την Πολιτιστική Κληρονομιά
Πολιτισμός, Παιδεία, Τεχνητή Νοημοσύνη, Νέες Τεχνολογίες, Καινοτομία,
Τουρισμός, Κλιματική Αλλαγή

Όλες οι λεπτομέρειες στο www.euromed-dch.eu

Αγαπητοί μας Σύεδροι, Φίλοι και Συνεργάτες,

Λόγω :

- ☐ των θεομηνιών που έπληξαν τη Θεσσαλία το τελευταίο χρονικό διάστημα, δημιουργώντας σοβαρά προβλήματα,
- ☐ των αλλεπάλληλων εκλογικών αναμετρήσεων για την Τοπική Αυτοδιοίκηση Α' και Β' Βαθμού και
- ☐ λόγω πολλών αιτημάτων, εξαιτίας των παραπάνω λόγων, από Φορείς και ανεξάρτητους εισηγητές-ερευνητές, να δοθεί περισσότερος χρόνος για την προετοιμασία των εργασιών ορίζεται νέα ημερομηνία πραγματοποίησης του Συνεδρίου από το Νοέμβριο 2023, στις 6-7-8-9 Μαρτίου 2024, στην Λάρισα και στον ίδιο χώρο (Δημοτική Πινακοθήκη Λάρισας).

Για τον λόγο αυτό ανακοινώνεται η διοργάνωση του 5ου ΠΑΝΕΛΛΗΝΙΟΥ ΣΥΝΕΔΡΙΟΥ ΨΗΦΙΟΠΟΙΗΣΗΣ ΠΟΛΙΤΙΣΤΙΚΗΣ ΚΛΗΡΟΝΟΜΙΑΣ-EuroMed, που έχει θεσμοθετηθεί και διοργανώνεται στην Ελλάδα κάθε δύο (2) χρόνια, σε ΝΕΑ ΗΜΕΡΟΜΗΝΙΑ, μετά από απόφαση των διοργανωτών Φορέων, που είναι:

- ☐ το Τεχνολογικό Πανεπιστήμιο Κύπρου (ΤΕ.ΠΑ.Κ.- Εργαστήριο Ψηφιακής Πολιτιστικής Κληρονομιάς(UNESCO Chair on Digital Cultural Heritage και EU-ERA Chair on Digital Cultural Heritage) ,
- ☐ το Πανεπιστήμιο Δυτικής Αττικής (Πανεπιστημιακό ΕΡΓΑΣΤΗΡΙΟ Μη – Καταστροφικών Ελέγχων και Μεθοδολογιών Διάγνωσης Συστημάτων (NDT-SD Lab),

του Τμήματος Μηχανικών Βιομηχανικής Σχεδίασης και Παραγωγής της Σχολής Μηχανικών) και

□ ο Πολιτιστικός Οργανισμός "Δίκτυο ΠΕΡΡΑΙΒΙΑ" (Εργαστήριο Ψηφιοποίησης Πολιτιστικής Κληρονομιάς).

Σας προσκαλούμε, λοιπόν, να λάβετε μέρος, σε αυτή τη μεγάλη συνάντηση της επιστημονικής κοινότητας με τον Ελληνικό Πολιτισμό, ως ΕΙΣΗΓΗΤΕΣ ή ως ΣΥΝΕΔΡΟΙ, όπου θα εξεταστούν και αναλυθούν όλοι οι σύγχρονοι προβληματισμοί που απασχολούν την ανθρωπότητα σε σχέση με την Πολιτιστική Κληρονομιά.

Το Συνέδριο θα πραγματοποιηθεί στο Αμφιθέατρο και στους εξαιρετικούς χώρους της Δημοτικής Πινακοθήκης Λάρισας-Μουσείο «Γ.Ι. Κατσίγρα»- Νεάπολη Λάρισας, <https://www.katsigrasmuseum.gr/>). Τετάρτη 6– Σάββατο 9 Μαρτίου 2024.

Οι εγγραφές συνέδρων και η αποστολή εργασιών άρχισαν.

Θα πρέπει να τονίσουμε ότι τα μοναδικά αυτά Συνέδρια, που λόγω της θεματολογίας τους, χαρακτηρίστηκαν, απ' όλους, ως πρωτοπόρα και καινοτόμα, αλλά και ως εθνικής σημασίας, συγκεντρώνουν το ενδιαφέρον όλου του Ελληνισμού (εντός και εκτός Ελλάδος) και τα προηγούμενα Συνέδρια τελούσαν υπό την Αιγίδα της ΑΕ του Προέδρου της Ελληνικής Δημοκρατίας και της Α.Θ. Παναγιότητος του Οικουμενικού Πατριάρχου Κωνσταντινουπόλεως κ.κ. Βαρθολομαίου, ενώ είχαν και την υποστήριξη-αιγίδα του Υπουργείου Ψηφιακής Διακυβέρνησης, του Υπουργείου Πολιτισμού και Αθλητισμού, του Υπουργείου Τουρισμού, της Ιεράς Αρχιεπισκοπής Αθηνών, του Ελληνικού Οργανισμού Τουρισμού, της Κυπριακής Πρεσβείας στην Ελλάδα, του Πανεπιστημίου Θεσσαλίας και πολλών παγκόσμιων επιστημονικών Οργανισμών (ICOMOS, ICOM, UNESCO, Ε.Ε. κ.ά.). Το ίδιο θα συμβεί και με το 5ο Συνέδριο.

Στο πλαίσιο του 5ου Πανελλήνιου Συνεδρίου προσκαλείται όλη η επιστημονική και ερευνητική κοινότητα, από την Ελλάδα και την Κύπρο, αλλά και Έλληνες και Κύπριοι ερευνητές ανά την υφήλιο, να δηλώσουν τη συμμετοχή τους ως Σύνεδροι, αλλά και ως εισηγητές, υποβάλλοντας τις εισηγήσεις και τα Posters τους, μέσω της επίσημης ιστοσελίδας του Συνεδρίου www.euromed-dch.eu.

Το σημαντικό αυτό Συνέδριο, συγκεντρώνει το ενδιαφέρον της επιστημονικής κοινότητας, κάθε δύο χρόνια και αποτελεί τη μεγάλη συνάντηση της Επιστήμης με τον Ελληνικό Πολιτισμό, με κέντρο την παιδεία, την έρευνα, την καινοτομία, τις ψηφιακές τεχνολογίες και τον πολιτιστικό τουρισμό, αξιοποιώντας την απήχηση και σεβασμό, που τρέφει η παγκόσμια κοινότητα στον Ελληνικό Πολιτισμό και που πρέπει να διεκδικήσει τη θέση που του αξίζει.

Έχει χαρακτηριστεί από τα αρμόδια Υπουργεία, αλλά κυρίως από την επιστημονική κοινότητα, ως καινοτόμο και πρωτοπόρο για την Ελλάδα και έχει καταστεί θεσμός από το 2015, γιατί παρουσιάζει, όχι μόνο το τεράστιο έργο που επιτελείται από σημαντικούς Έλληνες και Κυπρίους επιστήμονες στην Ελλάδα και στο εξωτερικό, αλλά και γιατί παρουσιάζει τις παγκόσμιες εξελίξεις στον μεγάλο τομέα της Ψηφιοποίησης της Πολιτιστικής Κληρονομιάς του Ανθρώπου, στο σύνολό του.

Ιδιαίτερα, μετά και τη μεγάλη καταστροφή στο παγκόσμιο μνημείο πολιτιστικής κληρονομιάς, της Παναγίας των Παρισίων, αλλά και τόσων άλλων μνημείων αυτά τα

χρόνια, στην Ελλάδα και τον κόσμο, αναδεικνύεται η αξία και η σημασία της Ψηφιοποίησης και της διοργάνωσης τέτοιων επιστημονικών Συνεδρίων, που αναδεικνύουν την καινοτομία, την έρευνα, τις Νέες Τεχνολογίες και την μεγάλη προσπάθεια της επιστημονικής κοινότητας για τη διάσωση του Πολιτιστικού Αποθέματος του Ανθρώπου.

Επίκαιρα θέματα στο μικροσκόπιο της Επιστήμης

Από πλευράς Διοργανωτών τονίζεται ότι το Πανελλήνιο Συνέδριο θα πρέπει να επικαιροποιεί, κάθε δύο χρόνια, τα θεματικά του πεδία, λαμβάνοντας υπόψη τις παγκόσμιες εξελίξεις.

Το φετινό Συνέδριο θα αναλύσει σημαντικές παγκόσμιες προκλήσεις, όπως είναι η κλιματική αλλαγή και οι επιπτώσεις της στην πολιτιστική κληρονομιά, ο πολιτισμός – τουρισμός, η Τεχνητή Νοημοσύνη, ο ρόλος της τοπικής αυτοδιοίκησης Α' και Β' βαθμού στη διάσωση και ανάδειξη της πολιτιστικής κληρονομιάς και της δημιουργίας αναπτυξιακής δυναμικής της, τις νέες τεχνολογίες στη δημιουργία ψηφιακών μουσείων, τις παγκόσμιες τράπεζες δεδομένων και μετα-δεδομένων (π.χ. Europeana), την επιχειρηματικότητα που δημιουργεί η προστασία και η ανάδειξη της πολιτιστικής μας κληρονομιάς, της λεγόμενης δημιουργικής βιομηχανίας, το HBIM και τα Ψηφιακά Δίδυμα, θέλοντας το Συνέδριο αυτό, πέρα από τον βαθιά επιστημονικό του ρόλο, να έχει και έναν αναπτυξιακό χαρακτήρα και να συμβάλει στη δημιουργία της Ελλάδας του Μέλλοντος, μέσα από τον πολιτισμό και την ανάπτυξη που αυτός μπορεί να δημιουργήσει.

Βραβεύσεις-Best Practices Awards On Digital Cultural Heritage

Θα δοθούν :

- ☐ 3 Βραβεία Καλύτερης Εργασίας,
- ☐ 3 Έπαινοι Καλύτερης Εργασίας και
- ☐ 6 Βραβεία σε Φορείς Τοπικής Αυτοδιοίκησης που θα υποβάλλουν εργασία και θα παρουσιάσουν τις δράσεις τους (Σε 3 Περιφέρειες και σε 3 Δήμους)

Το Συνέδριο αφορά:

☐ Επιστημονικό δυναμικό των Πανεπιστημίων Ελλάδας και Κύπρου, Ιδρυμάτων και Ινστιτούτων, όλων των βαθμίδων , με ειδίκευση στην Αρχαιολογία, Ιστορία, Γεωλογία, Βιολογία, Ανθρωπολογία, Χημεία, Πληροφορική, Φυσική, Μαθηματικά, Πολιτισμική Πληροφορική, Πολυτεχνεία (Ηλεκτρολόγοι Μηχανικοί, Πολιτικοί Μηχανικοί, Αρχιτέκτονες κ.ά.), Συντηρητές Ανασκαφικών Ευρημάτων και Έργων Τέχνης, Γραφιστικές Τέχνες κ.α., ειδικότητες δηλ. που εμπλέκονται με οποιονδήποτε τρόπο στο μεγάλο θέμα της Ψηφιοποίησης της Πολιτιστικής Κληρονομιάς.

☐ Στελεχιακό δυναμικό των Υπουργείων : Κλιματικής Κρίσης και Πολιτικής Προστασίας, Ψηφιακής Διακυβέρνησης, Ανάπτυξης, Περιβάλλοντος και Ενέργειας, Πολιτισμού, Εξωτερικών, Παιδείας, Θρησκευμάτων και Αθλητισμού

☐ Στελεχιακό δυναμικό Εφορειών Αρχαιοτήτων, ICOMOS Ελλάδος και Κύπρου, Μουσείων, Γενικών Αρχείων του Κράτους, κρατικών και ιδιωτικών βιβλιοθηκών, Ιερών Μητροπόλεων της Εκκλησίας της Ελλάδος και άλλων Εκκλησιών, Ομοσπονδιών, Συλλόγων Επιστημόνων, Ένωση Ελλήνων Συντηρητών, Ελληνική Αρχαιομετρική Εταιρεία, Ένωση Αρχαιολόγων, Σύλλογο Αρχιτεκτόνων, ICOM Ελλάδος και Κύπρου,

Συλλογικοτήτων, Μελετητικών Εταιριών, Φορείς υλοποίησης Εθνικών και Ευρωπαϊκών Προγραμμάτων, Μη Κυβερνητικών Οργανώσεων κ.ά. όπως και τους αντίστοιχους Φορείς της Κύπρου.

- ☐ Στελέχη άλλων Υπουργείων
- ☐ Στελέχη ΟΤΑ Α' και Β' Βαθμού
- ☐ Έλληνες και Κύπριους που εργάζονται σε Ελληνικά και Ξένα Πανεπιστήμια, Ερευνητικά Κέντρα σχετικά με τον Πολιτισμό
- ☐ Έλληνες και Κύπριους Φοιτητές Ελληνικών και Ξένων Πανεπιστημίων
- ☐ Ανεξάρτητους Επιστήμονες και Ερευνητές στην Ελλάδα, Κύπρο και όλο τον κόσμο
- ☐ Γενικά, κάθε ενδιαφερόμενο σε θέματα ψηφιοποίησης της Πολιτιστικής Κληρονομιάς

Οι θεματικοί άξονες εργασιών του Συνεδρίου είναι οι ακόλουθοι:

- 1 Τρισδιάστατη απεικόνιση και Εκτύπωση -Νέες τεχνολογίες στις ανθρωπιστικές επιστήμες
- 2 Τεχνητή Νοημοσύνη και εφαρμογές στον Πολιτισμό
- 3 Ψηφιοποίηση στην Αρχαιολογία και ανάδειξη της πολιτιστικής κληρονομιάς στο ψηφιακό πολυμεσικό περιβάλλον και διαδίκτυο (Εκπαίδευση, Η παιχνιδιοποίηση και ο ρόλος του Gaming στο χώρο της πολιτιστικής κληρονομιάς κ.ά.)
- 4 Πολιτιστικός και Θρησκευτικός Τουρισμός-Ψηφιακή Πολιτιστική κληρονομιά και η διαχείρισή της
- 5 Κλιματική Αλλαγή και Πολιτιστική Κληρονομιά
- 6 Μουσεία, Βιβλιοθήκες -Πινακοθήκες- Ψηφιακές Τεχνολογίες-Europeana
- 7 Τοπική Αυτοδιοίκηση και Πολιτιστική Κληρονομιά –Μνημεία σε κίνδυνο
- 8 Δημιουργία Έξυπνων και Δημιουργικών Πόλεων σε κίνηση -Κόμβοι Καινοτομίας – Βιομηχανική Αρχαιολογία -Ψηφιακές τεχνολογίες προσβασιμότητας στην δημιουργική βιομηχανία
- 9 Δημιουργική Βιομηχανία και επιχειρηματικές ευκαιρίες στον Πολιτισμό
- 10 Εμπειρίες, Νέες Προκλήσεις και Προοπτικές για την ψηφιακή κοινωνία της Πολιτιστικής Κληρονομιάς-Πόροι και χρηματοδοτικά εργαλεία
- 11 HBIM (Heritage Building Information Modeling) και Ψηφιακά Δίδυμα (digital twins)

Επίσης, το σημαντικό αυτό Συνέδριο :

1. αποτελεί ιστορική αναγκαιότητα για την Ψηφιοποίηση της Πολιτιστικής Κληρονομιάς, ιδιαίτερα των θρησκευτικών μας Μνημείων που πρέπει να καταγραφούν και να διασωθούν
2. θα συγκεντρώσει τους καλύτερους επιστήμονες που εργάζονται στο ερευνητικό πεδίο της Ψηφιοποίησης απ' όλο τον κόσμο
3. θα φέρει κοντά όλους τους Έλληνες και Κυπρίους επιστήμονες με τη δημιουργία συνεργασιών και συμπράξεων
4. θα παρουσιαστούν όλες οι τελευταίες εξελίξεις στις νέες τεχνολογίες και όλα τα Ευρωπαϊκά Προγράμματα που βρίσκονται σε εξέλιξη και αφορούν τον Πολιτισμό
5. θα αναδείξει τον Ελληνικό Πολιτισμό, σε όλο τον κόσμο

ΠΡΟΓΡΑΜΜΑΤΙΣΜΟΣ ΥΠΟΒΟΛΗΣ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΕΡΓΑΣΙΩΝ

Μέχρι 25 Ιανουαρίου 2024

Καταληκτική ημερομηνία υποβολής περιλήψεων εργασιών ή POSTERS από τους συγγραφείς

Μέχρι 5 Φεβρουαρίου 2024

Αξιολόγηση εργασιών από Επιστημονική Επιτροπή (Αποδοχή ή απόρριψη εργασίας)

Μέχρι 5 Φεβρουαρίου 2024

Ενημέρωση συγγραφέων σχετικά με αποδοχή εργασιών από την Επιστημονική Επιτροπή
Μέχρι 25 Φεβρουαρίου 2024

Καταληκτική ημερομηνία υποβολής Full Papers από τους συγγραφείς

(Σημειώνεται ότι η ΕΜΠΡΟΘΕΣΜΗ υποβολή του Full Papers είναι απαραίτητη προϋπόθεση για να μπορεί να παρουσιαστεί η εργασία στο Συνέδριο).

Σε αντίθετη περίπτωση η παρουσίαση της εργασίας στο Συνέδριο δεν θα είναι εφικτή και ως εκ τούτου δεν μπορεί να συμπεριληφθεί στα ΠΡΑΚΤΙΚΑ του Συνεδρίου).

Όλοι οι συμμετέχοντες θα λάβουν ΒΕΒΑΙΩΣΗ ΣΥΜΜΕΤΟΧΗΣ.

Η υποβολή των εργασιών γίνεται μέσα από την επίσημη ιστοσελίδα του Συνεδρίου (www.euromed-dch.eu, από την οποία θα ενημερώνεστε για όλες τις εξελίξεις).

Σας ενημερώνουμε ότι το Συνέδριο θα πραγματοποιηθεί υβριδικά, ήτοι :

1. με φυσική παρουσία, που είναι άκρως προτεινόμενη από τους Διοργανωτές, που θα διοργανώσουν και θεματικές συναντήσεις για τη γνωριμία των επιστημόνων μεταξύ τους (Στρογγυλές Τράπεζες) , επαφές που δεν αντικαθίσταται από την τεχνολογία και
2. όταν δεν είναι εφικτή η φυσική παρουσία .μέσω διαδικτύου.

Όλες οι λεπτομέρειες θα ανακοινωθούν σύντομα στην επίσημη ιστοσελίδα του Συνεδρίου www.euromed-dch.eu (ξενοδοχεία, μετακινήσεις, παράλληλες εκδηλώσεις, Key Note Speakers κλπ).

Πληροφορίες: Κων. Σκριάπας,
Τηλέφ. 6974-881944,
E-Mail: euromed.greece@gmail.com

Με Εκτίμηση

Εκ μέρους των Διοργανωτών Φορέων των Συνεδρίων EUROMED

**ΤΕΧΝΟΛΟΓΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ-
ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ-
ΔΙΚΤΥΟ "ΠΕΡΡΑΙΒΙΑ"**

ΣΤΟΙΧΕΙΑ ΟΡΓΑΝΩΤΙΚΗΣ ΕΠΙΤΡΟΠΗΣ

Ονοματεπώνυμο Ιδιότητα-Φορέας Στοιχεία Επικοινωνίας

ΚΥΠΡΟΣ

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Κων/νος Σκριάπας

Οικονομολόγος -Σύμβουλος Ανάπτυξης & Επιχειρηματικότητας-Πρόεδρος ΔΣ Δικτύου
'ΠΕΡΡΑΙΒΙΑ"- Δευτεροβάθμιος Φορέας Πολιτισμού και Επιστημών - ΘΕΣΣΑΛΙΑ-
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INTERNATIONAL SYMPOSIUM ENERGY ISSUES AND ARCHAEOLOGICAL, BUILT AND LANDSCAPE HERITAGE: HISTORICAL PERSPECTIVES, MONTREAL, SEPTEMBER 27, 2024, CALL FOR PAPERS

The planning and development of major energy projects since the "Trente Glorieuses" has disturbed significant areas in urban, rural, and northern territories. For instance, the construction of vast hydroelectric complexes in northern Quebec and Canada has altered existing ecosystems and transformed the ancestral territories of indigenous peoples.

In France and Germany, the construction of nuclear power plants has reshaped the landscape of many rural and agricultural areas, thus changing their socio-economic profile.

From the 1960s and 1970s onwards, as new social movements emerged to challenge the established order, these great projects and the environmental risks associated with them faced rising issues of social acceptability. Numerous environmental groups, scientific experts, First Nations spokespersons and committed citizens are campaigning for the protection of territories and ecosystems. In doing so, they are calling for energy project planning practices to be reviewed or improved to consider the concerns of local, regional, and national communities. It is in this context that a new interest is emerging within energy producers themselves, and in concert with various governments, in the implementation of preventive and mitigating measures aimed not only at protecting the environment, but also at protecting the collective heritage.

In this respect, the case of Hydro-Québec is rather revealing: In 1970, the company created the Environmental Protection Committee, which in 1973 became the Environment Directorate, a multidisciplinary administrative structure dedicated to protect what is then called "human ecology". In James Bay, the Société de développement de la Baie James (SDBJ) and the Société d'énergie de la Baie James (SEBJ), subsidiaries of Hydro-Québec, transformed this northern territory into a vast laboratory where hundreds of environmental impact studies were carried out. It is in this new context, which coincides with the application of the Cultural Property Act and the Environment Quality Act, that the state-owned company has established itself as a major player in archaeological and cultural heritage research in Quebec.

Recent scientific initiatives have focused on the relationship between energy and environmental protection. The aim of this symposium will be to study practices associated with heritage protection (archaeological, built, landscape) in the context of planning, development, and management of energy projects. It will analyze policies and initiatives for the protection of heritage threatened by energy infrastructures (dams, power plants, transmission lines, electrical substations, etc.), with a particular focus on archaeological practices and activities that have not been the subject of in-depth, comparative study to date.

Bringing together historians, archaeologists, heritage specialists and experts working for energy producers in North America and Europe, the symposium aims to address, in a multidisciplinary and cross-disciplinary framework, the approaches and efforts deployed by many companies to protect, conserve and enhance archaeological, built and landscape heritage in the context of energy development and transition, land use planning, asset management, environmental protection, the fight against climate change and memorial issues.

More broadly, contributions may address the following (non-exhaustive) themes:

- The legislative and political context for archaeological practices and heritage protection;
- The study of archaeological practices and the management of built and landscape heritage, including methodological considerations;
- The actors involved in the various types of archaeological intervention;
- Those involved in the management of built and landscape heritage;
- Archaeological, built and landscape heritage enhancement projects;
- Major archaeological worksites associated to energy projects and their importance in advancing knowledge and improving practices;
- A comparison of archaeological, built, and landscape heritage promotion practices and activities according to energy project type (nuclear power plants, power lines, thermal power plants, hydroelectric power plants, wind farms, etc.);
- A comparison of archaeological, built, and landscape heritage activities and practices between two (or more) energy producers;
- The joint development and the relationship between the natural and the human environments.

Sponsored by Hydro-Québec and the Comité d'histoire de l'électricité et de l'énergie (EDF, France), the symposium will be held at Hydro-Québec's Environment Directorate offices in Montreal on September 27, 2024. Those interested in submitting a paper should provide, by January 26, 2024, an abstract of approximately 250 words, including a title and a description of the main sections to be developed during the paper. They should also submit a biographical note (7-8 lines) specifying their contact details, institutional affiliation, area of specialization and a list of publications, if any. Proposals should be sent to savard.stephane@uqam.ca for evaluation by the scientific committee. Please note that proposals may be submitted in French or English. The symposium will be followed by the publication of the proceedings in a scholarly journal. To this end, participants will be invited to submit a final version of their text by the end of 2024, for publication in 2025. The text should be between 7,000 and 10,000 words (including notes).

We are looking forward to seeing you in Montreal in 2024!

The members of the Scientific and Organizing Committee

Martin Perron, Archaeologist, Hydro-Québec (co-chair)

Stéphane Savard, Professor of History, Université du Québec à Montréal (co-chair)

Michelle Bélanger, Specialist in built and industrial heritage, Hydro-Québec

Christian Gates St-Pierre, Professor of Archaeology, Université de Montréal

Alexandra Lemarcis, Specialist in built and industrial heritage, Hydro-Québec

Charles-François Mathis, Professor of History, Université Paris 1 Panthéon-Sorbonne

Philippe Pinet, Ph.D. student in History, Université du Québec à Montréal

Mathieu Roy, Ph.D. student in History, Université du Québec à Montréal

Manon Savard, Professor of Archaeology and Geography, Université du Québec à Rimouski

2024 EDITION OF EXRS CONFERENCE, 24-28
JUNE, INSTITUTE OF NUCLEAR AND
PARTICLE PHYSICS, NATIONAL CENTRE
FOR SCIENTIFIC RESEARCH,
“DEMOKRITOS”, ATHENS, GREECE

Dear Colleagues,

EXRS is a biennial conference series inaugurated in 1984 in Goteborg. Ever since it has become a traditional meeting for scientists from around the world working in X-Ray Spectrometry or using one of its numerous applications: X-ray fluorescence, electron microprobe, PIXE, XRD, etc. It represents an exciting discussion forum for basic research and applications of X-Ray spectrometry in a vast array of fields, such as Materials Science, Chemistry, Radiation Physics, Medicine, Biology, Environment, Cultural Heritage, Technology, and Industry. Thus, EXRS offers the opportunity to learn more about the latest developments in theoretic, experimental, and applied XRS, to discuss with people from all over the world, to share your own work and to learn from others.

The 2024 edition of [EXRS conference](#) will take place in Athens, Greece on 24-28 June, hosted by the [Institute of Nuclear and Particle Physics](#) of the [National Centre for Scientific Research](#), “Demokritos”.

The scientific works of the conference will take place at the [Zappeion Megaron](#), which is situated in the heart of Athens, next to the National Gardens, and in the vicinity of the old city (Plaka) and of many hotels.

Scientists, engineers, and exhibitors are cordially invited to join the conference, present their work, and learn about new developments in the field.

A keynote talk will be given by D. Sokaras, SLAC National Accelerator Laboratory, USA, with an intriguing presentation entitled: “*Operando high resolution X-ray spectroscopy for electrochemical investigations*”.

The tentative scientific program consists of invited lectures delivered by distinguished scientists:

Baumann Jonas, Technical University of Berlin, Institute for Optics and Atomic physics, Germany

Caliri Claudia, Institute of Heritage Science, CNR (ISPC-CNR), Italy

Kleiner Karin, University of Münster, Battery Research Center MEET, Germany

Krämer Markus, AXO DRESDEN GmbH, Germany

Margui Eva, Department of Chemistry, University of Girona, Spain

So Po-Wah, King's College London, Institute of Psychiatry, Psychology and Neuroscience, UK

Trentelman Karen, The Getty Conservation Institute, USA

Zarkadas Charalambos, Malvern Panalytical B.V. Lelyweg 1 (7602 EA), The Netherlands

Importantly, a public lecture is traditionally hosted within the works of EXRS. In this year's edition a fascinating talk will be delivered by Hariclia Brecolaki, Institute of Historical Research, Department of Greek and Roman Antiquity, The National Hellenic Research Foundation, Greece.

SCIENTIFIC TOPICS

- Interactions of X-rays with matter
- X-ray Fundamental parameters
- Quantification, simulation, and modelling
- X-ray sources, optics, detectors, and high-resolution set-ups
- X-ray absorption and emission spectroscopy
- TXRF, GIXRF and GEXRF techniques
- Synchrotron imaging techniques with nano- and micro-beams
- PIXE, EPMA, XRD and complementary techniques
- Applications in cultural heritage, biology/health, environment, nano-technology, energy materials, electrochemistry, industrial production

Please kindly note some important dates to be updated shortly:

Abstracts submission and registration opening: **8th of January 2024**

Abstracts submission deadline: **8th of March 2024**

Notification to authors (Oral or Poster): **5th of April 2024**

Early Bird registration: **26th of April 2024**

Late registration: **24th of May 2024**

We are looking forward to holding another successful and fruitful EXRS Conference, worthy of its brilliant tradition.

Yours Sincerely,

A.G. Karydas, Dr
Chair, EXRS2024
INPP, NCSR “Demokritos”

Athens 20/11/2023
Andreas Karydas, Dr.
Director of Research, Head of the XRF laboratory
Institute of Nuclear and Particle Physics-INPP
NCSR “Demokritos”, Agia Paraskevi, Greece
Tel. +30-210-6503523
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LIDAR AND LANDSCAPES IN THE ARCHAEOLOGY OF GREECE, 15 MARCH 2024, COTSEN HALL, AMERICAN SCHOOL OF CLASSICAL STUDIES

Dear Colleagues,

I'm writing to announce a workshop on archaeological applications of lidar remote sensing data in Greece, to take place in March at the American School of Classical Studies. Please find the call for papers copied below:

Lidar and Landscapes in the Archaeology of Greece
15 March 2024
Cotsen Hall, American School of Classical Studies

Aerially acquired lidar data has had a dramatic effect on the study of archaeological landscapes. Discoveries of whole cities or previously unknown regional systems of settlement in the Maya lowlands, the Amazon, and the jungles of southeast Asia have made headlines and gripped the popular imagination. Mediterranean applications have received less acclaim, but are no less significant for understanding past landscapes.

High-resolution elevation models and the unique ability of lidar to “see” beneath vegetation offer archaeologists the opportunity to detect subtle variations in the landscape and features that may otherwise go unnoticed, often over large areas. Over the last decade, several projects in Greece have integrated lidar into their research programs in a variety of ways.

The technology and its applications are still new enough, however, that there has been little opportunity for disciplinary dialogue on the subject.

This workshop invites archaeologists working with lidar in Greece to discuss recent and ongoing projects, with a particular focus on research goals and methodologies. We invite researchers to consider some of the following themes:

- Problems and potential for lidar applications in Greece versus other parts of the world
- Techniques for processing or visualizing point clouds and various types of derivative rasters
- Archaeological and environmental spatial analysis
- Feature identification and classification
- Machine learning
- Ground-truthing, verification, and error detection
- Comparison with other remote sensing techniques
- Issues of scale—site, landscape, and regional applications
- Lidar as an archaeological tool versus a remote sensing research topic in its own right
- Interdisciplinary collaboration

We hope that by sharing methods, problems, and ideas we can learn from one another and provide some signposts for future applications of lidar and other remote sensing techniques in Greece. The workshop will be hosted by the American School of Classical Studies at Athens, and will involve colleagues from the Greek Archaeological Service, various foreign schools in Greece, universities in Europe and the US, and the aerial survey and geospatial industry. We invite interested researchers to submit an abstract of c. 200 words by 2 January 2024; abstracts should be sent to Alex Knodell at aknodell@carleton.edu.

Please feel free to forward to potentially interested colleagues and don't hesitate to contact me if you have any questions.

All the best,

Alex

Alex R. Knodell

Chair and Associate Professor, Department of Classics Director, Archaeology Program
Carleton College One North College Street Northfield, Minnesota 55057

Carleton Faculty Profile <https://www.carleton.edu/directory/aknodell/>

Small Cycladic Islands Project <https://smallcycladicislandsproject.org/>

Societies in Transition in Early Greece: An Archaeological History
<https://www.ucpress.edu/book/9780520380530/societies-in-transition-in-early-greece>

(Open Access with University of California Press)

16TH INTERNATIONAL CONFERENCE ON MODERN TRENDS IN ACTIVATION ANALYSIS / MTAA16, 5-10 MAY 2024, BUDAPEST, HUNGARY

Dear Colleagues,

On behalf of the Organizing Committee we are pleased to invite you to attend the 16th International Conference on Modern Trends in Activation Analysis / MTAA16, to be held 5-10 May 2024, in Budapest, Hungary.

The abstract submission deadline is approaching, don't miss the chance to share your latest results!

Important dates:

Submission deadline for oral abstracts: 5 December 2023

Submission deadline for poster abstracts: 5 February 2024

Oral abstract acceptance: 25 January 2024

Poster abstract acceptance: 28 February 2024

Early bird payment deadline: 15 February 2024

Standard payment deadline: 7 April 2024

On site: from 8 April 2024

[Registration and abstract submission are open now](#)

[For more information please visit our website](#)

Topics

Every four years since 1961, the experts in activation analysis get together to exchange ideas and present their research.

This year the topics of the conference will be:

- Instrumental Neutron Activation Analysis (INAA)
- Prompt Gamma Activation Analysis (PGAA)
- Fast Neutron Activation Analysis (FNAA)
- Related techniques (Charged-Particle AA, Photon-induced AA, ...)
- Radiochemical and Preconcentration Neutron Activation Analysis (RNAA, PNAA)
- k₀-based activation analyses (k₀-NAA)
- Neutron Depth Profiling (NDP)
- Neutron sources and their characterization

- User facilities
- Sample preparation
- Instrumentation for Activation Analysis (radiation detection, delayed neutron counting)
- Spectrometry (gamma-ray, charged particle)
- Applications of Activation Analyses
- AA facilities used by the industry, industrial applications
- QA/QC, Presentation of analytical results, Laboratory Information Management System
- Spectrum evaluation and analysis softwares
- Comparison with other analytical techniques
- Reference materials in AA
- Machine learning and artificial intelligence in AA

Venue - Mercure Budapest Castle Hill

Centrally located, 4-star Hotel Mercure Budapest Castle Hill, 5 minute walk to reach metro station of line 2 (which goes to the city center, Deák tér station). FREE WIFI, Privilege floor, two restaurants, lobby bar, souvenir shops, friendly staff. Hotel Mercure Budapest Castle Hill is located in the neighbourhood of the historical Castle District. Walking and shopping district of the city can be reached in some minutes.

We sincerely hope to meet you in 2024!
In the name of the Organizing Committee,

Zsolt Révay
Conference Chair
Technische Universität
München, Germany

Csengele HAJDU
Conference Coordinator
AKCongress
Budapest, Hungary
mtaa16@akcongress.com

MEETING MACRO X-RAY FLUORESCENCE AND REFLECTANCE IMAGING SPECTROSCOPY, JUNE 2024, WASHINGTON, DC, CALL FOR ABSTRACTS

Abstract submission now LIVE! June 2024 Meeting Macro X-ray Fluorescence (MA-XRF) and Reflectance Imaging Spectroscopy (RIS)

The organization committee invites you to attend the 2024 meeting to be held June 4th to 7th in Washington DC at George Washington University.

Topics of interest include the investigation of cultural heritage objects (fine arts to historical artifacts) using MA-XRF and RIS. Both full-length talks (20 minutes) and short talks in lieu of posters (5 minutes) are currently planned. Areas of interest for these talks include:

Case studies using one or both of the techniques.
Advances in instrumentation.
Developments in analysis workflows.
New algorithms, especially using Machine Learning.

The website for the meeting: <https://maxrf-ris-meeting-2024.academic.wlu.edu/>

On the meeting website, you will find instructions for submitting an abstract, as well as the abstract template. **Abstracts are due by January 19, 2024.**

More information about the meeting site, accommodations, and registration fee will be posted in the coming weeks.

Kathryn Dooley
Postdoctoral Research Fellow
National Gallery of Art
Landover MD

**12TH INTERNATIONAL ROUND TABLE ON
POLYCHROMY IN ANCIENT SCULPTURE &
ARCHITECTURE, 18 - 21 NOVEMBER 2024, J. PAUL
GETTY MUSEUM, LOS ANGELES, USA**

A Call for Papers for the 12th International Round Table on Polychromy in Ancient Sculpture & Architecture is out now, and seeks submissions for papers related to innovative projects and methods in interdisciplinary polychromy research. Please visit the website for information on the 12th Polychromy Round Table conference: *Art & Science Unite! Interdisciplinary Polychromy Research*, to be held at the J. Paul Getty Museum in Los Angeles, from **18 - 21 November 2024**.

The deadline for abstract submission is the **15th January 2024**.

For more information, see: <https://www.polychromyroundtable.com/Next-meeting.php>

If you have questions or would like to receive updates on the meeting, please sign up to the PRT12 mailing list: PRT12@getty.edu

Marie Svoboda
Conservator
J. Paul Getty Museum
Los Angeles CA

4TH INTERNATIONAL RADIOCARBON IN THE ENVIRONMENT CONFERENCE, SEPTEMBER 22 TO 27, 2024, CASTLE OF CHARLES V, LECCE, ITALY

Dear colleagues and friends,

On behalf of the RE-IV 2024 Organizing Committee, it is a pleasure to announce that the 4th International Radiocarbon in the Environment Conference will be held in the Castle of Charles V in Lecce, Italy from September 22 to 27, 2024.

The Conference will be organized by the Applied Physics Group and CEDAD-Center of Applied Physics, DAting and Diagnostics of the Department of Mathematics and Physics “Ennio De Giorgi” of the University of Salento.

Continuing the success of the previous conferences held in Belfast in 2014, Debrecen in 2017 and organised online in Gliwice in 2021, the RE-IV 2024 in Lecce will gather researchers from all over the world for discussing methods, techniques and exchanging ideas on the applications of radiocarbon in environmental sciences.

Plenary lectures, talks and poster sessions will be organized in the Castle of Charles V, in the historical city center of Lecce, where modern infrastructures will be available for a comfortable stay of the participants.

Lecce is a wonderful city known as “The Florence of the South” for its baroque style buildings and it is the main city of the Salento peninsula, the “heel of the Italy's boot”, between the Adriatic and the Ionian seas. Lecce can be easily reached from the Salento Airport in Brindisi or from the Bari Airport connected to the Rome, Milan or other international airports.

Very soon the website will be available with all the information related to the conference.

On behalf of the organizing RE-IV Conference:

Prof. Lucio Calcagnile

Director of CEDAD

Prof. Gianluca Quarta

Department of Mathematics and Physics

University of Salento-Italy

Chairs of the RE-IV Conference – Lecce 2024

**44TH INTERNATIONAL SYMPOSIUM ON
ARCHAEOLOGY. CALL FOR ABSTRACTS,
27TH TO 31ST MAY, 2024, MELBOURNE,
AUSTRALIA**

Dear all,

The Australasian Research Cluster for Archaeological Science (ARCAS) invites you to the International Symposium on Archaeology (ISA), which will be held in Melbourne (Australia) between the 27th to 31st May, 2024.

The ISA showcases the latest developments and inspiring applications in archaeological science techniques. We invite contributions on any range of materials, geographic areas, or time periods.

As multidisciplinary collaborations feature strongly at the ISA, this event will provide dedicated opportunities for practitioners in all sectors to establish trans-disciplinary research partnerships and collaborations. This is the first time that the ISA will be hosted in Australia!

The call for abstracts is open until the 1st of December. We welcome submissions to any of the nine sessions covering different aspects of archaeological science. During the 2024 conference, traditional sessions have been slightly modified to cater for more disciplines and archaeological science advancements. The special theme session for this conference “rock art and pigments”, sponsored by Rock Art Australia, aims to share knowledge about rock art from Australia and globally.

Please use the [online form to submit an abstract](#). Registration, session information, preliminary program and travel information can be found in our website <https://isa2024.melbourne>. The ISA is an international platform for students to present their research results and accordingly we would like to encourage participation from domestic and international students.

We are looking forward to welcoming you to the ISA in Melbourne!

Best wishes,

ISA 2024 Organising Committee

Dr. Sofia C. Samper Carro

Senior Research Fellow

School of Culture, History & Language | College of Asia and the Pacific | 9 Fellows Road
| Acton ACT 2601

Office: Coombs Building, room# 4.214 | Email: sofia.samper@anu.edu.au | T: 6125 9608
The Australian National University, Canberra | CRICOS Provider: 00120C | ABN: 52
234 063 90

Postdoctoral Researcher
ARC Centre of Excellence for Australian Biodiversity and Heritage (CABA)

Associate Researcher
Centre d'Estudis del Patrimoni Arqueològic (Cepaq-UAB) | Facultat de Lletres
Universitat Autònoma de Barcelona, Bellaterra

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS
ARCHAEOLOGICAL INSTITUTE OF
AMERICA (AIA) ANNA C. AND OLIVER C.
COLBURN FELLOWSHIPS 2023-2024

Deadline: December 15, 2023

Purpose: To support studies undertaken at the American School of Classical Studies at Athens, Greece for no more than a year.

Eligibility: Applicant must be a United States citizen. Applicants must be current AIA members at the Graduate or Professional level. Applicants must be at the pre-doctoral stage or have received a PhD within five years of application. An applicant may not be a member of ASCSA during the year of application. At the conclusion of the fellowship tenure, each recipient must submit a report on the use of the stipend to the Chair of the AIA Fellowships Committee and the Director of the ASCSA. After the tenure of their fellowships, recipients are also expected to submit abstracts to the AIA Program Committee within two years, in order to be considered for participation in the AIA Annual Meeting.

Terms: Two Fellowships of \$8,500 each will be awarded in 2024 (one annual award subsequently). School fees, travel costs, housing, board, residence permit, and other living expenses are to be paid by the recipient from the fellowship. At the conclusion of the fellowship tenure, each recipient must submit a report on the use of the stipend to the Chair of the AIA Fellowships Committee and the Director of the ASCSA. After the tenure of their fellowships, recipients are also expected to submit abstracts to the AIA Program Committee within two years, in order to be considered for participation in the AIA Annual Meeting. The ASCSA expects that copies of all publications that result from research conducted as a Fellow of the ASCSA be contributed to the Blegen Library of the School.

Application: Applicants no longer need to apply concurrently to the ASCSA for Associate Membership. Please note that all application materials submitted to the AIA, including transcripts and letters of recommendation, will be shared with the American School of Classical Studies at Athens Admissions and Fellowships Committee for review. The ASCSA will review applications to determine eligibility for membership at the School independently of fellowship adjudication and will be in contact with applicants about offers of ASCSA membership. An offer of membership does not indicate receipt of a fellowship award. Consult the online application form on the AIA's website for necessary material for the application. Note that student applicants are required to submit academic transcripts (official or unofficial) as part of the online application, as well as two letters of reference.

For more information about the application and to apply, link here:
<https://www.archaeological.org/grant/colburn-fellowships/>

The award will be announced in spring 2024.

The American School of Classical Studies at Athens does not discriminate on the basis of age, color, disability, gender identity or expression, genetic information, national or ethnic origin, pregnancy, race, religion, sex, or sexual orientation when considering admission to any form of membership or application for employment.

KELSEY MUSEUM MANAGER OF DIGITAL ASSETS (ANN ARBOR, MICHIGAN)

The Museum of Archaeology is currently seeking a manager of digital assets. Working in collaboration with the museum's Collections Manager and the University of Michigan Library Digital Content and Collections service, this position will improve the searchability and accessibility of the Kelsey's digital materials, beginning with a complete overhaul of the existing artifact database.

The manager of digital assets will also oversee the Kelsey Museum's paper and photographic archive, with a goal of digitizing and disseminating these archival materials for internal and external audiences. Furthermore, the position will assist the Collections Manager in ensuring the safe and secure storage and usage of the museum's artifact and archival holdings.

Applicants must submit a cover letter, a resume/curriculum vitae, and references via the University of Michigan's "Careers" portal. For more information and to apply, visit https://careers.umich.edu/job_detail/242115/kelsey-museum-manager-digital-assets.

FUNDED PHD OPPORTUNITY (ROMAN GLASS - CHEMISTRY AND EXPERIMENTAL ARCHAEOLOGY AT NEWCASTLE UNIVERSITY, FISHBOURNE ROMAN PALACE AND BUTSER ANCIENT FARM)

Please see below an exciting opportunity for a fully-funded PhD studentship and training opportunity based at Newcastle University, in partnership with Fishbourne Roman Palace and Butser Ancient Farm. Please feel free to share this text and the links above with any potentially suitable candidates.

Windows Into Ancient Recycling At Fishbourne Roman Palace

The luxury and everyday glass from the Roman Palace at Fishbourne will for the first time be fully catalogued and published, with a particular focus upon the site's exceptional collection of early window glass. This will address a pressing conundrum – the scale and nature of Roman recycling, and its impact upon our understanding of the economy - via a tailored 'round-robin' of techniques, from chemical analysis to experimental reconstruction. Key transferable skills will be developed in examining this assemblage of manageable size yet major potential, addressing the question: are windows the missing piece to the puzzle of Roman glass recycling?

Full advertisement including person spec, application process and deadlines:
http://www.northernbridge.ac.uk/media/sites/teaching/northernbridge/DuckworthChloe_NCL_Fishbourne+BAF.pdf

Further CDA opportunities from this year's Northern Bridge competition:
<http://www.northernbridge.ac.uk/applyforastudentship/cda/>

Any questions about the application can be directed to **Dr Chloe Duckworth** (chloe.duckworth@ncl.ac.uk) and **Dr Rob Collins** (robert.collins@ncl.ac.uk).

Dr Chloë N. Duckworth MCifA FSA FHEA

Reader in Archaeological Science & Public Engagement

School of History, Classics and Archaeology

Newcastle University

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

CIPA SUMMER SCHOOL 2024, 3D SURVEYING AND MODELLING IN CULTURAL HERITAGE, MAY 19-25, 2024, RHODES, GREECE

- _ Theoretical lectures (3D surveying, photogrammetry, laser scanning, etc.)
- _ Practical work in the field with commercial and open source processing software
- _ The participants will learn the basics in:
 - data acquisition with state-of-the-art equipment
 - data processing methods with commercial and open source SW for 3D model generation
 - the official language of the summer school is English
- _ A great opportunity for MSc and PhD students, archaeologists, architects, restorers, conservationists, geomatic engineers, scholars, researchers and specialists in the surveying and heritage fields to deepen their knowledge and expertise with innovative and contemporary 3D modelling techniques and gain invaluable hands-on experience.

Please visit the site: <https://cipasummerschool2024.survey.ntua.gr/>

ΕΚΘΕΣΗ - ΟΙ ΑΠΑΡΧΕΣ ΤΗΣ ΓΛΥΠΤΙΚΗΣ - **ΑΡΧΑΙΟΛΟΓΙΚΑ ΕΥΡΗΜΑΤΑ ΑΠΟ ΤΟΝ** **ΠΑΛΑΙΟ ΚΟΣΜΟ ΚΑΙ ΤΗ ΛΕΣΒΟ. 2,5 ΕΚ.** **ΈΩΣ 50.000 ΧΡΟΝΙΑ ΠΡΙΝ**

Υπό την αιγίδα

της Α.Ε. της Προέδρου της Δημοκρατίας Κατερίνας Σακελλαροπούλου

Η έκθεση περιλαμβάνει λίθινα εργαλεία αλλά και «μορφές σε λίθο» που εικονίζουν πτηνά, πρόσωπα και σώματα και προέρχονται από διάφορες θέσεις της Ευρώπης, της Αφρικής και της Μέσης Ανατολής και παρουσιάζονται για πρώτη φορά στην Ελλάδα. Το αρχαιότερο έχει ηλικία γύρω στα 2,5 εκατ. χρόνια και το πιο πρόσφατο είναι μόλις 50.000 ετών.

Αυτά τα έργα προγόνων του *Homo sapiens* καταδεικνύουν ότι η αισθητική αφύπνιση και η ικανότητα αναγνώρισης ομορφιάς και νοήματος σε αντικείμενα ανάγονται εκατομμύρια χρόνια πριν από την εποχή μας, όταν και μπορούν να εντοπιστούν οι απαρχές της γλυπτικής τέχνης.

Η έκθεση περιλαμβάνει και εκμαγεία που έχουν δημιουργηθεί με τεχνολογία τρισδιάστατης εκτύπωσης, τα οποία οι επισκέπτες μπορούν να αγγίζουν.

Βασισμένη στην έκθεση «Οι απαρχές της γλυπτικής: Από τον χειροπέλεκυ στις μορφές σε λίθο» (Κέντρο Γλυπτικής Νάσερ, Ντάλας 2018), η αθηναϊκή έκδοχή διοργανώνεται από το Πανεπιστήμιο Κρήτης, το Μουσείο Μπενάκη και την Περιφέρεια Κρήτης και παρουσιάζει για πρώτη φορά εργαλεία από τη σημαντική παλαιολιθική θέση στα Ροδαφνίδια της Λέσβου, τα οποία φέρνει στο φως η αρχαιολογική σκαπάνη του Πανεπιστημίου Κρήτης.

Τα εκθέματα είναι σπάνια παλαιολιθικά εργαλεία από το Αρχαιολογικό Μουσείο Μυτιλήνης, τη συλλογή του Τόνι Μπερλάντ (Κέντρο Γλυπτικής Νάσερ, Ντάλας), το Ινστιτούτο Ανθρώπινης Παλαιοντολογίας στο Παρίσι, το Μουσείο Προϊστορίας Άνω Γαλιλαίας και το Εβραϊκό Πανεπιστήμιο της Ιερουσαλήμ, το Μουσείο Αρχαιολογίας και Ανθρωπολογίας του Πανεπιστημίου του Κέιμπριτζ, το Ευρωπαϊκό Κέντρο Προϊστορικής Έρευνας στο Τοταβέλ και το Μουσείο του Πανεπιστημίου του Βιτβάτερσραντ στη Νότια Αφρική.

Την έκθεση επιμελούνται επιστημονικά η Νένα Γαλανίδου, Καθηγήτρια Προϊστορικής Αρχαιολογίας στο Πανεπιστήμιο Κρήτης, και ο Thomas Wynn, Καθηγητής Γνωσιακής Αρχαιολογίας στο Πανεπιστήμιο του Κολοράντο, και καλλιτεχνικά ο Tony Berlant, εικαστικός καλλιτέχνης.

Βασίζεται στην έκθεση "[First Sculpture: Handaxe to Figure Stone](#)" που διοργανώθηκε από το Nasher Sculpture Center, στο Ντάλας, το 2018.

Παρακαλώ επισκεφθείτε την ιστοσελίδα:

https://www.benaki.org/index.php?option=com_events&view=event&id=116293&Itemid=163&lang=el

ΠΑΛΑΙΟΛΙΘΙΚΟ ΣΕΜΙΝΑΡΙΟ 2023 - 2024

Το Παλαιολιθικό Σεμινάριο ξεκινά καινούριο κύκλο ζωής σε συνδιοργάνωση του Πανεπιστημίου Κρήτης και της Εφορείας Παλαιοανθρωπολογίας-Σπηλαιολογίας του Υπουργείου Πολιτισμού. Το φετινό σεμινάριο πραγματοποιείται στο πλαίσιο της έκθεσης *Οι απαρχές της γλυπτικής Αρχαιολογικά ευρήματα από τον παλαιό κόσμο και τη Λέσβο 2,5 εκατομμύρια έως 50.000 χρόνια πριν από σήμερα* που παρουσιάζεται στο Μουσείο Μπενάκη Ελληνικού Πολιτισμού (27-09-2023 έως 07-01-2024) από το Πανεπιστήμιο Κρήτης, το Μουσείο Μπενάκη και την Περιφέρεια Κρήτης, σε συνεργασία με το Υπουργείο Πολιτισμού.

Οι διαλέξεις θα φέρουν στην Αθήνα ομιλητές από όλο τον κόσμο, με ειδίκευση στην αρχαιολογία, την παλαιοντολογία και τη γνωστική επιστήμη, για να παρουσιάσουν την περιπέτεια της γλυπτικής ξεκινώντας από τα πρώτα της βήματα κατά την παλαιολιθική εποχή. Οι διαλέξεις αυτές φιλοδοξούν να προσφέρουν τροφή για αναστοχασμό των απαρχών του ανθρώπινου πολιτισμού, και να αναδείξουν τις δυναμικές διανοητικές διαδικασίες που συνόδευσαν τα προγονικά είδη του ανθρώπου στο ταξίδι της αισθητικής αναζήτησης και της κατάκτησης της φόρμας.

Οι καθηγητές Thomas Wynn και Γιώργος Παπαδόπουλος θα ιχνηλατήσουν τα πεδία στα οποία συναντά η αρχαιολογική τη γνωστική επιστήμη. Η καθηγήτρια Νένα Γαλανίδου, ο καθηγητής Gonen Sharon και ο δρ Bernard Zipfel, θα μιλήσουν για τις αρχαιολογικές θέσεις στις οποίες ανακαλύφθηκαν ορισμένα από τα εντυπωσιακότερα και παλαιότερα αντικείμενα της έκθεσης και για τον τρόπο που αυτά μας προκαλούν να προσεγγίσουμε τα αρχαιολογικά ευρήματα ως δείγματα αισθητικής αφύπνισης.

Τα σεμινάρια είναι ανοιχτά στο κοινό δωρεάν. Για την παρακολούθηση απαιτείται προκράτηση θέσης εδώ: [κράτηση θέσης](#)

Τοποθεσία

Αμφιθέατρο, Μουσείο Μπενάκη Ελληνικού Πολιτισμού
Κουμπάρη 1 & Βασ. Σοφίας, 106 74, Αθήνα
Συντονισμός διοργάνωσης
Καθηγήτρια Νένα Γαλανίδου, Πανεπιστήμιο Κρήτης
Δρ Ανδρέας Ντάρλας, Εφορεία Παλαιοανθρωπολογίας-Σπηλαιολογίας του Υπουργείου Πολιτισμού

Πρόγραμμα

The handaxe aesthetic

Καθηγητής Thomas Wynn, Πανεπιστήμιο του Κολοράντο, Η.Π.Α.
Πέμπτη 26/10/2023, ώρα 19:00

Από τα πρώτα εργαλεία στη συμβολική έκφραση και την κοινωνική διάκριση

Καθηγήτρια Νένα Γαλανίδου, Πανεπιστήμιο Κρήτης
Πέμπτη 9/11/2023, ώρα 19:00

Ένα ταξίδι στην αρχαία ελληνική γλυπτική από το 3000 π.Χ. ως το 31 π.Χ.

Καθηγητής Πέτρος Θέμελης, Πανεπιστήμιο Κρήτης
Πέμπτη 23/11/2023, ώρα 19:00 **ΑΚΥΡΩΝΕΤΑΙ**

What's new with the old Levant? Advances in the study of the Israel Paleolithic

Καθηγητής Gonen Sharon, Πανεπιστήμιο Τελ-Χάι, Ισραήλ

Πέμπτη 7/12/2023, ώρα 19:00

Ο εγκέφαλος ως έργο και εργαλείο πολιτισμού

Καθηγητής Γιώργος Χ. Παπαδόπουλος, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης

Πέμπτη 14/12/2023, ώρα 19:00

The “australopithecine pebble of many faces” and its place in the Cradle of Humankind, South Africa

Δρ Bernhard Zipfel, Πανεπιστήμιο του Βιτβάτερσραντ, Νότια Αφρική

Πέμπτη 11/1/2024, ώρα 19:00

INTERNET SITES

TRACKING COLOUR/POLYCHROMY OF THE ANCIENT WORLD

White marble has generally been considered a typical image of antiquity. However, the lack of colour has no relation to ancient aesthetics. In fact, antiquity cultivated a veritable wealth of colours, but after centuries of deterioration, very little paint remains on the artefacts giving rise to the mistaken notion of white marble as a classical ideal.

Yet the knowledge that ancient art was polychrome does not mark the end of polychromy research. On the contrary: Now research of ancient polychromy can continue acquiring a more comprehensive and detailed knowledge of how the ancient world was coloured and why.

This website is dedicated to the research on the use of colour on sculptures and buildings in the ancient Mediterranean world carried out at the Ny Carlsberg Glyptotek. This research is highly interdisciplinary including scholars in archaeology, philology, conservation science, geology, geochemistry, chemistry, and physics.

On this website you will find a short introduction to the field. But most importantly, the user has access to a database of literature on ancient polychromy and of artefacts in the collections of the Ny Carlsberg Glyptotek with traces of their original colouring.

Please visit the site: <https://www.trackingcolour.com/> [Go there for linx]

MATRIX 1973-2023: 50TH ANNIVERSARY OF THE ARCHAEOLOGICAL STRATIGRAPHY DIAGRAM BY HARRIS

The center for archaeological studies CAMNES is glad to announce that "Matrix 1973-2023" - the seminar on the occasion of the 50th anniversary of the archaeological stratigraphy diagram, which took place in Florence on 30 October 2023 - is now available online: <<https://www.youtube.com/watch?v=SNbp5VhTtAs&t=1s>>

The archaeologist's main tool to organize and understand the stratigraphy of a context has reached its 50th anniversary. The MATRIX was in fact created by Edward C. Harris in 1973. For this special occasion Federico Cantini, Elisabetta Giorgi, Paolo Liverani, Daniele Manacorda, Wolfgang Neubauer and Michele Nucciotti together with CAMNES celebrate and discuss this important milestone in the presence of Harris himself...with a special surprise at the end!

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

ESTIMATING CARBON CONTENT IN CRUCIBLE STEEL USING IMAGE ANALYSIS, BY MEGHNA DESAI AND THILO REHREN

Historical Metallurgy 54(2), 2023, 1–11

<https://doi.org/10.54841/hm.664>

Abstract

Pre-industrial crucible steel ingots, produced in both Central and South Asia, are an important class of iron-carbon alloys. Their microstructure reflects their formation from a liquid alloy at a carbon content of 1.0–2.5wt%, which is higher than most mild steels but lower than most cast irons. This article introduces a tool to quantify the carbon content of such alloys based on an operator-supervised image analysis which determines the relative proportions of austenite/pearlite and cementite, respectively, from high-contrast back-scatter electron images of un-etched samples. Using examples from a recently discovered hoard of crucible steel ingots in Telangana, south-central India, we demonstrate the capabilities of the tool and test its usefulness. The main benefit is in improving accuracy and precision in metallography-based carbon content determination in such alloys by reducing the uncertainty in area estimation in complex microstructures based on visual impression alone.

KOLMOGOROV COMPRESSION **COMPLEXITY MAY DIFFERENTIATE** **DIFFERENT SCHOOLS OF ORTHODOX** **ICONOGRAPHY**

by Daniel Peptenatu, Ion Andronache, Helmut Ahammer, Richard Taylor, Ioannis Liritzis, Marko Radulovic, Bogdan Ciobanu, Marin Burcea, Matjaz Perc, Tuan D. Pham, Bojan M. Tomić, Cosmin Iulian Cîrstea, Adrian Nicolae Lemeni, Andreea Karina Gruia, Alexandra Grecu, Marian Marin & Herbert Franz Jelinek

Vol.: (0123456789)

Scientific Reports | (2022) 12:10743 | <https://doi.org/10.1038/s41598-022-12826-w>
www.nature.com/scientificreports

Abstract

The complexity in the styles of 1200 Byzantine icons painted between 13th and 16th from Greece, Russia and Romania was investigated through the Kolmogorov algorithmic information theory. The aim was to identify specific quantitative patterns which define the key characteristics of the three different painting schools. Our novel approach using the artificial surface images generated with Inverse FFT and the Midpoint Displacement (MD) algorithms, was validated by comparison of results with eight fractal and non-fractal indices. From the analyzes performed, normalized Kolmogorov compression complexity (KC) proved to be the best solution because it had the best complexity pattern differentiations, is not sensitive to the image size and the least affected by noise. We conclude that normalized KC methodology does offer capability to differentiate the icons within a School and amongst the three Schools.

A NOVEL APPROACH TO DOCUMENTING WATER DIFFUSION IN ANCIENT OBSIDIAN ARTIFACTS VIA THE COMPLEXITY ANALYSIS OF MICROSCOPE IMAGES

By Liritzis Ioannis, Andronache Ion, Stevenson Christopher

Journal of Archaeological Science 161 (2024) 105896

<https://doi.org/10.1016/j.jas.2023.105896>

Abstract

The diffusion of water through the surface of archaeological obsidian is mainly a temperature-dependent and concentration driven phenomenon that forms the basis of the hydration dating (OHD) method. For the first time, we apply a novel fractal approach, which explores the various attributes of images linked to the variation in water concentration and structural deficiencies within the hydrated layer. The microscopic images of hydrated layers on two obsidian specimens from Africa spanning thousands of years have been investigated. Seven complexity measures of fractal dimension (succolarity, lacunarity, correlation dimension, local connected fractal dimension (LCFD), fractal fragmented index (FFI), entropy and normalized Kolmogorov complexity (TIFF-LZW)), were applied to the hydration layer images. It was found that the effective determination of diffusion depth mainly comes from the application of succolarity, FFI and LCFD fractal indices, plus the structural deficiencies at the surface and the misconnected lacunas at the interface of the water diffusion layer and unaltered obsidian. The difference between fractal dimensions of the hydrated area and the non-hydrated images turned out to be a crucial quantitative parameter. Accordingly, we found that especially the succolarity, which is based on the capacity of a water fluid to percolate through the obsidian area in a given direction, was critical to determine the characteristics of the obsidian hydration layer. The FFI and LCFD estimate the compaction/fragmentation and connectivity, respectively. Therefore, the fractals play an important role in understanding the general diffusion in solids theory and the study aims at providing a new direction in the OHD and diffusion fields concerning the complex dynamic systems and structures which display a fractal pattern.

**AN INVESTIGATION OF
ELECTROCHEMICAL DECHLORINATION
OF WROUGHT IRON SPECIMENS FROM
THE MARINE ENVIRONMENT,
BY ELENI SIOVA, VASILIKE
ARGYROPOULOS AND GEORGE BATIS**

Heritage 2023, 6, 587–599.

<https://doi.org/10.3390/heritage6010031>

Abstract

The research shows the benefits provided by the use of electrochemical treatment, with the application of impressed current combining the use of a porous medium for the dechlorination of large iron structures removed and/or located in the marine environment. Considering the previous work for the dechlorination of the paddle wheel of the shipwreck “Patris”, located in the Aegean Sea, this study aims to determine the optimum parameters of the amount of current density, the time and the use of the porous medium to stimulate the chloride ion diffusion into an alkaline solution. Specimens of wrought iron coming from the shipwreck were electrochemically treated and the efficiency of the method was verified by the determination of the chloride concentration removal using a chloride ion selective electrode. Samples of corrosion products before and after treatment were analyzed for chloride content using SEM-EDX analysis. The results found that changing the porous medium every 24 h with replenished alkaline solution and using a stainless steel mesh is the best approach for the dechlorination of the specimens. This electrochemical method, is economical and fast, and can be applied to the conservation of large iron structures in situ, coming from and/or located near a marine environment with less waste than the traditional dechlorination methods.

Keywords: wrought iron; electrochemical treatment; chloride removal; marine environment; dechlorination; porous medium

BETWEEN THE AEGEAN AND THE
ADRIATIC: THE BALKAN PALAEOLITHIC
AND THE SEA,
BY NENA GALANIDOU AND CHRISTINA
PAPOULIA

Proceedings of the British Academy, 258, 225–251, © The British Academy 2023

Introduction

The Balkan Peninsula is bordered by the Black Sea to the north-east, the Aegean Sea to the south-east, the Ionian Sea to the south-west, and the Adriatic Sea to the north-west. Lying at the crossroads of three continents and in the heart of Eurasia, it can fairly be treated as a prehistoric ‘laboratory’ of biological processes and cultural expression during the Quaternary. The southern end of the peninsula, Greece, includes about 3,500 islands that represent the mountain tops of an inundated coastal shelf, and vast areas of prehistoric activity lie today beneath the sea (Figure 8.1). Notwithstanding its importance in the geography of Greece, however, the sea has only recently become a major focus of Palaeolithic research, marking a shift of interest to island, coastal, and submerged geographies that has been going hand-in-hand with advanced reconstructions of Quaternary sea-level changes within the emerging subfield of Continental Shelf Prehistoric Research. Originally a European initiative for collaboration among archaeologists, geologists, marine scientists and heritage institutions who recognised the importance of submerged landscapes to the archaeology of human origins, this has now become a wider international endeavour with far-reaching implications (Bailey & Flemming 2008; Bailey & Sakellariou 2012; Flemming et al. 2014; Bailey et al. 2017, 2020b).

THE CHRONOLOGY OF GEZER FROM THE END OF THE LATE BRONZE AGE TO IRON AGE II: A MEETING POINT FOR RADIOCARBON, ARCHAEOLOGY EGYPTOLOGY AND THE BIBLE

by Lyndelle C. Webster , Samuel R. Wolff, Steven M. Ortiz, Marcella Barbosa, Cameron Coyle, Gary P. Arbino, Michael W. Dee, Quan Hua, Geraldine E. Jacobsen

<https://doi.org/10.1371/journal.pone.0293119>

The ancient southern Levantine city of Gezer is well-known from Egyptian, Biblical and Assyrian sources, associated with power struggles, conquests, and intriguing tales involving figures such as Milkilu and Amenhotep III, Merneptah, the Philistines, Solomon and his unidentified pharaonic father-in-law, and Shishak / Sheshonq I. Since the identity of Gezer with “Tell Jezer” is quite literally ‘set in stone’ by some dozen boundary inscriptions, along with impressive Bronze and Iron Age remains, research at this site provides a unique opportunity to compare text and archaeology, as well as bring to light the undocumented everyday lives of the city’s inhabitants.

In this endeavour, independent scientific dating is crucial for anchoring the remains chronologically. This paper presents the first substantial radiocarbon dataset and Bayesian chronological analysis for Gezer spanning the last part of the Late Bronze Age (LBA; LB IIB) through Iron Age II. The dataset derives from an essentially continuous stratigraphic sequence exposed in recent years by the Tandy expedition along the central-southern edge of the site. The results allow us for the first time to independently determine the site chronology, test the viability (from a chronological perspective) of proposed historical correlations, and contribute to debates on Philistine and Iron Age chronology.

Please visit the site :

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0293119> [Go there for full article. Haaretz story at <https://www.haaretz.com/archaeology/2023-11-15/ty-article/david-and-solomons-biblical-kingdom-may-have-existed-after-all-new-study-suggests/0000018b-cddd-d518-a39b-fffd773b0000>]

**A RARE CASE OF CHONDROBLASTOMA
FROM NEOLITHIC CRETE OF THE 7TH
MILLENNIUM BCE,
BY ANAGNOSTIS P. AGELARAKIS, LISA M.
DIFRANCESCO, LUKAS DELASOS, JULIAN
SAMODULSKI, ATHANASIA KANTA ET
PANAYOTIS G. AGELARAKIS**

Paléorient 49-1, 2023

Pluridisciplinary Review of Prehistory and Protohistory of Southwestern Asia

Résumé

Le chondroblastome est une tumeur osseuse primaire rare, décrite pour la première fois au début du XXe siècle (Codman 1931 ; Jaffe 1942), affectant les jeunes et représentant moins de 1 % des tumeurs osseuses primaires (Chen et Di Francesco 2017). La découverte récente du premier cimetière officiel du Néolithique ancien sur le site d'Aposelemis à Héraklion, en Crète (Grèce), a fourni une occasion unique de récupérer des données bioanthropologiques à partir des squelettes humains. Cet article rapporte la découverte d'une lésion osseuse d'apparence bénigne au niveau de l'extrémité distale de l'humérus chez un jeune individu provenant de ce site. Les résultats clinico-pathologiques de cet individu (environ 35-38 ans) présentant une petite lésion lytique épiphysaire entourée de sclérose suggèrent une évaluation diagnostique de chondroblastome. Ce rapport résume les résultats et discute des diagnostics différentiels de ce cas unique en se basant principalement sur les caractéristiques d'inspection et de radiographie, sans que les investigations histologiques cellulaires et moléculaires effectuées en laboratoire ne permettent de réduire le diagnostic différentiel de la tumeur osseuse. Dans une étude rétrospective, il examine la plausibilité de la détérioration des capacités arthrocinématiques du coude, du poignet et de la main compte tenu des effets inédits en médecine moderne de la pathologie persistante et non traitée chirurgicalement, y compris le potentiel de complications métastatiques qui auraient affecté cet individu. Nous considérons qu'il représente le premier cas documenté de chondroblastome dans les archives de paléopathologie de la région égéenne.

Keywords: Neolithic Crete, Bioarchaeology, Chondroblastoma Tumor, Differential Diagnosis, Arthrokinematics, Care Analysis, Medical History

THE IDENTIFICATION OF THE ROYAL TOMBS IN THE GREAT TUMULUS AT VERGINA, MACEDONIA, GREECE: A COMPREHENSIVE REVIEW, BY ANTONIS BARTSIOKAS, JUAN LUIS ARSUAGA, NICHOLAS BRANDMEIR

Journal of Archaeological Science: Reports,
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Abstract

This review contributes to the long-running debate over the identities of the occupants of the unspoiled 4th-century BCE Royal Tombs at Vergina, in northern Greece. The human skeletal remains from Royal Tombs I, II and III are related to the King and Pharaoh Alexander the Great. We review the skeletal evidence as well as archaeological, historic, and geological evidence. We evaluate the relative criticism concerning the identification of the occupants of the Royal Tombs. We studied the skeletal elements with the aid of macrophotography, radiographs and anatomic dissection. Stratigraphic evidence is provided. A knee fusion was found in the male skeleton of Tomb I consistent with the historic evidence of the lameness of King Philip II. No evidence of trauma was found in the male skeleton of Tomb II and evidence of cremation in the male and female skeletons is consistent with the historic evidence for King Arrhidaeus. The evidence presented supports the conclusion that Tomb I belongs to King Philip II, his wife Cleopatra and their newborn child. Tomb II belongs to King Arrhidaeus and his wife Adeia Eurydice. Tomb III to Alexander IV. These conclusions refute the traditional speculation that Tomb II belongs to Philip II. Some of the artifacts in Tomb II belonged to Alexander the Great.

Keywords

Alexander, Philip II, Arrhidaeus, Aegae, Vergina, Knee ankylosis, Cremation

Please visit the site:

<https://www.sciencedirect.com/science/article/pii/S2352409X23004546?dgcid=author>

CRITICAL ARCHAEOLOGY IN THE DIGITAL AGE: PROCEEDINGS OF THE 12TH IEMA VISITING SCHOLAR'S CONFERENCE

2022

Editor(s): Garstki, Kevin

Abstract

Every part of archaeological practice is intimately tied to digital technologies, but how deeply do we really understand the ways these technologies impact the theoretical trends in archaeology, how these trends affect the adoption of these technologies, or how the use of technology alters our interactions with the human past? This volume suggests a critical approach to archaeology in a digital world, a purposeful and systematic application of digital tools in archaeology. This is a call to pay attention to your digital tools, to be explicit about how you are using them, and to understand how they work and impact your own practice. The chapters in this volume demonstrate how this critical, reflexive approach to archaeology in the digital age can be accomplished, touching on topics that include 3D data, predictive and procedural modelling, digital publishing, digital archiving, public and community engagement, ethics, and global sustainability. The scale and scope of this research demonstrates how necessary it is for all archaeological practitioners to approach this digital age with a critical perspective and to be purposeful in our use of digital technologies.

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Please visit the site : <https://escholarship.org/uc/item/0vh9t9jq>

**SEARCHING FOR THE OLDEST
SUBMERGED SETTLEMENT OF THE
AEGEAN ON THE ISLAND OF AGIOS
PETROS IN ALONNISOS, GREECE, BY
NIKOS EFSTRATIOU, ANDREAS SOTIRIOU,
OLGA KOUKOUSIOURA, PANAGIOTIS
TOKMAKIDIS AND CATHY GIANGRANDE**

SKYLLIS, Zeitschrift für maritime und Archäologie und Kulturgeschichte 22. Jahrgang 2022

Abstract

Agios Petros is a partially submerged Neolithic settlement founded by a community of farmers, fishermen and seafarers, who arrived by sea from Anatolia in this well protected bay of the Northern Sporades just before 6,000 BC. The site presents a unique archaeological example of an island settlement with stone structures which were gradually submerged as the sea level was rising. Favourable local geomorphological conditions led to the preservation of its underwater archaeological remains, which are expected to give a glimpse of everyday life in the Aegean islands at the time the first farming groups made their appearance in Greece. The paper gives an account of the history of research at the site as well as details of the currently running five-year project, which we expect to address a wide range of cultural and environmental issues: a coring programme will try to collect organic biomarkers like seeds and seashells in order to extract information about possible climatic changes in the past while a systematic excavation of its rich and undisturbed Neolithic underwater deposits of the site may contribute to a better understanding of maritime life and seafaring practices in the Aegean.

Please visit the site : <https://farmersatsea.web.auth.gr>

ΕΙΔΗΣΕΙΣ - NEWS RELEASE

5000-YEAR-OLD TABLETS CAN NOW BE DECODED BY ARTIFICIAL INTELLIGENCE, NEW RESEARCH REVEALS, BY MJ BANIAS

A team from Martin Luther University Halle-Wittenberg, Johannes Gutenberg University Mainz, and Mainz University of Applied Sciences has unveiled an AI system capable of deciphering ancient cuneiform texts. This novel technology, leveraging 3D models, represents a significant advancement in understanding one of humanity's earliest forms of writing.

Published in The Eurographics Association journal, the researchers' study focused on a set of cuneiform tablets from the Frau Professor Hilprecht Collection. These tablets primarily originate from ancient Mesopotamia, a historical region in present-day Iraq. Often referred to as the cradle of civilization, this area is where some of the earliest human societies developed. These tablets, in particular, are inscribed with a series of symbols, signs, and wedges that form the languages of the region, such as Sumerian, Assyrian, and Akkadian.

Many are over 5,000 years old and offer a glimpse into ancient civilizations, covering a wide range of topics from everyday life to legal matters.

"Everything can be found on them: from shopping lists to court rulings," said Hubert Mara, one of the study's authors. "The tablets provide a glimpse into mankind's past several millennia ago. However, they are heavily weathered and thus difficult to decipher even for trained eyes."

The team turned to AI for help.

Using a novel AI process to decode ancient cuneiform tablets, they leveraged a sophisticated AI model based on the Region-based Convolutional Neural Network (R-CNN) architecture, a specialized system designed for object recognition. The study utilized a unique dataset consisting of 3D models of 1,977 cuneiform tablets, with detailed annotations of 21,000 cuneiform signs and 4,700 wedges.

The AI's methodology entailed a two-part pipeline: initially, a sign detector, built on a RepPoints model with a ResNet18 backbone, identified cuneiform characters on the tablets. In simple terms, the RepPoints model combs through the ResNet18 collection of images connected to the Mesopotamian languages and then combines the patterns to 'see' the text. This step was crucial for locating the signs accurately. Subsequently, the wedge detector, using Point R-CNN with advanced features like Feature Pyramid Network (FPN) and RoI Align, classified and predicted the wedges' positions, which forms the basis of the cuneiform script's fundamental elements, allowing the AI, in effect, to 'read.'

These tools take the 3D scans of the tablets and sift through the multitude of measurements of things like the impression depth made by the stylus into the clay or the distance between the symbols and wedges. This nuanced approach enabled the AI to overcome the challenges posed by traditional 2D photographs, such as inconsistent lighting and color distractions, thus providing a more accurate analysis of the ancient texts.

Traditional research on ancient texts uses optical character recognition software (OCR), which converts scanned images or 2D photographs of the writing into machine-readable text.

“OCR usually works with photographs or scans. This is no problem for ink on paper or parchment. In the case of cuneiform tablets, however, things are more difficult because the light and the viewing angle greatly influence how well certain characters can be identified,” said co-author Ernst Stötzner.

Ancient scrolls, parchment, and old books are easy- they are a 2D medium translated into another 2D medium. Cuneiform tablets, however, are 3D, and all that depth impacts interpretation.

To address this, the research team put their AI system through an extensive training regimen, utilizing three-dimensional scans and supplemental data. A substantial portion of this data was contributed by the Mainz University of Applied Sciences, which is currently leading a significant project focused on creating 3D models of these ancient clay tablets. This enabled the AI to achieve remarkable success in accurately identifying the symbols inscribed on the tablets.

This technology not only democratizes access to these ancient records but also opens up new avenues for research, allowing for broader analysis and interpretation of historical texts. Future enhancements could extend its application to other three-dimensional scripts, such as weathered inscriptions found in cemeteries.

MJ Baniyas is a journalist and podcaster who covers security and technology. He is the host of The Debrief Weekly Report and Cloak & Dagger | An OSINT Podcast. You can email MJ at mj@thedebrief.org or follow him on Twitter @mjbanias.

Please visit the site: <https://thedebrief.org/5000-year-old-tablets-can-now-be-decoded-by-artificial-intelligence-new-research-reveals/>

UNESCO AND INTERPOL COLLABORATE TO BUILD A VIRTUAL MUSEUM OF STOLEN CULTURAL ARTIFACTS, BY ARTCENTRON NEWS

The world's first virtual museum dedicated to combating the illicit trade of cultural artifacts will be designed by architect Francis Kéré, the first African architect to receive the prestigious Pritzker Prize.

In a groundbreaking collaboration, [UNESCO](#), the United Nations' cultural body, and INTERPOL are set to launch the world's first virtual museum dedicated to combating the illicit trade of cultural artifacts. Scheduled for release in 2025, this [visionary project](#) has received substantial support from Saudi Arabia, with an initial funding commitment of \$2.5 million. The primary objective is to raise awareness about the grave issue of stolen cultural property and facilitate the recovery of these invaluable objects.

UNESCO's Director-General, Audrey Azoulay, eloquently emphasizes the profound significance of this initiative. She states, "Behind every stolen work or fragment lies a piece of history, identity, and humanity that has been wrenched from its custodians, rendered inaccessible to research, and now risks falling into oblivion." This collaborative effort with INTERPOL aims to showcase the gravity of cultural theft and actively contribute to recovering stolen artifacts.

At the core of this ambitious project, INTERPOL's extensive database transforms, turning over 52,000 stolen artifacts into immersive 3D representations. Renowned architect Francis Kéré, the first African architect to receive the prestigious Pritzker Prize, takes the helm in designing the virtual museum. Inspired by the iconic Solomon R. Guggenheim Museum, Kéré envisions the museum as a baobab tree, a symbol of cultural and spiritual significance in Africa.

Kéré's Design: Melding Tradition and Modernity

The design of the virtual museum is a testament to the fusion of tradition and modernity. Kéré's inspiration from the central atrium of the Guggenheim Museum seamlessly blends with the symbolic representation of a baobab tree. This choice pays homage to African heritage and serves as a metaphorical bridge connecting the past to the present.

More than a mere repository of stolen artifacts, UNESCO's virtual museum is a powerful educational tool. Tailored not only for authorities and cultural professionals but also for the general public, with a specific focus on younger generations, the museum offers a realistic and immersive experience. Visitors can explore virtual galleries, access educational resources, and gain an understanding of the importance of safeguarding cultural heritage.

Within the virtual museum, visitors do not passively observe; they actively participate in preserving cultural history. 3D renderings of stolen artifacts are accompanied by detailed information about their history and cultural significance. This interactive experience

fosters a deeper connection, enabling individuals to appreciate the value of each piece and the urgency of protecting our shared heritage.

A distinctive feature of this groundbreaking project is the integration of stories and testimonies from the communities to which these artifacts belong. This approach adds a layer of authenticity and emotional resonance to the exhibits. By incorporating the voices of those directly connected to the stolen artifacts, the virtual museum creates a bridge between cultures, fostering empathy and understanding.

A Glimpse into the Future

As we eagerly anticipate the 2025 launch of this unprecedented virtual museum, the implications for the future of cultural heritage preservation are immense. Beyond the immediate goal of raising awareness and aiding recovery, this collaboration between UNESCO and INTERPOL sets a precedent for leveraging technology to protect our shared history.

The UNESCO and INTERPOL virtual museum is a testament to human creativity and technological innovation. It also serves as a beacon of hope for safeguarding our cultural legacy. Through its immersive experience, educational focus, and community-driven narratives, the museum will reshape how we perceive and protect our shared history.

Please visit the site: https://artcentron.com/2023/10/25/unesco-interpol-build-virtual-museum-stolen-cultural-objects/?utm_medium=email&utm_content=Lc1RGQY2liOkBzT2K78sQQC8v-oqH7OYnweBciYCMvXmXqTErLWuyaLrqB8DFK7

RARE DISCOVERY: ANCIENT EGYPTIAN BURIAL REVEALS OVARIAN TEETH IN OLDEST EXAMPLE OF TERATOMA

Teratoma is a rare type of tumor which typically grows in testicles or ovaries. Teratomas can present as hair, teeth, bones and, in the most extreme cases, partial limbs and underdeveloped organs, which is perhaps where the tumor form got its name “teratoma,” derived from the Greek word “teras,” meaning monster.

The ovarian tumour was found in the pelvis of a woman who had died over 3,000 years ago and was believed to be between the ages of 18 and 21.

Till now, archaeologists have found only four archaeological examples of teratomas, out of which three were in Europe and one was found in Peru. The latest teratoma discovered in the New Kingdom period cemetery in Amarna, Egypt, is the fifth archaeological case published so far.

The woman’s remains were found by Anna Stevens from the University of Cambridge and Gretchen Dabbs from Southern Illinois University, who have headed the project researching Amarna cemeteries since 2005.

The teratoma tumor was discovered within Tomb 3 of the North Desert Cemetery at Amarna, Egypt. Photo: M. Wetzel / Amarna Project

In a paper, “A mature ovarian teratoma from New Kingdom Amarna, Egypt,” published in the International Journal of Paleopathology, the researchers detail the archaeological discovery of a mature ovarian teratoma in Amarna, Egypt, dating to the mid-14th century BCE

The skeleton was wrapped in a plant fibre mat and it was buried along with various grave goods, which included a deity related to childbirth, a ring decorated with the figure of Bes, fertility, and protection.

“The presence of a gold ring decorated with the god Bes on Individual 3051’s [the label given to the woman] left hand, and perhaps the positioning of the hand and ring close to the mass, may suggest the teratoma was not asymptomatic and Individual 3051 was attempting to invoke Bes to protect her from pain or other symptoms, or aid in her attempts to conceive and birth a child,” the study explains, as per Science Direct.

It is unclear what was known of the woman’s condition at the time, though the young age at the time of death could indicate that she died from an infection associated with the condition. Today, such a condition would be visible in an X-ray and likely treatable by surgery.

More information: Dabbs, G. R., Stevens, A., & Wetzel, M. K. (2023). A mature ovarian teratoma from New Kingdom Amarna, Egypt. *International Journal of Paleopathology*, 43, 99–105. doi:10.1016/j.ijpp.2023.10.004

Please visit the site: <https://arkeonews.net/rare-discovery-ancient-egyptian-burial-reveals-ovarian-teeth-in-oldest-example-of-teratoma/> [Go there for pix and caps]

TYRIAN PURPLE: THE LOST ANCIENT PIGMENT THAT WAS MORE VALUABLE THAN GOLD, BY ZARIA GORVETT

For millennia, Tyrian purple was the most valuable colour on the planet. Then the recipe to make it was lost. By piecing together ancient clues, could one man bring it back?

At first, they just looked like stains. It was 2002 at the site of Qatna – a ruined palace at the edge of the Syrian desert, on the shores of a long-vanished lake. Over three millennia after it was abandoned, a team of archaeologists had been granted permission to investigate – and they were on the hunt for the royal tomb.

After navigating through large hallways and narrow corridors, down crumbling steps, they came across a deep shaft. On one side were two identical statues guarding a sealed door: they had found it. Inside was a hoard of ancient wonders – 2,000 objects, including jewellery and a large golden hand. But there were also some intriguing dark patches on the ground. They sent a sample for testing – eventually separating out a vivid purple layer from the dust and muck.

The researchers had uncovered one of the most legendary commodities in the ancient world. This precious product forged empires, felled kings, and cemented the power of generations of global rulers. The Egyptian Queen Cleopatra was so obsessed with it, she even used it for the sails of her boat, while some Roman emperors decreed that anyone caught wearing it – other than them – would be sentenced to death.

That invention was Tyrian purple, otherwise known as shellfish purple. But though this noble pigment was the most expensive product in antiquity – worth more than three times its weight in gold, according to a Roman edict issued in 301 AD – no one living today knows how to make it. By the 15th Century, the elaborate recipes to extract and process the dye had been lost.

But why did this alluring colour disappear? And can it be resurrected?

In a small garden hut in north-eastern Tunisia, just a short distance from what was once the Phoenician city of Carthage, one man has spent most of the last 16 years smashing up sea snails – attempting to coax their entrails into something resembling Tyrian purple.

A fishy empire

Tyrian purple was paraded by the most privileged in society for millennia – a symbol of strength, sovereignty and money. Ancient authors are particular about the precise hue that was worthy of the name: a deep reddish-purple, like that of coagulated blood, tinged with black. Pliny the Elder described it as having a "shining appearance when held up to the light".

With its uniquely intense colour and resistance to fading, Tyrian purple was adored by ancient civilisations across Southern Europe, North Africa, and Western Asia. It was so central to the success of the Phoenicians – it was named after their city-state Tyre, and

they became known as the "purple people". The shade could be found on everything from cloaks to sails, paintings, furniture, plaster, wall paintings, jewellery and even burial shrouds.

In 40 AD, the king of Mauretania was killed in a surprise assassination in Rome, ordered by the emperor. Despite being a friend to the Romans, the unfortunate royal had caused grave offence when he strode into an amphitheatre to watch a gladiatorial match... wearing a purple robe. The jealous, insatiable lust that the colour ignited was sometimes compared to a kind of madness.

A slimy mystery

Oddly, the most celebrated pigment the world has known did not start life as a beautiful ultramarine gemstone, like its contemporary lapis lazuli – or a vibrant tangle of coral-pink roots, like the red dye madder. Instead, it began as a clear fluid produced by sea snails in the Murex family. More specifically, it was mucous.

Tyrian purple could be produced from the secretions of three species of sea snail, each of which made a different colour: Hexaplex trunculus (bluish purple), Bolinus brandaris (reddish purple), and Stramonita haemastoma (red).

Once snails had been collected, either by hand along rocky coastlines or with traps baited with other snails – Murex sea snails are predators – it was time to harvest the slime. In some places, the mucous gland was sliced it out using a specialised knife. One Roman author explained how the snail's gore would then ooze out of its wounds, "flowing out like tears", before being collected into mortars for grinding. Alternatively, smaller species could be crushed whole.

But this is the end of the certainty. Accounts of how colourless snail slime was transformed into the dye of legends are vague, contradictory and sometimes obviously mistaken – Aristotle said the mucous glands came from the throat of a "purple fish". To complicate matters further, the dyeing industry was highly secretive – each manufacturer had their own recipe, and these complex, multi-step formulas were closely guarded.

"The problem is that people did not write down the important tricks," says Maria Melo, a professor of conservation science at NOVA University of Lisbon, Portugal.

A purple pong

In antiquity, Tyrian purple was not just renowned for its colour. Dyeworks were hotbeds of rotting fishy flesh with the added piquancy of urine – often used to help pigments stick. Whole neighbourhoods could become enveloped in this putrid aroma, and cities where it was manufactured were considered unpleasant places to live. The smell would permeate deep into the fibres of stained cloth, lingering long after it was purchased. Since the wealthy had exclusive access to this shade, it may have been advisable to stay downwind of them. (Read more from the BBC about the disgusting origins of the colour purple.)

The most detailed record comes from Pliny, who explained the process in the 1st Century AD. It went something like this: after isolating the mucous glands, they were salted and

left to ferment for three days. Next came the cooking, which was done in tin or possibly lead pots on a "moderate" heat. This continued until the whole mixture had been boiled down to a fraction of its original volume. On the tenth day, the dye was tested by dipping in some fabric – if it emerged stained with the desired shade, it was ready.

Given that each snail only contained the tiniest amount of mucous, it could take some 10,000 to make just a single gram of dye. Mounds of billions of discarded sea snail shells have been reported in areas where it was once manufactured. In fact, the production of Tyrian purple has been described as the first chemical industry – and this not only applies to the scale of the operations, but their exacting nature.

"It is not really easy to obtain the colour," says Ioannis Karapanagiotis, a professor of conservation chemistry at Aristotle University of Thessaloniki, Greece. He explains that Tyrian purple is totally unlike other dyes, where the raw material – such as leaves – contains the pigment already. Instead, the sea snail mucous contains chemicals which can be turned into a dye, but only under the right conditions. "It is quite amazing," he says. And yet, many crucial details of the process are long forgotten.

An abrupt decline

In the early hours of 29 May 1453, the Byzantine city of Constantinople was captured by the Ottomans. This was the end of the Eastern Roman Empire – and it took Tyrian purple with it.

At the time, the city's dyeworks were at the centre of the industry. The colour had become deeply bound to Catholicism – worn by cardinals and used to dye the pages of religious manuscripts. But it had already been suffering, after a succession of excessive taxes. Now the church had lost control of the pigment's production altogether. So, the pope soon decided that red would become the new symbol of Christian power. This could be made easily and cheaply by crushing scale insects.

However, there may also have been another factor in the demise of Tyrian purple. In 2003, scientists stumbled upon a pile of sea snail shells at the site of the ancient port of Andriake in southern Turkey. In all, they estimated that this garbage heap, dating to the 6th Century AD, contained around 300 cubic metres (10,594 cubic ft) of their remains – corresponding to up to 60 million individuals.

Intriguingly, though the bottom of the pile – where the snails were discarded first – contained some plump, older specimens, those discarded more recently were significantly smaller and younger. One explanation is that the sea snails had been overexploited and eventually, there just weren't any mature snails left. This may have led to the extinction of dye production in the area, the researchers suggest.

But just a few years after this discovery, another would raise hopes of reviving this ancient colour.

A determined revival

One day in September 2007, Mohammed Ghassen Nour was taking his usual lunchtime walk on a beach on the outskirts of the city of Tunis, Tunisia. "There had been a horrible

storm the previous night, so there were a lot of dead creatures on the sand, like jellyfish, seaweeds, small crabs, molluscs," he says. Then he noticed a smear of colour – an intensely reddish-purple liquid was oozing out of a cracked sea snail.

Nouira, who works as a consulting manager, was immediately reminded of a story he had learned at school – the legend of Tyrian purple. He raced to the local harbour, where he found many more snails, exactly like the one on the beach. Their little spiral bodies are covered in spikes, so they often become trapped in fishermen's nets. "They hate them," he says. One man was plucking them out of his net and putting them in an old tomato can – which Nouira later took back to his apartment.

To begin with, Nouira's experiment was extremely disappointing. That night, he cracked the snails open and looked for the vivid purple entrails he had seen on the beach. But there was nothing there except pale flesh. He put it all in a bag to throw away, and went to bed. The next day, the bag's contents had undergone a transformation. "At that time, I had no clue that the purple was initially transparent – it's like water," he says.

A modern application

Today scientists have been investigating a possible new use for Tyrian purple – or at least, one of the most important molecules involved. In its pure form, 6,6'-dibromoindigo is a deep purple powder, and it just so happens that it makes an excellent semiconductor – the basis of modern electronics. As an organic material it's biodegradable and less alien to the human body than silicon, so as well as making electronics more ecofriendly, it could potentially be used in wearable technologies. The best part? It can be made in a laboratory – with no sea snails involved.

Scientists now know that to jolt the chemicals in Murex snails out of their colourless state, they need to be exposed to visible light. Initially their secretions will turn yellow, then green, turquoise, blue and eventually a shade of purple, depending on the snail species. "If you do this process on a sunny day, it takes something like less than five minutes to have this transformation," says Karapanagiotis.

But this isn't instant Tyrian purple. The shade is actually made up of many different pigment molecules, all working together. Melo explains that there's indigo, which is blue, "brominated" indigo, which is purple, and indirubin, which is red. "Depending on the treatment of your extract, and on the dying, you can have very different colours," she says. Even once the desired colour has been achieved, there is still yet more processing to do to turn the pigments into a dye, such as converting them into forms that will stick to fabric.

For Nouira, this was the beginning of a 16-year obsession with uncovering the lost method for making Tyrian purple. Though others have investigated the secretions of sea snails before – including a scientist who processed 12,000 individuals into 1.4g of pure powdered pigment using industrial techniques – Nouira wanted to make it the old way, and rediscover the authentic shade that was venerated for millennia.

When he took those first sea snails in his apartment back in 2007, it was just a week after his honeymoon. "My wife was horrified by the by the smell; she almost kicked me out of the house... But I had to carry on," he says.

It took years for Nouria to make his first powdered dye, and when he did, it was a pale indigo colour, nothing like Tyrian purple and extremely dusty. Through years of trial and error, Nouria gradually discovered tricks that he suspects may have been used in antiquity – blending secretions from all three sea snail species mentioned in Pliny's account, adjusting the acidity of the mixture, alternating exposure to sunlight with darkness during preparation, and cooking his mixtures for different lengths of time.

For references, Nouria mostly used Byzantine mosaics depicting Justinian I and his wife Theodora – though he also later compared his results with surviving fragments of fabric. Eventually he ended up with pure pigments and dyes that he thinks are uncannily close to true Tyrian purple – and live up to the ancient hype. "It [the colour] is very alive, very dynamic," he says. "Depending on the light, it shifts and shimmers... it keeps changing and playing tricks on your eyes."

After decades of pungent experiments in his shed, Nouria has been invited to display his pigments and dyed products at exhibitions all over the world, including the British Museum in London and the Museum of Fine Arts Boston. He has also become something of a culinary expert on sea snail recipes; he recommends spicy Tunisian Murex pasta, or fried Murex. "It's crunchy, it's delicious, it's incredible," he says.

But Tyrian purple is again under threat. Today the challenge is not invasion, or secrecy surrounding how it's made – though like his ancient counterparts, Nouria is furtive about the exact details of his methods – but extinction. Murex sea snails are under threat from a barrage of human influences, including pollution and climate change. Stramonita haemastoma, which lends the colour a reddish tint, has already vanished from the eastern Mediterranean. So, whether or not Tyrian purple has finally been revived, one thing is certain: it could easily be lost all over again.

Please visit the site: <https://www.bbc.com/future/article/20231122-tyrian-purple-the-lost-ancient-pigment-that-was-more-valuable-than-gold> [Go there for pix]

TENS OF THOUSANDS OF ANCIENT BRONZE COINS DATING FROM THE 4TH CENTURY DISCOVERED OFF SARDINIA

A diver spotted something metallic at the bottom of the sea off the town of Arzachena in the Sassari province of northern Sardinia, the second-largest island off the coast of Italy, leading to the discovery of tens of thousands of ancient bronze coins.

The Italian Ministry of Culture said on Saturday that the diver had notified the authorities, who then dispatched divers from the ministry's underwater archaeology department to form an art protection squad.

The coins were discovered in seagrass not far from the island's northeastern shore and date to the first half of the fourth century. The exact number of coins recovered has yet to be determined because they are being sorted. According to a first estimate, made based on the overall weight of the discovery, the number of large bronze coins found would be between 30,000 and 50,000 specimens, more than those found in 2013 in the United Kingdom, in Seaton.

In addition to the coins, walls of amphorae of African production and, in smaller numbers, of oriental production were identified in the deposit.

The dives revealed the existence of two macro-areas of dispersion of follis in a large sandy area that opens up between the beach and the seagrass; the latter, given the location and shape of the seabed, there could be remains of ship wreckage nearby. All the coins taken are in an exceptional and rare state of conservation. Only 4 pieces are damaged, although still legible.

The chronological context of the coins can be found in a period between 324 (Licinius coinage) and 340 AD. Dating is confirmed by the presence of the coinage of Constantine the Great and that of all the other members of the family present as caesars but above all by the absence of centenionales, minted starting from 346 AD. The recovered follis group comes from almost all the mints of the empire active in that period except Antioch, Alexandria, and Carthage.

“The treasure found in the waters off Arzachena represents one of the most important coin discoveries, in recent years, said Luigi La Rocca, a Sardinian archaeology department official.

The coins, which date from the first half of the fourth century, are in excellent condition and provide valuable insight into the region's history. The discovery also emphasizes the importance of safeguarding the Mediterranean Sea's archaeological heritage.

Please visit the site: <https://arkeonews.net/tens-of-thousands-of-ancient-bronze-coins-dating-from-the-4th-century-discovered-off-sardinia/>

WHO LOOTED AN ANCIENT ROMAN SHRINE? A VILLAGE FINALLY TELLS, BY GRAHAM BOWLEY AND TOM MASHBERG

Investigators say they have figured out how bronze statues from a shrine built 2,000 years ago in Asia Minor to venerate the emperors of Rome ended up in museums around the world.

Archaeologists and excavation site workers recreate the position of ancient bronzes of Roman emperors that once filled a shrine at Bubon in what is now modern Turkey. Credit...Ci Demi for The New York Times

One towering ancient bronze was found last year in the Sutton Place apartment of a notable New York philanthropist. Another this year in the Metropolitan Museum of Art. A third bronze, the head of a young Roman boy, was seized from Fordham University in March.

Each of these ancient artifacts, and a half dozen more like them, are believed to have once graced an elaborate shrine in a region that is now part of Turkey. Erected by locals to honor the Roman Empire at a time when it ruled that part of the world, the shrine in the ancient city of Bubon featured a pantheon of emperors, experts say.

So Lucius Verus, it's thought, stood next to Marcus Aurelius, his adoptive brother with whom he ruled. The statue of Septimius Severus was beside those of his wife and children. The emperors Valerian and Commodus once stood on their own plinths nearby.

In 1994, a Turkish archaeologist, Jale Inan, published a book, "Latest Research on the Sebasteion of Bubon and Its Statues," in which she plotted the location of the bronzes as they appeared in ancient times.

But just decades ago, according to investigators from the Turkish government and the Manhattan District Attorney's Office, this set of rare, larger-than-life bronzes came to be scattered around the world. Individual statues ended up in a variety of affluent homes and prestigious museums.

Now, relying on newly discovered records and interviews with regretful, at times tearful, farmers now in their 70s, the investigators say they have been able to reconstruct what happened. They say men from a nearby village found the bronzes buried on a hillside, beginning in the late 1950s and, acting in tandem over a period of years, dug up the statues, often working in large groups to facilitate their excavation. Many were then sold to an antiquities dealer they knew as "American Bob."

His real name, investigators say, was Robert Hecht and he would become famous — and later infamous — as one of the world's great dealers of antiquities, both looted and unlooted. Although it had been illegal under Turkish law since 1906 to sell antiquities without official permission, Hecht and others brought the bronzes to market, the investigators say.

IAuthorities now have begun to seize the bronzes, one by one. Two have already been returned to Turkey. Three more have been seized, and are yet to be sent back. Another four are being sought, according to the district attorney’s Antiquities Trafficking Unit.

Some experts, and at least one museum that holds a statue being sought, have questioned whether the evidence placing these particular artifacts in Bubon is as strong as the authorities have suggested. But Matthew Bogdanos, who leads the unit, said he is undeterred.

“Everybody fights Bubon,” he said of the naysayers. “But if there were ever a case we wanted to get into a courtroom, Bubon is it.”

The story of the Bubon bronzes, though, is more than just a tale of looters’ remorse, investigative zeal, art market intrigue and antiquities repatriation. It’s also a lesson in history, one that presents a more nuanced view of ancient Rome than that popularized by Hollywood epics. Those films often depicted an empire that relied almost exclusively on the spear, the whip and the executioner’s sword to keep the conquered in line. The truth was more complicated.

Some of the men who rose to lead Rome were, in fact, born in conquered lands. Severus was from modern-day Libya; the emperor Trajan from modern-day Spain. Rome allowed a measure of self-government and promoted the promise of citizenship as potent tools to keep the peace. And there was often local buy-in, evident in the shrines built by invaded peoples to show respect for their conquerors.

Known as shrines to the “imperial cult,” only a handful of them survive today in any form. One is the excavation at Bubon, according to archaeologists. From the time of Augustus, Roman emperors were venerated as gods, sometimes alongside the deities themselves. The shrine at Bubon, in what was then known as Asia Minor, is believed to have been built by local gentry as a sign of fealty to Rome. Started around A.D. 50, it is thought to have been in use for perhaps two centuries before it was buried in earthquakes.

Uncovering the Past, One Discovery at a Time

From Hunted to Hunter: A new study is the first to show that the Neanderthals, who until recently were judged by scientists too helpless to hunt on their own, intentionally stalked large beasts of prey and apex predators.

Ancient Footprints: A 2021 paper concluded that humans could have first set foot in North America as early as 21,000 to 23,000 years ago. A new study adds to the evidence for those surprisingly ancient dates.

Emerging From Ice: As the earth warms, glacial archaeologists are in a race against time to preserve objects before they are destroyed by the elements. Recent field work yielded a 3,000-year-old arrow.

Ancient Logs: Scientists have unearthed logs in Africa that are nearly a half-million years old, the remnants of large wooden structures crafted by our early ancestors. The discovery drastically pushes back the historical record of structural woodworking.

The calamity, fortuitously, protected the bronze statuary at a time when discarded metal was routinely recycled into armaments. The Bubon bronzes, instead, remained underground, intact, for almost 2,000 years.

Asia Minor Under the Empire

Though life under Roman rule would ultimately prove prosperous and pleasant for many of the people of Bubon, it took time and bloodshed.

Before the Roman conquest, parts of Asia Minor, also known as Anatolia, had embraced the Greek language and way of life and the region was largely under the dominion of Greek rulers for two centuries, starting with Alexander the Great in 330 B.C. But when Rome, after much warfare, ultimately took power in the first century B.C., the empire used its well-honed tactics to convert the region into a stable and passive province.

The Romans built paved roads and large public amenities like baths and markets. They integrated Roman tradesmen, soldiers and administrators into local life, and dangled the possibility of Roman citizenship, which conferred political rights on people from conquered lands.

“For much of Anatolia, the Roman Imperial period was the high point of classical antiquity,” said Peter Talloen, an archaeology professor from the University of Leuven in Belgium who is excavating in the region. “The vast road network built and maintained by Rome,” he added, “would result in Anatolian goods such as textile, pottery, wine and olive oil being profitably exported to all different areas of the Roman Empire.”

The Roman Empire, A.D. 200

In the period when the shrine at Bubon was active, the Roman Empire had spread through large parts of the world, as far west as modern day Britain and as far south as what is now Algeria, Libya and Egypt.

alt_text: The map shows the location of Bubon, site of a Roman shrine, the nearby village of Ibecik, Burdur and Izmir, Turkey. It also shows Rome and the extent of the Roman Empire when the shrine was active.

Bubon itself was a small and relatively wealthy agrarian hilltop community that, under Rome, featured central markets, a theater, low battlements and a small stadium for athletic contests. Its residents, perhaps a few thousand people, archaeologists estimate, would likely have enjoyed self-governance so long as they showed loyalty and paid tribute to the Roman prefect in charge of their province.

Amid the ruins of the theater, there is an inscription relating how the emperor Commodus (A.D. 177-192) commended the city for crushing a band of brigands. Bubon, as a result, the inscription reports, was rewarded with an extra vote at the provincial assembly.

Many monuments would have been erected, Talloen said, some to the local elites who financed the public buildings and activities like religious festivals, others to the Roman

officials who authorized the local leaders to tax things like the ownership of land or the sale of produce.

The shrine, or sebasteion (suh-BASS-tay-ohn), at Bubon was one such monument, built to proclaim the populace's devotion to Rome. Sakir Demirok, an archaeologist with the Burdur Museum in Turkey, said the shrine, a U-shaped courtyard that was probably covered, would have likely been a site for animal sacrifices, incense burning, and communal prayers and vows, led by a local priest.

Romans were keenly religious and worshiped multiple mythological deities, like Jupiter or Juno, whose favor or disfavor were thought to influence daily life.

"Rome was the safeguard of the peace and welfare," Demirok said. "It was a system that provisioned grain for the citizens' good and secured the trade routes. Cities were expected to demonstrate their gratitude for the stability provided by that system."

The Bubon shrine was begun, experts think, during the reign of Nero, between A.D. 54 and 68, and initially featured statues of the emperor and his wife Poppaea Sabina. Nero was popular in the Greek-speaking provinces because he embraced Greek culture and song. During its life span, at least 14 individuals were represented by statues — 11 emperors and three empresses — Demirok said, the last being Gallienus, who ruled from A.D. 260 to 268. As rulers were unseated, their statues were sometimes replaced, so Nero's, for example, was removed and his name erased from the statue's plinth, which later was used for Marcus Aurelius, experts said.

Experts credit the survival of the bronzes to a series of earthquakes that occurred in the decades after Gallienus was enshrined, burying the sebasteion in protective layers of soil and stone as the Roman Empire began its long decline.

The restitution of the statues now, as a group, serves to highlight, experts said, the central role they played in binding the people of a remote province like Bubon, spiritually and politically, to their counterparts in far-off Rome.

"They want to show their allegiance to Rome," said Christina Kokkinia, an expert at the National Hellenic Research Foundation in Greece who has visited and written about Bubon. "They were proud to be Roman."

The looting of Bubon indeed took a village, investigators say.

The farmers from Ibecik, a small community a mile and a half from the shrine site, told interviewers that they had known about the ancient ruins for years before they began digging up the bronzes sometime in the late 1950s or early 1960s. As young men, they said, their teachers had led them up to a deep hole in the stony hillside that some came to call the "Museum." One villager recalled some of the bronzes were piled up there, like logs in a fireplace, investigators said.

At first, just a few villagers were involved in selling off artifacts to local smugglers. But soon the local farmers joined in groups of 20 to 30 — sometimes cooperating, sometimes competing — to excavate and carry away the heavy, large bronzes, now filled with several centuries of settled dirt. Some statues were broken into pieces to make them

easier to transport, the farmers recalled. Investigators say pickax marks are still visible on the bronze of Lucius Verus.

When the money came in, many of the families shared in the proceeds.

“It was seen as the property of the village,” said Zeynep Boz, a Turkish official responsible for the return of her country’s antiquities.

The illegal excavations ebbed after 1967 when the Turkish police found a headless bronze torso hidden in the local woods. That statue of Valerian, who ruled from A.D. 253 until his capture in battle with the Persians in A.D. 260, now stands in a museum in the nearby town of Burdur.

But other bronzes, investigators say, had already entered the art market. Villagers recently recalled for investigators how a pair of local smugglers ferried the artifacts in a pickup truck to the port town of Izmir, about four hours away. There, in the souk, or bazaar, some were sold to a dealer they called American Bob. Investigators say that, based on the evidence they have collected, the dealer was Hecht.

The evidence includes shipping and sales invoices that show Hecht in possession of remarkable 2,000-year-old Roman bronzes that had never been seen before. In the late 1960s, he sold five — four torsos and a head — to a Boston collector called Charles Lipson, who exhibited them at several museums before consigning them to a New York gallery, from which they were resold. Investigators say Hecht sold other bronzes to a second gallery in New York.

At the time, the paper trail did not identify where the bronzes had come from and some of the statues had yet to carry the names of emperors. The bronze that was later identified as a depiction of Marcus Aurelius was just referred to as a large-scale Roman bronze in a 1974 museum exhibition, and there was a debate about where it and others had originated.

But a Turkish archaeologist, Jale Inan, came to be convinced they had all come from Bubon, which she visited in 1973, drawn by reports of the looting. In 1979, she traveled to Denmark, where a museum owned a bronze head that had been purchased from Hecht. She and a curator at the Danish museum agreed that it was likely a match for a headless torso in the United States that Lipson had owned and identified as that of Septimius Severus.

In 1990, Inan returned to the hillside in Bubon to dig at the site. She spoke to local farmers who acknowledged they had taken part in illicit digging. She found a journal in which one of the looters had reconstructed what had occurred 30 years earlier. Through interviews and excavation, she plotted the positions of the statues using the stone bases that remained, the names of the emperors still inscribed on them in Greek.

In a paper and in a 1994 book, she cataloged her research, including sketches that showed how she thought some of the statues, now held by various parties around the world, would have fit onto the plinths at Bubon. She died in 2001, before she could realize the fruition of her efforts, but investigators today have built their work atop the research she started decades ago.

“It was her life’s work,” said Elizabeth Marlowe, a professor at Colgate University in New York who has closely tracked the Bubon statues. “She began drawing attention to this problem shortly after the looting occurred and never gave up. She’s the one who connected the dots. This is all her work.”

The Farmers Came Forward

One summer afternoon in 2021, Zeynep Boz, the Turkish official, sat outside the village cafe in Ibecik’s main square and addressed some 90 farmers gathered at tables under the trees.

She described how, once Turkey adopted its antiquity law in 1906, there was no such thing as private ownership of buried antiquities. She assured the villagers they would not be prosecuted for events 60 years earlier and asked them for any old letters, photos or other evidence that could help get the statues back.

“Your village has been robbed to its bones,” she said. “It harms the country’s reputation. Please help me here.”

“In the beginning they were like, ‘We don’t want to. The people have all died,’” Boz said in an interview. “But then slowly, slowly they understood our only purpose was making things good and they started talking to us.”

Boz and officials from the museum at Burdur eventually found 10 men who recalled the looting. Their testimony is crucial to Turkey’s repatriation claim, one now supported by New York investigators and other experts.

But not all experts agree that each of the statues was looted from Bubon. Some argue that Bubon was too much of a backwater to have housed such monumental bronzes or that the evidence is inconclusive.

Kokkinia of the National Hellenic Research Foundation said that, while she appreciates Inan’s research, she questions whether her archaeological techniques were sufficiently rigorous to have decided the question. She suggests further investigation at the site before every statue is shipped to Turkey.

“I love Bubon,” she said. “Let it have all the statues in the world. But it’s not necessarily scientifically correct in all cases.”

The Danish museum that for years said its bronze head belonged to the headless torso of Septimius Severus from Bubon has more recently said this is not certain. The Ny Carlsberg Glyptotek in Copenhagen said more research was required.

The Metropolitan Museum of Art in New York, where the headless “Severus” statue had been on loan, turned it over to the New York investigators for repatriation. But the museum said it was not established that it definitely depicted the emperor or had come from Bubon. While it had the bronze on display, the Met referred to it as simply “Statue of a Nude Male Figure.”

The Cleveland Museum of Art, which holds a headless statue that investigators say is the Marcus Aurelius that once stood in Bubon, has gone to court to block its seizure. The Manhattan District Attorney's Office, which served seizure papers on the museum in August, said it has interviews and detailed forensic evidence that support Turkey's claim. The museum has described the evidence as "conjecture," though until recently it had said the bronze "likely represents Marcus Aurelius." In recent months, curators have retitled the statue "Draped Male Figure."

Some worry additionally that President Recep Tayyip Erdogan's government may be aggressively exploiting the return of cultural property for political purposes, boosting a nostalgic Turkish nationalism and a reassertion of its historical greatness at a time when there are questions about its commitment to human rights and democracy. "Why is the U.S. rewarding Erdogan, a demagogue acting daily against U.S. interests in the region, for this bad action?" wrote Kate Fitz Gibbon of the Committee for Cultural Policy, in 2020.

But the New York investigators say they have recovered additional evidence that illustrates the scope of the looting at the shrine, including the Hecht invoices, the testimony of the villagers from Ibecik and arms and legs from bronze statues that may also be tied to the shrine. (Hecht, who died in 2012, was accused several times of antiquities trafficking but was never convicted.)

Several of the villagers have correctly identified the statues now being targeted as looted from a lineup of other ancient bronzes. Some have mimicked the poses of the bronzes for investigators to show they remembered what they looked like, investigators said.

"There is this unbelievable heartening thing happening where people are coming forward in their 70s and saying, I have been living with this for 55 years," Bogdanos of the district attorney's office said.

Earlier this year, when the statues of Septimius Severus and Lucius Verus were returned, two of the looters, now in their 70s, were invited to see them.

"They were very emotional," Boz said. "They really regret it. You can see it in their eyes."

Graham Bowley is an investigative reporter on the Culture desk. He also reported for The Times from Afghanistan in 2012. He is the author of the book "No Way Down: Life and Death on K2." More about Graham Bowley

Please visit the site: <https://www.nytimes.com/2023/10/30/arts/ancient-rome-bronzes-bubon.html> [Go there for pix & maps]

ITALIAN ARCHAEOLOGISTS OPEN 2,600- YEAR-OLD TOMB FOR FIRST TIME, FIND WEALTHY FAMILY'S TREASURES, **BY EMILY MAE CZACHOR**

Community leaders and archeologists in central Italy recently gathered in the municipality of Montalto di Castro for the opening of a tomb that dates back more than 2 1/2 millennia, the municipality announced in a social media post last week.

"Today ... we witnessed the opening of an ancient Etruscan tomb buried at the Osteria Necropolis in Vulci," the municipality of Montalto di Castro, which sits along the Mediterranean Sea about 100 miles northwest of Rome, wrote Oct. 27 on Facebook, calling the grand unveiling "a day of culture and history" in a translated statement.

Historians say the Etruscans built their civilization on a portion of the land that is now modern-day Italy, beginning as early as 900 B.C., and operated as a network of city-states not completely unlike the Roman Republic that came after it. The Etruscans dominated Italy until falling, as a result of the Roman-Etruscan wars, to the then-expanding Roman empire around the 4th century B.C.

Vulci, an archaeological site in the northern Lazio region not far from Montalto di Castro, was once a rich Etruscan city. Its ruins have become a popular spot for tourist visits and as well as a place of interest for archaeological excavations.

The tomb discovered there earlier this year was found remarkably intact when it was officially opened at the end of October, for the first time in about 2,600 years, according to the Italian online magazine *Finestre sull'Arte*, which focuses on ancient and contemporary art. It was opened and explored following the opening of a similar tomb in the area this past April, the magazine reported. Montalto di Castro Mayor Emanuela Socciarelli attended the opening along with Simona Baldassarre, the councilor of culture for the Lazio region, Simona Carosi, the manager of the Superintendency of Archaeology for the province of Viterbo and southern Etruria, and Carlos Casi, the director of the Vulci Foundation, which helped lead the excavation alongside archeologists.

Archaeologists found a collection of long-lost treasures inside the ancient tomb, including a collection of pottery and amphorae, which are tall jars with two handles and a narrow neck typically associated with ancient Greek or Roman cultures. The jars contained wine from Greece, likely from the island of Chios, *Finestre sull'Arte* reported. It could be a relic of the wine trade happening at that time in history.

Utensils, cups, iron objects, and a variety of ceramics and decorative accessories were also found inside the tomb in perfect condition, as was a tablecloth that may have been used for a funerary ritual offering called "the last meal" or "meal of the dead." A bronze cauldron was also found.

The stockpile of personal belongings found inside the tomb suggests the family for whom it was constructed was probably quite wealthy in their day.

The complex structure and layout of the burial site is also important to archeologists and historians, Casi told the Italian news outlet Il Messaggero, noting that the tomb "appears to be characterized by a partition saved in the rock which creates a passage arch between the dromos, i.e. the short corridor with steps, and the vestibule, from which the two rooms were accessed, the front one and the one on the left: the usual one on the right is missing, evidently because the space had already been occupied by other tombs."

Please visit the site: <https://www.cbsnews.com/news/italy-vulci-tomb-opened-etruscan-roman-greek-artifacts-montalto-di-castro> [Go there for pix]
