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CAA 2015 SIENA WEB SITE

http://caaconference.org/

CAA INTERNATIONAL WEB SITE

http://caa-international.org/

Conference Venue

University of Siena San Niccolò University Building

In the early 2000s, the University of Siena restored the building, a former monastery that in early 800s was a sort of village organized into pavilions to accommodate mentally ill people. Some University departments have been housed in the wide rooms of the former psychiatric hospital that is located in the town centre, very close to Porta Romana.

The Teaching Centre has many teaching rooms, including those of the Outer Room Pavilion which comprises six 100 seat multi-functional rooms (transformable into a 700 seat auditorium).

Monday 30th March – Workshops

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8.00-18.30 Registration

9.00 - 10.30 / 11.00 - 12.30

1. Predictive Techniques for 3D Data Augmentation in Cultural Heritage Room A Chair: Theoharis Theoharis 2. Hands-On Archaeological Conceptual Modelling 2 Room B Chair: Cesar Gonzalez-Perez 3. Storytelling from the earth Room C Chair: Giuliano De Felice 4. 3DHOP – Presenting online high-res 3D models: a crash course Room D Chair: Marco Callieri 5. Introduction to exploratory network analysis for archaeologists using Visone **Chair: Daniel Weidele** Room E 6. UAV Photogrammetry for archaeology and Survey: a state of the art Room G Chair: Renato Saleri 10.30 - 11.00 Coffee break 12.30 - 13.30 Lunch 13.30 - 16.301. The Use of 3D GIS Platforms for Intra-Site Investigation in Archaeology Room A Chair: Nicolò dell'Unto 2. First steps in agent-based modelling with Netlogo Room B Chair: Iza Romanowska 3. Data modelling, processing and integration for the knowledge and valorisation of Cultural Heritage in urban area Room C **Chair: Salvatore Piro** 4. Improving Presentation Skills Room D Chair: Philip Verhagen 5. Ha(r)ckeology: an hacking approach to open archaeology Room E Chair: Gabriele Gattiglia 6. Reconstructing Ancient Landscape in the Cloud Room G

16.30 - 17.00 Coffee break

Chair: Sofia Pescarin

Monday 30th March

17.30 – 18.00 Conference opening

Auditorium

Prof. Angelo Riccaboni - Rector University of Siena

Prof. Gabriella Piccinni - Humanities Dean University of Siena

Prof. Emanuele Papi - University of Siena

Dott. Antonia Pasqua Recchia - MIBACT

Prof. Roberto Scopigno – Institute for Computer Science and Technologies – CNR Pisa

Prof. Stefano Campana - University of Siena

Prof. Gary Lock – University of Oxford – UK

18.00 – 19.00 Keynote Lecture

Auditorium

Prof. Martin Millett "Towards a new landscape archaeology?"

19.30 - 22.00

Icebreaker Party – Piazza San Francesco 7

Tuesday 31 March – CAA 2015 CONFERENCE DAY 1

Paper 20 min + 5 min question time

Up to 8 parallel sessions + roundtable

- 2 Slots 5 papers each in the morning
- 2 slots 4 papers each in the afternoon

Poster session from 14.30 to 15.00

- 3 Roundtables
- 2 Key-note talks

8.00 – **10.00** Conference registration desk open

9.00-11.00

2D Linked Data: From interoperable to interoperating

Room A

Chair: Leif Isaksen, Keith May

PHILIPP GERTH, SEBASTIAN CUY

Connecting Cultural Heritage Data: The Syrian Heritage Project in the IT infrastructure of the German Archaeological Institute

KARSTEN TOLLE, DAVID WIGG-WOLF

How to move from Relational to Linked Open Data 5 Star – a numismatic example

• FLORIAN THIERY, THOMAS ENGEL

The Labeling System: A bottom-up approach for enriched vocabularies in the humanities

• PAUL J CRIPPS, DOUGLAS TUDHOPE

From interoperable to interoperating Geosemantic resources; practical examples of producing and using Linked Geospatial Data

• OLIVIER MARLET, STÉPHANE CURET, XAVIER RODIER, BÉATRICE BOUCHOU-MARKHOFF

Using CIDOC CRM for dynamically querying ArSol, a relational database, from the semantic web.

5C Archaeological Theory and Statistical Modelling. Bridging the Gap

Room B

Chair: Catalin Nicolae Popa, Oliver Nakoinz, Laurie Tremblay Cormier

TSONI TSONEV

The concepts of 'cultural gradient' and 'central place' and their analytical and theoretical implications in archaeological interpretation

JUAN A BARCELÓ, GIACOMO CAPUZZO, BERTA MORELL, AGUEDA LOZANO, KATIA ACHINO

The Statistics of Time-to-Event. Integrating the Bayesian Analysis of Radiocarbon data and Event History Analysis methods

JAMES R. ALLISON

Theories and Models of Prehistoric Exchange

KAMILA OLŠEVIČOVÁ, ALŽBĚTA DANIELISOVÁ

Towards shareable modelling outputs: celtsim case study

• CATALIN NICOLAE POPA, PETER RAMSL

Iron Age Identity and Statistical Modelling. The Late Iron Age cemetery of Mannersdorf

Chair: Giovanni Azzena

• GIOVANNI AZZENA, ROBERTO BUSONERA, FEDERICO NURRA, ENRICO PETRUZZI Homogenization of the archaeological cartographic data on a national scale in Italy. The SITAN

ANNE MOREAU

GIS, one of the answers to the challenge of preventive archaeology? : the attempts of the Inrap

KAMIL NIEDZIÓŁKA

Polish Archaeological Record and GIS: preparing data for settlement studies in Northern Poland

GIORGIA LEONI

Standardization for data "quality"? The experience of SITAR Project

SERGIO CAMIZ, PAOLA MOSCATI

Archaeology and GIS. Methodological and terminological issues

5K Where Do We Go From Here? Least Cost Paths Revisited

Room D

Chair: Axel G. Posluschny, Philip Verhagen

• DIMITRIJ MLEKUŽ, DEVI TAELMAN

Energyscapes – An energy expenditure approach for the trade of ornamental stone in Central Adriatic Italy

• IRMELA HERZOG

Dispersal versus optimal path calculation

• EMMA SLAYTON, VIVIANA AMATI, TERMEH SHAFIE, ULRIK BRANDES, MENNO HOOGLAND, CORINNE HOFMAN

Least Cost Pathways and the Caribbean Sea: Using least cost pathway modeling to explore reciprocal connections between the Greater and Lesser Antilles.

• MARK RAYMON GROENHUIJZEN, PHILIP VERHAGEN

Through hell and high water: a multimodal transport network in the Dutch Roman limes

SYLVIANE DÉDERIX

Traveling across archaeological landscapes with the hierarchical communication network

6D Colour and Space in Cultural Heritage: Interdisciplinary connections.

Room E

Chair: Anna Bentkowska-Kafel

ANNA BENTKOWSKA-KAFEL

Colour and Space in Cultural Heritage in 6Ds. The interdisciplinary connections

• LUCA CIPRIANI, FILIPPO FANTINI, SILVIA BERTACCHI

A novel method for shadow removal and BRDF simulation of texture from SfM applications

SARAH YOUNAN

Museums digital repositories and personal identities

• MARCELLO PICOLLO, ANDREA CASINI, COSTANZA CUCCI, MARINA GINANNI, ELENA PRANDI, MAGNOLIA SCUDIERI, TATIANA VITORINO

The use of hyper-spectral imaging technique to reveal concealed layers: a key question for the study of paintings

JONATHAN ROY GRATION, DOUGLAS ALEXANDER CAWTHORNE

Hidden but not lost; Exploring the Great Hall at Boughton House

7C Replication: from the past to the digital age

Room F

Chair: Michael Ann Bevivino

ROB SHAW, MICHAEL ANN BEVIVINO, GARY DEVLIN

Replicating Replicas: from 19th Century plaster cast to 3D digital replica

MARIA CHIARA LIGUORI

Manifold digital applications for a multitarget communication: the Etruscan virtual experience

PAOLA DI GIUSEPPANTONIO DI FRANCO

The performance of heritage: manipulating 3D digital and printed replicas of artefacts inside museums

STUART JEFFREY

Digital replication, aura and authenticity

• MHAIRI MAXWELL

Digital-Design-Archaeology: integrating digital and traditional making in re-creating a Pictish drinking horn fitting.

4E From 3D Scanning of Objects and Monuments to Augmented Reality Theoretical and Methodological Issues of Advanced 3D Imaging Technologies Room G

Chair: József Laszlovszky

KATALIN TOLNAI

The Study of the Past in In-depth? – A 3D approach in the integrated interpretation of archaeological data

ANDREAS HADJIPROCOPIS

Cloud-based 3D Reconstruction of Archaeological sites using photographs from Aerial Surveying, hand-held devices and Open Access Image Repositories

• ANESTIS KOUTSOUDIS, FOTIOS ARNAOUTOGLOU, VASILIOS LIAKOPOULOS, ATHANASIOS TSAOUSELIS, GEORGE IOANNAKIS, CHRISTODOULOS CHAMZAS

Creating 3D replicas of medium-to-large scale monuments for Web-based dissemination within the framework of the 3D-ICONS project

GÁBOR BÖDŐ

Understanding Heritage through Augmented Reality Development

• GARY DEVLIN, ANTHONY CORNS, ROBERT SHAW, PATRICK GRIFFIN

Modelling Irelands iconic sites: Generating online digital models from massive pointcloud datasets

ROUNDTABLE 6 - Thinking between the lines: conceptualising the future of archaeological databases

Room 14

Chair: Alan Greene, Ian Johnson

11.00-11.30 Coffee break

Keynote speakers - Auditorium

11.30 – 12.15 (+15 min question time)

Holly Rushmeier: "Computer Graphics Techniques for Analysis"

12.30 – 13.15 (+15 min question time)

Maurizio Forte: "The Digital Mind: towards a new Framework for Neuro-Archaeology"

13.30-14.30 Lunch time

14.30-15.00 Poster session

15.00-16.40

3C Computer and rock art studies: data collection, interpretation and communication

Room A

Chair: Andrea Arcà

MARGARITA DIAZ-ANDREU, TOMMASO MATTIOLI

Archaeoacoustics of rock art: quantitative and qualitative approaches to the acoustics and soundscapes of rock art in the Western Mediterranean

• JOHAN LINDERHOLM, PAUL GELADI, CLAUDIA SCIUTO

Field based Near Infrared analysis of Rock paintings in northern Scandinavia

• ENRIQUE CERRILLO-CUENCA, MARCELA SEPÚLVEDA

Photographic recording and the digital enhancement of pigments: recent applications in the rock art of Northern Chile

• PAOLO EMILIO BAGNOLI, ANDREA SAMUELI

Computer graphics-aided recording of open-air extensive rock-art panels

5M Improving Resolutions: Use and Potentials of Quantitative Methods in Near Eastern Archaeology Room B

Chair: Simone Bonzano, Alessandro Di Ludovico

SIMONE BONZANO

The Gis-Archaeologist: methodological and analytical remarks on ancient near eastern highlands.

NAZARIJ BUŁAWKA, BARBARA KAIM

The Iron Age in Serakhs oasis (Turkmenistan). The preliminary results of the application of Geographic Information System in the study of the settlement pattern of the earliest confirmed occupation of the oasis.

TUNA KALAYCI

Archaeological Sites and Site Territories: A Remote Sensing Approach for Modelling Production Landscapes

VANESSA JULOUX

New data mining approach to analyze male or female agency: inventory of action verbs

4F Geomatics approaches in Latin American Archaeology: the state-of-the-art in Spatial Archaeology Room C

Chair: Mercedes Farjas

argentina)

- CAROLIN VON GROOTE-BIDLINGMAIER, KLAUS HILBERT, SABINE TIMPF Deriving settlement patterns using environmental information
- KAYELEIGH SHARP, MELISSA LITSCHI Integrated Technological and Spatial Analysis: Fuzzy Data Mining on the North Coast, Peru
- MIŁOSZ GIERSZ, PATRYCJA PRZĄDKA-GIERSZ, WIESŁAW WIĘCKOWSKI, JULIA MARIA CHYLA, ROBERTO PIMENTEL NITA, JACEK KOŚCIUK, ANNA KUBICKA, KRZYSZTOF MISIEWICZ, MIRON BOGACKI, WIESŁAW MAŁKOWSKI

Geomatic approaches in evaluation and inventorying of pre-Columbian heritage in danger at the coastal deserts of the Ancash Region of Peru

 CRISTINA CASTAGNETTI, ELEONORA BERTACCHINI, ELISA BENOZZI, CAROLINA ORSINI, PAOLO ROSSI, ALESSANDRO CAPRA, VERONICA WILLIAMS GPS and GIS for documentation and spatial representation in two valleys of the middle calchaquí basin (salta

5G How to reveal geographic relations in Databases on cultural heritage

Room D

Chair: Michael Märker, Espen Uleberg, Volker Hochschild, Mieko Matsumoto

- MIEKO MATSUMOTO, ESPEN ULEBERG

 Dynamic Distributions in macro and micro perspective
 - MIRELLA SERLORENZI, STEFANIA PICCIOLA, ANDREA DE TOMMASI, CRISTIANA CORDONE, FEDERICA LAMONACA, LINO TRAINI, ANDREA VARAVALLO Cluster Analysis applications for SITAR Project open archaeological datasets
 - CHRISTIAN WILLMES, DANIEL BECKER, GEORG BARETH

 Data integration for paleo environmental and archaeological GIS based analysis
 - MICHAEL MÄRKER, CHRISTIAN WILLMES, VOLKER HOCHSCHILD, GEORG BARETH How to exchange data between DB Systems on Early Humans. A case study based on the SFB 806 DB and the ROCEEH ROAD system

4C Formal approaches to visibility analysis in ancient architectural spaces and cultural landscapes Room E

Chair: Giacomo Landeschi, Eleftheria Paliou

- GIACOMO LANDESCHI, NICOLÒ DELL' UNTO, DANIELE FERDANI A vector-based pipeline for assessing visibility: a 3D GIS perspective
- HEATHER RICHARDS-RISSETTO, MICHAEL AUER, JENNIFER VON SCHWERIN, NICOLAS BILLEN, LUKAS LOOS, ALEXANDER ZIPF

MayaArch3D: Web based 3D Visibility Analyses in Ancient Cityscapes – the role of visible structures at the Maya Site of Copán, Honduras

NICOLÒ DELL' UNTO

Using different eyes: the case of the medieval Cathedral of Dalby

RODRIGO MORA

The development of 3D VGA tools: an application in a case of weak heritage in Valparaiso, Chile

7A Teaching digital archaeology - digitally teaching archaeology

Room G

Chair: Karsten Lambers, Hans Kamermans

RONALD VISSER

Teaching digital archaeology digitally

DOUG ROCKS-MACQUEEN

Teaching Archaeology Online with Virtual Learning Environments

SORIN HERMON, KYPRIANOS KOUNTOURIS, PANAYOTIS KYRIAKOU

Teaching or being taught? Experiences with digital archaeology at a primary school in Pyrga, Cyprus

• MATTHIAS LANG, DIETA SVOBODA, JASON T. HERRMANN, JÖRG BOFINGER

Teaching Digital Methods in the Field - The Tübingen approach

7C Replication: from the past to the digital age

Room F

Chair: Michael Ann Bevivino

• SOFIA PESCARIN, IVANA CERATO

Archaeological Museums: requirements, expectations, digital perspectives

• PABLO ROCES COTO, MERCEDES FARJAS ABADÍA, SABAH JASIM

Digital representation of archaeological pieces: 3D modelling, replicas and metrics

STEFANIA POESINI, LUCIA SARTI, VINCENZO DE TROIA, PAOLO MACHETTI

Computer applications for multisensory communication on cultural heritage

• TEIJA TUULIA OIKARINEN

Utilisation of a game engine for archaeological visualisation

8C Digital methods in exploring and explaining the development of protourban centres

Room 14

Chair: Ulla Maarit Rajala, Jorn Seubers

• JORN SEUBERS

By the grace of the plough

ANGELO AMOROSO

Markers to define the proto-urban centers and their territory in Latium Vetus

ULLA MAARIT RAJALA

The Final Bronze Age – Early Iron Age transition in southern and northern Etruria: GIS, territories, agricultural production and settlement change

• ALESSANDRO GUIDI, FRANCESCA FULMINANTE, SERGI LOZANO, LUCE PRIGNANO Networks and Urbanization in Etruria and Latium vetus (1175/1150-500 BC)

ROUNDTABLE 2 - Arches Heritage Inventory and Management System Chair: Phil Carlisle, Dominic Oldman, Stephen Stead, Dennis Wuthrich

Room 15

${\bf 3C\ Computer\ and\ rock\ art\ studies:\ data\ collection,\ interpretation\ and\ communication}$

Room A

Chair: Andrea Arcà

ALEXANDER PAKHUNOV

Simple and low-cost method for the tracking of biological activity on cave art sites

• FRANK BOOCHS, STEFANIE WEFERS, BURKHARD TIETZ, TOBIAS REICH

Support of Petroglyph analysis through processing and viewing of 3D scans

ANDREA ARCÀ

Digital practices for the study of the Great Rock of the Naquane National Park, Valcamonica - Italy: from graphic rendering to figure cataloguing

4F Geomatics approaches in Latin American Archaeology: the state-of-the-art in Spatial Archaeology Room C

Chair: Mercedes Farjas

• JENNIFER VON SCHWERIN, MICHAEL AUER, NICOLAS BILLEN, LUKAS LOOS, HEATHER RICHARDS-RISSETTO, MARKUS REINDEL, ALEXANDER ZIPF, FABIO REMONDINO, BELEN JIMENEZ FERNANDEZ PALACIOS

A 4DWebGIS for the Documentation and Analysis of Complex Archaeological Sites

GUADALUPE ZETINA-GUTIERREZ, PATRICIA CASTILLO-PEÑA

Geomatics at conservation and study of domestic context of core and periphery of El Tajín, Veracruz; México: Research based in GIS, LIDAR and Photogrammetry.

5G How to reveal geographic relations in Databases on cultural heritage

Room D

Chair: Michael Märker, Espen Uleberg, Volker Hochschild, Mieko Matsumoto

• ERIC ANDREW RODRIGUEZ

Reconstructing "Cultural Wetlands": New Palaeogeographic Models for the Humber Estuary

• CRISTIANO BENEDETTO DE VITA, VINCENZO AMATO, FRANCESCA FILOCAMO, ALFONSO SANTORIELLO, FRANCESCO ULIANO SCELZA, FRANCESCO MELE

Archaeology, Geomorphology and Palaeosurfaces: studies: a multidisciplinary approach for understanding the ancient Laos territory.

7A Teaching digital archaeology - digitally teaching archaeology

Room G

Chair: Karsten Lambers, Hans Kamermans

• HERVE TRONCHERE, EMMA BOUVARD, STÉPHANE MOR, AUDE FERNAGU From the Excavation to the Scale Model: a digital Approach

 KRZYSZTOF MISIEWICZ, WIESŁAW MAŁKOWSKI, URSZULA ZAWADZKA-PAWLEWSKA, JULIA MARIA CHYLA

How to teach GIS to archaeologists

FRANÇOIS DJINDJIAN

3D Archaeology teaching at the Paris 1 Pantheon Sorbonne University

• EVA PIETRONI, DANIELE FERDANI, AUGUSTO PALOMBINI, MASSIMILIANO FORLANI, CLAUDIO RUFA

Lucus Feroniae and Tiber Valley virtual musem: from documentation and 3D reconstruction, up to a novel approach in storytelling, combining virtual reality, cinematographic rules, interaction and "ugmented" perception of the archaeological context

8C Digital methods in exploring and explaining the development of protourban centres Room 14

Chair: Ulla Maarit Rajala, Jorn Seubers

• MARIZA CHRISTINA KORMANN, STELLA KATSAROU, DORA KATSONOPOULOU, GARY LOCK

Structural Integrity Modelling of an Early Bronze Age "Corridor House" in the Peloponnese

• ANDREAS VIBERG, ULLA RAJALA, ARJA KARIVIERI, ELENA SORGE, ALESSANDRO FURIESI, LENA HOLMQUIST, MARIA LOWE FRI

The Stockholm Volterra Project—geophysics, photogrammetry and GIS mapping in exploring the historic centre of Volterra, Italy, from the Etruscan to the medieval period

 WOJCIECH EJSMOND, JULIA MARIA CHYLA, TEODOZJA RZEUSKA, DAWID FELIKS WIECZOREK, PIOTR WITKOWSKI, MARCIN JAKUB ORDUTOWSKI, MARZENA OŻAREK-SZILKE, DANIEL TAKACS

Gebelein Archaeological Site Complex in Egypt – Shift from Capital of Predynastic, through Capital of Protostate to Administrative Centre in Dynastic Era

LISA FISCHER

Creating Virtual Williamsburg: Modeling an Eighteenth-Century American City in 3D

6B New advancements in computational imaging

Room B

Chair: James Miles, Hembo Pagi

- SCOTT MADRY, ELIZABETH JONES, AMANDA TICKNER

 Archaeological Public Outreach, Education, and Research using the Liquid Galaxy Display System
- PIOTR WITKOWSKI, JULIA MARIA CHYLA, WOJCIECH EJSMOND, DAWID FELIKS WIECZOREK

The Combination of the RTI techniques and DStretch algoritms and Near Infrared imaginary in Gebelein Archaeological Project

• GEORGE- ALEXIS IOANNAKIS, ANESTIS KOUTSOUDIS, BLAŽ VIDMAR, FOTIS ARNAOUTOGLOU, CHRISTODOULOS CHAMZAS

Enhancing Multi- Image Photogrammetric 3d Reconstruction Performance on Low-Feature Surfaces

ROBERT BEWLEY

Endangered Archaeology in the Middle east and North Africa

ROUNDTABLE 4 - Simulating the Past: Complex Systems Simulation in Archaeology

Room 15

Chair: Iza Romanowska, Juan Anton Barceló

18.00-19.00 Room E

Presentation of the book:

Pizziolo G. and **Sarti L**. (eds) "*Predicting prehistory. Predictive models and field research methods for detecting prehistoric contexts, Proceedings of the International Workshop, Grosseto (Italy), September 19-20 2013", Millenni studi di archeologia preistorica, 11, Museo e Istituto Fiorentino di Preistoria "Paolo Graziosi", Firenze 2015.*

19.30 – 20.30 Duomo tour (further info on CAA web site)

Wednesday 1st April – CAA 2015 CONFERENCE DAY 2

Paper 20 min + 5 min question time

Up to 8 parallel sessions + roundtable

- 2 Slots 5 papers each in the morning
- 2 slots 4 papers each in the afternoon

Poster session from 14.30 to 15.00

- 2 Roundtables
- 1 Key-note talk

8.00 – 10.00 Conference registration desk open

9.00-11.00

1A Digital frontiers in maritime archaeology

Room A

Chair: Crystal Safadi

- ØYVIND ØDEGÅRD, ASGEIR J. SØRENSEN, MARTIN LUDVIGSEN, STEIN M. NORNES Underwater Robotics in Marine Archaeology
- MADELINE MCALLISTER

Virtual diving: Analysis of the archaeological value in image-based digital recording and reconstruction of underwater shipwreck sites in Western Australia

CRYSTAL SAFADI

An evaluation of the maritime accessibility and protection afforded by bronze age and iron age levantine harbours

PAT THOMAS TANNER

3D Scanning, Contact Digitising and Advanced 3D Digital Modelling for the reconstruction and Analysis of Boats and Ships

• CARLO BELTRAME, ELISA COSTA, FRANCESCO GUERRA, PAOLO VENIER Underwater photogrammetry applied on two cargos of marble of Roman age

2A Interdisciplinary methods of data recording, management and preservation Room B

Chair: Cindy Nelson-Viljoen, Marta Lorenzon

LIAT WEINBLUM, STEFAN MÜNGER

DANA (Digital Archaeology and National Archives) – A New Software Tool for Field Archaeologists

• FRANCESCA ANICHINI, GABRIELE GATTIGLIA

Preserving Italian archaeological open data: the MOD solution.

• GIULIANO DE FELICE, ANDREA FRATTA

A dig in archive. The case of Herdonia

KANG LI

Computer-assisted archaeological line drawing by viewpoint-related feature extracting method

ENORA MAGUET

Palaeoenvironmental records and PHP possibilities: results and perspectives on an online bioarcheological database

Room C

Chair: Andrea D'Andrea, Franco Niccolucci, Achille Felicetti

ANDREA D'ANDREA

Providing 3D content to Europeana

• ACHILLE FELICETTI

MaDAM: A new generation Digital Asset Management for Cultural Heritage

 ATHANASIOS TSAOUSELIS, KONSTANTINOS STAVROGLOU, ANESTIS KOUTSOUDIS, FOTIOS ARNAOUTOGLOU, ANASTASIA MICHAILIDOU, DESPOINA TSIAFAKIS, CHRISTODOULOS CHAMZAS

The 3D Icons Portal: A Web tool for the dissemination of European 3D Cultural Heritage Objects

• BRITT LONNEVILLE, BERDIEN DE ROO, CORNELIS STAL, BART DE WIT, ALAIN DE WULF, PHILIPPE DE MAEYER

Google Earth and KML as GIS tools for archaeological 3D models

5H Geographical and temporal network science in archaeology

Room D

Chair: Tom Brughmans, Daniel Weidele

PETER BIKOULIS

Hypothesis Testing and Validation in Archaeological Networks

• DANIEL WEIDELE, MEREKE VAN GARDEREN, ULRIK BRANDES

Network Science in Archaeology: A Case Study Replication

TOM BRUGHMANS

MERCURY: an agent-based network model of tableware trade in the Roman East

• SÉBASTIEN PLUTNIAK, JOSÉPHINE CARO, CLAIRE MANEN

Assessing the relevance of a stratigraphy by network analysis of conjoin relations between archaeological objects

SERGI LOZANO

Applying spectral analysis in archaeology. The urbanization process in Central Italy

5I Interpreting the unstructured: new methods and tools for intrasite spatial analysis of palaeosurfaces Room E

Chair: Giovanna Pizziolo, Blankholm Hans Peter, Lucia Sarti, Nicoletta Volante

HANS PETER BLANKHOLM

Intrasite spatial analysis past and present: an overview

• MICHAL BIRKENFELD, NIGEL ADRIAN GORING-MORRIS

Stratigraphy and spatial analysis at the PPNB site of Kfar HaHoresh, Israel

KATIA FRANCESCA ACHINO, JUAN ANTONIO BARCELÓ

Predicting the accumulative consequences of abandonment processes. Intrasite analysis of lakeside settlements

• REBECCA J S CANNELL, JAN BILL

The geochemistry of deposition: functions and phases identified by geochemistry and spatial analysis in the proto-urban Viking Age settlement near Gokstad, Norway.

GIOVANNA PIZZIOLO, LUCIA SARTI, NICOLETTA VOLANTE

Intrasite analysis in the Florentine Plain: from data integration to palaeosurfaces interpretation

5L Modelling large-scale human dispersals: data, pattern and process

Room F

Chair: Michael Maerker, Christine Hertler, Iza Romanowska

BENJAMIN DAVIES

"Reediness is not a Polynesian character": Modelling Pacific Island settlement and potential effects of spatiotemporal constraints on survival and human body dimensions

FULCO SCHERJON

Large scale population modelling in the deep past. Issues and concerns. HomininSpace, a case study in points.

• GIACOMO CAPUZZO, JUAN ANTONIO BARCELÓ

Adoption of innovations and expansive phenomena in the 2nd millennium BC in Central and Western Europe.

MICHAEL MÄRKER, MICHAEL BOLUS

What can we learn about the environmental preferences of Neanderthals and Modern Humans using stochastic modeling?

THOMAS G. WHITLEY, GEOFF AVERN, CHRISTINE MARKUSSEN, KATIE SIMON

Modelling in Le Mandement: Using GIS and Geophysics to Examine Caesar's Campaign against the Helvetii in 58 BC

9A Towards a Theory of Practice in Applied Digital Field Methods

Room G

Chair: James Stuart Taylor, Nicolò Dell'Unto

AMANDA CLARKE, MICHAEL JOHN RAINS

The Use of Digital Technologies in the Silchester Town Life Project

• DANIELE FERDANI, GIOVANNA BIANCHI

Recording, preservation and interpretation of a medieval archaeological site integrating different 3d technologies

SORIN HERMON, LOLA VICO, FRANCO NICCOLUCCI

On the intricacies of scientifically 3D modelling a building from the past and formally representing its underlying reasoning process – The Santa Cristina sanctuary site (Sardegna, Italy) as a case-study

• **JEROEN DE REU**

Image-based 3D reconstruction: the future of archaeological excavation practice?

FABRIZIO GALEAZZI

Finding a Place for the New: Integrating 3D recording techniques with traditional practices of archaeological documentation.

ROUNDTABLE 3 - The whole is other than the sum of its parts: where is the spatial data infrastructure for cultural heritage? **Room 14**

Chair: Peter McKeague, Stefano Campana

11.00-11.30 Coffee break

11.30-13.30

1A Digital frontiers in maritime archaeology

Room A

Chair: Crystal Safadi

• DOMINIQUE RISSOLO, ALBERTO NAVA BLANK, VID PETROVIC, MICHAEL BIANCO, PERRY NAUGHTON, ERIC LO, ANTONELLA WILBY, FALKO KUESTER, ROBERTO CHAVEZ ARCE Refining techniques for underwater structure-from-motion (SfM) image acquisition and processing

DEJAN VERANIČ, AIXA ANDREETTA

The »PALAFITTES GUIDE«: personal guide to the pile dwellers and their settlements

2A Interdisciplinary methods of data recording, management and preservation

Room B

Chair: Cindy Nelson-Viljoen, Marta Lorenzon

SMARAGDI PAPAGIANNOPOULOU, NIKI NAOUMIDOU

When Archeology and Conservation meets in a cultural information system for movable archaeological finds so-called: Mnemosyne

- ARIANNA TRAVIGLIA, STEPHEN WHITE, ANDREW WILSON, BEATRICE MCLOUGHLIN Digital laboratory recording: workflows and data models for artefact processing
- ANDREA BARDI, LUISA DALLAI, ALESSANDRO DONATI, VANESSA VOLPI Archaeological and physicochemical approaches to the territory: on-site analysis and muldisciplinary databases for the reconstruction of historical landscapes
- JEAN-YVES BLAISE

Putting architectural changes into context: the historySkyline visual metaphor

MICHAŁ GILEWSKI

Slow-motion videography and recording experimental archaeology

4D 3D Reconstruction, Analysis and Immersive Telepresence at Rock-Art Sites Room C

Chair: Craig Alexander, Paolo Medici, Axel Pinz, Markus Seidl

• THOMAS HÖLL, GERT HOLLER, AXEL PINZ

A scanner-prototype for geometric and radiometric reconstruction of rock-art sites

KEN SAITO, CHRIS MUSSON

3D Recording of Rock Art in Harsh Environmental Conditions at Ughtasar, Armenia

- VERA MOITINHO DE ALMEIDA, LUIS TEIRA, ROBERTO ONTAÑÓN-PEREDO, Analysing Rock Art: a quantitative approach using 3D models
- MATTHIAS ZEPPELZAUER

Intelligent Rock Art Processing: from Automated 3D Segmentation to Shape Classification

CARLO INGLESE, MARCO CARPICECI, FABIO COLONNESE

Mediated representations after laser scanning. The Monastery of Aynalı and the architectural role of red pictograms

5A Modelling approaches to analyse the socio-economic context in archaeology

Room E

Chair: Monica De Cet, Philip Verhagen

• TILMAN BAUM, CLAAS NENDEL

Combining two modelling approaches to examine prehistoric husbandry methods and land use of the prealpine wetland settlements

• JAMIE JOYCE, PHILIP VERHAGEN

Keeping the home fires burning: spatial dynamic modelling of the wood-fuel economy of the Roman limes zone in the Netherlands.

ANGELOS CHLIAOUTAKIS

An application of a self-organizing Agent-based model in Minoan Crete

ANDREA KAY, JED KAPLAN

A classification of subsistence lifestyles and land use in prehistoric Africa

SHORT POSTER PRESENTATION

5H Geographical and temporal network science in archaeology

Room D

Chair: Tom Brughmans, Daniel Weidele

• PIM VAN BREE, GEERT KESSELS

Diachronic network analysis in nodegoat: a methodology to dynamically scrutinise, reconfigure and reevaluate complex datasets

• MANUELA RITONDALE, GUIDO CALDARELLI, MAURO COLETTO

Application of network analysis to the trade routes of antiquities passing through the pontine islands

MU-CHUN WU

Wayfaring Social Relations: a spatial construct

5L Modelling large-scale human dispersals: data, pattern and process

Room F

Chair: Michael Maerker, Christine Hertler, Iza Romanowska

• ANDREA ZANOTTI, JEAN-PIERRE BOCQUET-APPEL

An Agent-based Model to Simulate the Balkan Neolithic Expansion

• SIMONE CALLEGARI, JOHN DAVID WEISSMANN, GEORGE LAKE, CHRISTOPH P. E. ZOLLIKOFER

High-performance agent-based models of worldwide human dispersals

• IZA ROMANOWSKA, SETH BULLOCK

Testing the Variability Selection Hypothesis on Hominin Dispersals - an Agent-based Modelling Approach

NATALIE TKACHENKO, SIMONE CALLEGARI, JOHN DAVID WEISSMANN, WESLEY P. PETERSEN, GEORGE LAKE, CHRISTOPH P. E. ZOLLIKOFER

Individual-based modeling of population growth and dispersal in discrete time

• TARJA SUNDELL, MARTIN HEGER, JUHANA KAMMONEN

Reconstructing the boom of prehistoric hunter-gatherer population size in Finland by agent and equation-based modeling

6C Sites, Landscapes and Survey: The Past, Present and Future of Non-Intrusive Geophysical Survey in the Field and the Laboratory Room 14

Chair: Stephen Kay, Kristian Strutt, Sophie Hay

• KEN SAITO, BARBARA FREZZA, STEFANO CAMPANA

LONG WALKS IN THE ITALIAN COUNTRYSIDE Large-scale geophysical prospection in rural and onceurban contexts in central Italy

• PETRA SCHNEIDHOFER, ERICH NAU, LARS GUSTAVSEN, JESSICA LEIGH MCGRAW, CHRISTER TONNING, TERJE GANSUM, JAN BILL, WOLFGANG NEUBAUER

Interdisciplinary investigation of the burial mound at Rom in Vestfold County, Norway

BRIAN SEYMOUR, PAUL SCERRI

Robotic Watercraft and Archaeological Survey: A Cost Effective Approach.

ARMIN SCHMIDT, KAYT ARMSTRONG, MARTIJN VAN LEUSEN

Anomaly to Feature: Improving archaeological interpretation of magnetometer data through model-based inversion

9A Towards a Theory of Practice in Applied Digital Field Methods

Room G

Chair: James Stuart Taylor, Nicolò Dell'Unto

• MATTEO SORDINI, FRANCESCO BROGI, STEFANO CAMPANA

3D recording of archaeological excavation: the case of study of Santa Marta, Tuscany, Italy.

• LUCA BEZZI, ALESSANDRO BEZZI, RUPERT GIETL, GIANLUCA FONDRIEST, GIUSEPPE NAPONIELLO, MATTIA SEGATA

Professional archaeology: innovations and best practices in digital methodologies. Through an Open Research

• SAMANTHA STOUT

Cyberarchaeology and interdisciplinary collaboration – A critical analysis of the adoption of digital technologies in archaeology in the case of CISA3 fieldwork in Jordan

COLLEEN MORGAN

The Death (and Afterlife) of Archaeological Photography

• ERIK KJELLMAN, ANJA ROTH NIEMI

Lens distortion: perspectives on reflexivity and interpretation in digital field archaeology. Case studies from Northern Norway

13.30-14.30 Lunch time

14.30-15.00 Poster session

15.00-16.40

1B The challenge of the preventive archaeology: efficiency and quality

Room A

Chair: Anne Moreau

ANN DEGRAEVE

Preventive archaeology: how can we bridge the digital gap

• MAXIME SEGUIN, YARAMILA TCHEREMISSINOFF

A systematic photogrammetric survey in a context of preventive archaeology: the collective grave of "Cavalade-mas-rouge"

RUPERT GIETL, LUCA BEZZI, ALESSANDRO BEZZI

Preventive archaeology along the WWI high alpine frontline. Challenges, approchaes, limitations

ENRICO PETRUZZI

Collecting, managing and sharing archaeological data: preventive archaeology in a urban context. Porto Torres, Sardinia, Italy

2A Interdisciplinary methods of data recording, management and preservation Room B

Chair: Cindy Nelson-Viljoen, Marta Lorenzon

• TIINA VÄRE, JAAKKO NIINIMÄKI, MILTON NÚÑEZ, MARKKU NISKANEN, SANNA LIPKIN, SIRPA NIINIMÄKI, MATTI HEINO, ANNEMARI TRANBERG, ROSA VILKAMA, SAARA TUOVINEN, TIMO YLIMAUNU, TITTA KALLIO SEPPÄ, JUHO ANTTI JUNNO

Virtual excavation of burials utilizing computed tomography imaging

• THOM CORAH, DOUGLAS CAWTHORNE

Driving Engagement in Heritage Sites Using Personal Mobile Technology

CYNTHIA MASCIONE, LUCA PASSALACQUA, ROSSELLA PANSINI

Integrated methodologies for the reconstruction of the ancient city of Lixus (Morocco)

ANAIS GUILLEM, DEJAN VERANIČ, ROKO ZARNIC

UNESCO World heritage serial property Prehistoric Pile Dwellings around the Alps, Monitoring of pile dwelling near Ig, in Ljubljana Marsh Nature Park with photogrammetry and BIM approach.

4D 3D Reconstruction, Analysis and Immersive Telepresence at Rock-Art Sites Room C

Chair: Craig Alexander, Paolo Medici, Axel Pinz, Markus Seidl

• NEIL SMIT, MATT HOWLAND, THOMAS LEVY

Digital field recording in the 4th dimension: ArchField C++

• TOMMASO EMPLER, BARBARA FORTE, EMANUELE FORTUNATI

Cultural Heritage 3D modeling view in Real time: the Forum of Nerva in Rome in the time of Imperial Rome and Medieval Ages

• EMANUEL DEMETRESCU, IVANA CERATO

From survey data to 3D extensive landscape reconstruction. A taxonomic - metadata approach to Montegrotto Terme area.

STEPHAN BECK, ANDRÉ KUNERT, ALEXANDER KULIK, BERND FROEHLICH

Collaborative Visual Analysis of 3D Scanning Data: The 3D-Pitoti Scientists Lab

5A Modelling approaches to analyse the socio-economic context in archaeology Room E

Chair: Monica De Cet, Philip Verhagen

• CHRISTINA COLLINS, ELENI ASOUTI, MATT GROVE, DOUGLAS BAIRD, RICHARD CHIVERRELL, LEE BRADLEY

Results of the 'Unfamiliar Landscape' project: Palaeoenvironmental modelling and the origins of agriculture in Central Anatolia.

SEBASTIAN VOGEL, FLORIAN SEILER, MICHAEL MÄRKER

The SALVE research project: Sarno River plain – Ancient Life in the Vesuvian Environment

MONICA DE CET

Menorca and its Past Socio-Economic Sphere: a Methodological Approach to Model Production and Demography on a Mediterranean Island.

• JOAN NEGRE PÉREZ, JUAN ANTONIO BARCELÓ ÁLVAREZ

Agricultural yields and demographic size. An experimental approach to regional-scale population estimate in a medieval Islamic hinterland (Tortosa, Northeast Iberian Peninsula).

5L Modelling large-scale human dispersals: data, pattern and process

Room F

Chair: Michael Maerker, Christine Hertler, Iza Romanowska

- STEPHANIE R ROGERS, PHILIPPE CURDY, MURIEL ESCHMANN RICHON, RALPH LUGON Modelling glacial archaeological potential in the Pennine Alps A multidisciplinary approach
- GUY DE MULDER, MARK VAN STRYDONCK

Radiocarbon dates, cremations, flatgraves and the appearance of the urnfield cemeteries in Belgium

6A Approaches for Sensor Data Integration for the Investigation of Archaeological Landscapes Room D

Chair: Tuna Kalayci, Francois-Xavier Simon, Carmen Cuenca-Garcia, Jamieson C. Donati, Meropi Manataki, Apostolos Sarris

TUNA KALAYCI, APOSTOLOS SARRIS

Sensor Data Integration: Concepts and Methods

NIKOS PAPADOPULOS, MEROPI MANATAKI, TUNA KALAYCI

Sensor Fusion in Geophysics: A Synthetic Approach

• ENRIQUE CERRILLO CUENCA, ADARA LÓPEZ

Recording the prehistoric landscapes of Inner Iberia through LiDAR data and Aerial Imagery Repositories (WMS)

BENJAMIN DUCKE

Conquering the point clouds: high-performance processing of multi-sensor data in free and open source GIS

6C Sites, Landscapes and Survey: The Past, Present and Future of Non-Intrusive Geophysical Survey in the Field and the Laboratory Room 14

Chair: Stephen Kay, Kristian Strutt, Sophie Hay

• KATE WELHAM, JEFFREY FLEISHER, FEDERICA SULAS, CHARLENE STEELE, STEPHANIE WYNNE-JONES

An integrated approach to understanding Swahili archaeology. A case study from the UNESCO World Heritage Site of Songo Mnara, Tanzania.

MEROPI MANATAKI, APOSTOLOS SARRIS, TUNA KALAYCI, FRANCOIS-XAVIER SIMON, CARMEN CUENCA-GARCIA, JAMIESON C. DONATI, NIKOS PAPADOPOULOS

Studying the Variation of Geophysical Signals of the Architectural Attributes of the Neolithic Tells and Landscape.

• MICHAEL MÄRKER, IVANO RELLINI, MARCO FIRPO, LUIGI MUCERINO

Assessment of Subsurface Neolithic/Palaeolithic sites in the Southern Gargano Area, Apulia, Italy using a 3D geo-electric resistivity

• JAN BULAS, MICHAŁ KASIŃSKI, PIOTR WRONIECKI

Microregional studies of Iron Age landscape in the Michałowice region, woj. Świętokrzyskie, Poland.- Results of non-invasive

9A Towards a Theory of Practice in Applied Digital Field Methods

Room G

Chair: James Stuart Taylor, Nicolò Dell'Unto

- PATRICIA MARTÍN-RODILLA, CESAR GONZALEZ-PEREZ, PATRICIA MAÑANA-BORRAZÁS A conceptual and visual proposal to decouple material and interpretive information about stratigraphic data
- HEATHER RICHARDS-RISSETTO, KRISTIN LANDAU Lessons in Translation: From Analog to GeoDigital
- PIRAYE HACIGÜZELLER

The Archaeological Process and its Progress in the Age of Digital Cartography: a View from Çatalhöyük

• SARA PERRY
Challenging the remit of applied digital field methods

ROUNDTABLE 5 - Linked Open Data Applied to Pottery Databases

Room 15

Chair: Ethan Gruber, Renee Gondek, Tyler Jo Smith

16.40-17.00 Coffee break

17.00 – 17.45 (+ 15 min question time)

Auditorium

Keynote Lecture

Nicolò dell'Unto "The Use of 3D Models for Intra-Site Investigation in Archaeology"

18.00 - 19.30

CAA plenary meeting

Auditorium

20.30 Social dinner at Rocca Salimbeni (further info on CAA web site)

Thursday 2nd April – CAA 2015 CONFERENCE DAY 3

Paper 20 min + 5 min question time

Up to 9 parallel sessions

- 2 Slots 5 papers each in the morning
- 2 slots 4 papers each in the afternoon

Poster session from 14.30 to 15.00

2 Roundtables

Closing address lunchtime talk: Special Guest Professor Dominic Powlesland

8.00 – **10.00** Conference registration desk open

9.00-11.00

2B Integrating 3D Data from Field Archaeology

Room A

Chair: Jason T. Herrmann, Matthias Lang, Maurizio Forte

• MARIA DORIANA DE PADOVA

Re-shaping the excavation - The use of Computer Vision to bring back to life everyday tools and burial contexts

• ROOSJE DE LEEUWE

Integration of 3D scans, photogrammetry and Total Station data in forensic archaeological case work

- KATIE SIMON, EILEEN ERNENWEIN, CHISTOPHER ANGEL, CHRISTINE MARKUSSEN Integrating remotely sensed surface and subsurface data in three dimensions for a new look at old spaces
- ARIAN GOREN, KAY KOHLMEYER, THOMAS BREMER, SUSANNE BRANDHORST, ARIE KAI-BROWNE, ALEXANDER HENNIG, FELIX BALDA, DAVID STRIPPGEN, SEBASTIAN PLESCH Past progressive: Interacting with simulated archaeological assets
- LOES OPGENHAFFEN, MARTINA REVELLO LAMI

Pottery goes digital. 3D laser scanning technology and the study of archaeological ceramics

2C Supporting researchers in the use and reuse of archaeological data: following the ARIADNE thread Room B

Chair: Julian Richards, Franco Niccolucci, Kate Fernie, Holly Wright

SORIN HERMON, FRANCO NICCOLUCCI

The problem with simpl(istic) fundamental concepts in archaeology and their formal representation in a digital environment the case of archaeological site

NIKOLAOS A KAZAKIS, NESTOR C TSIRLIGANIS

Scientific Datasets in Archaeological Research

• GISLI PALSSON

From Site to SEAD: bridging the gaps between fieldwork, laboratory analysis and online archiving

KEITH MAY

Paths through the Labyrinth: Finding ways to express data from differing archaeological recording methodologies to enable cross-search and reuse

• ANGELA TRENTACOSTE, SARAH WHITCHER KANSA, ERIC C. KANSA, ANTHONY TUCK Linked Open Data in the Etruscan World: A Zooarchaeology Case Study

Chair: Eleni Kotoula, David Wayne Robinson

MER UZUNEL

3D Structural Analyses of Euromos Zeus Lepsynos Temple

DOUGLAS CAWTHORNE, STEFFAN DAVIES

Authenticating Anastylosis: Para Data in the Digital Reconstruction of Greyfrairs Church Leicester and the Tomb of King Richard III

• MELDA KÜÇÜKDEMIRCI, SALVATORE PIRO, NIYAZI BAYDEMIR, DANIELA ZAMUNER, ELIF ÖZER

The application of mathematical and statistical integration Approach on archaeological prospection data, case studies from aizanoi turkey

CARLOTTA CAPURRO, DRIES NOLLET, DANIEL PLETINCKX

ENAME 1288: A walk through Saint Saviour abbey

BARBARA CERASETTI

Hydrology and Social Transition in the late 2nd millennium BC, Murghab Alluvial Fan, Turkmenistan

4B New trends in 3D Archaeology: Innovative techniques and methodologies for the acquisition, retrieval and analysis of cultural heritage Room D

Chair: Diego Jimenez

DIRK RIEKE-ZAPP

3D digitization - state-of-the-art and future challenges

HERBERT D.G. MASCHNER

A Revolution in Archaeology: 3D Technologies and the Democratization of Prehistory.

ROMÁN RANGEL Y JIMÉNEZ-BADILLO

Recognizing the shape of archaeological objects by extracting local orientations of points on the surface of 3D models.

• GIULIANO DE FELICE

The new trend of 3D archaeology is ... going 2D!.

ANDRÁS PATAY-HORVÁTH

Master-hand Attributions of Classical Greek Sculptors by 3D- Analysis at Olympia - Some Preliminary Remarks.

5D Predictivity and postdictivity in archaeology. Reflecting and discussing about theories, methods, and tools Room E

Chair: Carlo Citter, Giovanna Pizziolo

• CARLO CITTER, ANTONIA ARNOLDUS-HUYZENDVELD, GIOVANNA PIZZIOLO Predictivity-Postdictivity: a theoretical framework.

• IRMELA HERZOG

Retrodicting the distribution of rural settlement locations recorded on a map created in 1715 AD

FRANCESCO CARRER

Inductive models, deductive models and ethnoarchaeological models: strengths, weaknesses and new perspectives

PHILIP MATTHEW NORMAN HITCHINGS, E B BANNING

Bayesian Optimal Allocation of Archaeological Survey Effort: A Case Study in Wadi Quseiba, Jordan

PHILIP VERHAGEN, LAURE NUNINGER, FRÉDÉRIQUE BERTONCELLO, ANGELO CASTRORAO BARBA

Estimating the "memory of landscape" to predict changes in archaeological settlement patterns

9E Moving the focus from "know how" to "know why" 3D modeling cultural heritage Room 14

Chair: Gabriele Guidi, Bernard D. Frischer

MAURIZIO CATTANI, FLORENCIA DEBANDI, ANDREA FIORINI

3D documenting archaeological excavations: a case study with field operations and some considerations on the Bronze Age nuragic settlement of Tanca Manna (Nuoro - Sardinia)

LORENZO TEPPATI LOSÈ

Integrated survey techniques for the study of an archaeological site of medieval Morocco.

• MARC GRELLERT, MIEKE PFARR-HARFST, PIOTR KUROCZYNSKI, SANDER MÜNSTER Virtual Reconstruction and Scientific/Academic 3D Models – Fundamental Considerations

FEDERICO BUCCELLATI, ERIC KANSA

The Value of Energetic Analysis in Architecture as an Example for Data Sharing

• MARTIN UNOLD, FREDIE KERN, KAI-CHRISTIAN BRUHN

Annotating instead of Modelling

10A ArcheoFOSS: free/open source software and archaeological research, ten years later Room G

Chair: Stefano Costa, Augusto Palombini

• ALESSANDRO BEZZI, LUCA BEZZI, FABRIZIO FURNARI, ROMAIN JANVIER ArcheOS Theodoric v. 5.0, ten years later

LUCA MANDOLESI

pyArchInit - python for archaeology - Part II

• JERZY SIKORA, JACEK SROKA, JERZY TYSZKIEWICZ

Strati5 - open mobile software for Harris matrix

LOUP BERNARD

ArkeoGIS, merging European archaeological sites, artefacts and geographical datas online: state of art and further developments

• FINNEGAN POPE-CARTER, CHRYS HARRIS, THOMAS SPARROW, CHRIS GAFFNEY

ArchaeoPY: Developing Open Source Software for Archaeological Geophysics

10B Electronic resources for archaeology: from databases to digital open data Room F

Chair: Alessandra Piergrossi, Alessandra Caravale

DOUG ROCKS-MACQUEEN

The Past and Future of Open Access in Archaeology

 FRANCESCA ANICHINI, MARGHERITA BARTOLI, PAOLA LILIANA BUTTIGLIONE, ELEONORA DELPOZZO, ILENIA GALLUCCIO, GABRIELE GATTIGLIA, CLARA ANNARITA GIANNITRAPANI, SILVIA LISCHI, SAVERIO GIULIO MALATESTA, FLAVIA MORANDINI, DANIELA MUSMECI, FELICE PERCIANTE, MARIELA QUARTARARO, SARA LINDA RUSSO, FRANCESCA SIMI

Are the open archaeological data fashionable? The Italian Manifesto for Open Data in Archaeology (MODA)

- ALESSANDRA CARAVALE, ALESSANDRA PIERGROSSI
 Digital resources for archaeology. The contribution of the on-line projects by ISMA-CNR
- VALERIA BOI, MIRELLA SERLORENZI, ILARIA JOVINE, MILENA STACCA SITAR: starting point, challenges and future development of an archaeology data sharing platform
- FEDERICO NURRA

 Use of cartographical Open Data in the context of the project SITAN

ROUNDTABLE 1 - Challenging Digital Archaeology – the discussion continues **Room 15**

Chair: Paul Reilly

11.00-11.30 Coffee break

11.30-13.30

2C Supporting researchers in the use and reuse of archaeological data

Room B

Chair: : Julian Richards, Franco Niccolucci, Kate Fernie, Holly Wright

- STEPHEN STEAD, DOMINIC OLDMAN, JONATHAN WHITSON CLOUD Exploring inferences, time and space in the annotation of museum catalogues: The Sloane catalogues
- MARIA THEODORIDOU, MARTIN DOERR, EDELTRAUD ASPÖCK, ANJA MASUR Mapping archaeological databases to CIDOC-CRM
- CERI BINDING, DOUGLAS TUDHOPE

 Connecting ARIADNE vocabularies for data integration and cross search
- MATTEO DELLEPIANE, FEDERICO PONCHIO, MARCO CALLIERI, ROBERTO SCOPIGNO Ariadne media service: easy publishing of advanced visual media for archeological databases
- FABRIZIO GALEAZZI, MARCO CALLIERI, MATTEO DELLEPIANE, ROBERTO SCOPIGNO, JULIAN RICHARDS
 ADS 3D viewer: a web-based dynamic working environment for archived 3D data

3A A dialogue between archaeological science and computer visualization

Room C

Chair: Eleni Kotoula, David Wayne Robinson

• NICHOLAS ANDRE HOLMER, KASSANDRA MCFARLAND, BUCK BENSON, HERBERT D.G. MASCHNER

Using online digital content as a reference collection: a critique

 JACOPO CREZZINI, FRANCESCO BOSCHIN, SIMONA ARRIGHI, MARCO GIAMELLO, ANNAMARIA RONCHITELLI

Zooarchaeology, Prehistoric Art and digital imaging: quantitative analysis of bone modifications using 3D microscopy

4B New trends in 3D Archaeology: Innovative techniques and methodologies for the acquisition, retrieval and analysis of cultural heritage Room D

Chair: Diego Jimenez

VALERIA VITALE

The Iseum in Pompeii: a case study on the use of an RDF ontology to document 3D visualisation of archaeological heritage.

• VALERIA POSCETTI, JUAN TORREJÓN VALDELOMAR, WOLFGANG NEUBAUER, FLORIAN MARTIN MÜLLER

The Roman Villa of Oberlienz: A multidisciplinary 3D reconstruction.

• RICCARDO OLIVITO, EMANUELE TACCOLA, NICCOLÒ ALBERTINI

Hand-free interaction in the virtual simulation of the agora of Segesta.

CATRIONA COOPER

Auralization: analysing the sound properties of cultural heritage.

CHRISTINE WITTICH, TARA HUTCHINSON

Dynamic Characterization and 3D Reconstructions of Massive Human-Form Archaeological Statues for Earthquake Loading.

5B Continuing the Revolution with Spatial Methods & Archaeological Interpretation: the how and whys of spatial analysis Room A

Chair: Moritz Mennenga, Gary Robert Nobles, Georg Schafferer

• MORITZ MENNENGA, GARY NOBLES

Hot or cold: Intra-site spatial analysis using spatial autocorrelation

REBECCA ELIZABETH KIBBLE

Using open-source GIS to enable the multi-scalar, spatio-temporal analysis and visualisation of complex zooarchaeological datasets.

CHRISTOPHE LANDRY, BERTRAND MOULIN

When GIS Goes to the Countryside: Detecting and Interpreting Roman Orchards from the "Grand Palais" (Drôme, France)

• JOAN NEGRE PÉREZ, JUAN ANTONIO BARCELÓ ÁLVAREZ

Reading between the dots. The use of non-Euclidean metrics for the study of settlement patterns in heterogeneous regions.

IRENE ORTIZ NIETO-MÁRQUEZ

Dinamic processes of static objects. how and why?

5D Predictivity and postdictivity in archaeology. Reflecting and discussing about theories, methods, and tools Room E

Chair: Carlo Citter, Giovanna Pizziolo

• KAYT ARMSTRONG, CHRISTINA TSIGONAKI, APOSTOLOS SARRIS, NADIA COUTSINAS Site Location Modelling and Prediction on Early Byzantine Crete: Methods employed, challenges encountered

ANTONIO PORCHEDDU

Predicting and Postdicting a Roman road in the Pre-Pyrenees area of Lleida (Spain).

• EMERI FARINETTI

Modelling regional landscape through the predictive and postdictive exploration of settlement choices: the theoretical framework and a case study

• LAURA SORO, LOREDANA FRANCESCA TEDESCHI, MAURIZIO MINCHILLI N/Move - Spatial models of walking accessibility between nuragic sites

6E Low Altitude Aerial Photography for archaeology – where is the revolution leading us? Room 14

Chair: Mikolaj Kostyrko, Katie Simon, Emilia Smagur, Kasepr Hanus

- FRANCESCO PERICCI, MATTEO SORDINI, STEFANO CAMPANA UAV mapping of archaeological contexts
- NICOLAS POIRIER, FLORENT HAUTEFEUILLE, CARINE CALASTRENC, LAURENT AUGEREAU

Low altitude thermal survey: determination of the best flight conditions to detect archaeological anomalies

- WOJCIECH OSTROWSKI, KASPER JAN HANUS, ŁUKASZ MISZK, MIKOŁAJ KOSTYRKO Is GoPro a hero? Limits, issues and perspectives of non-SLR cameras for LAAP.
- TODD BRENNINGMEYER, KOSTIS KOURELIS, MILTIADIS KATSAROS The Lidoriki Project - Low Altitude Aerial Photography, GIS, and Traditional Survey in Rural Greece
- GIANLUCA CANTORO, CHRISTINA TSIGONAKI, KAYT ARMSTRONG, APOSTOLOS SARRIS
 Integrating low altitude with satellite and airborne aerial images: photogrammetric documentation of Early
 Byzantine settlements in Crete

8B Urban Digital-Scapes: Computer application to the study of past urban developments Room 15

Chair: Sorin Hermon, Hanna Stöger

Multi-scale approach for the reconstruction of past urban environment. From Remote Sensing to close range analysis: the case of Dionysias (Fayoum, Egypt)

BARTOMEU VALLORI-MÁRQUEZ, MIGUEL ÁNGEL CAU ONTIVEROS

The Roman city of Palma (Mallorca, Balearic Islands). The use of rescue archaeology data to redefine a Roman city through a GIS project.

MAURA MEDRI, VALERIA DI COLA

Baths of the Swimmer and Sanctuary of Bona Dea in Ostia (V, X,2): a Spatial Analysis application

HANNA STÖGER

A Space Syntax enquiry into ancient Roman neighbourhoods: Can we measure community-building in Roman cities?

CHIARA PICCOLI, JOHN BINTLIFF

Enhancing GIS urban survey data with the 3rd dimension: a procedural modelling approach

10A ArcheoFOSS: free/open source software and archaeological research, ten years later Room G

Chair: Stefano Costa, Augusto Palombini

• MARCO CALLIERI, MATTEO DELLEPIANE, MARCO POTENZIANI, GUIDO RANZUGLIA, ROBERTO SCOPIGNO

Open source for CH: experience gained in ten years of service

IAN JOHNSON

Building domain-agnostic databases using design patterns

NÉHÉMIE STRUPLER

Archaeological science as community enterprise

• GABRIELE GATTIGLIA, FRANCESCA ANICHINI

#epicfail? Has Open Source in archaeology failed?

ROUNDTABLE 7 - Digital Technologies and Quantitative Methods in the Study of Prehistoric Art

Room F

Chair: Claire Heckel, Carole Fritz

13.30-14.30 Lunch time talk: Special Guest - Professor Dominic Powlesland

14.30-15.00 Poster session

15.00-16.40

9F Machine learning and Pattern Recognition for Archaeological

Research Room B

Chair: Daniel Gatica-Perez, Salvador Ruiz-Correa, Diego Jimenez-Badillo, Edgar Roman-Rangel

GEORG ROTH

Improving clustering: Using silhouettes to estimate the optimal number of clusters.

• DIEGO JIMENEZ-BADILLO, SERGIO MOTA-GUTIERREZ, SALVADOR RUÍZ-CORREA, ROGELIO HASIMOTO BELTRAN, MARIO CANUL KU

A new approach for classifying archaeological objects based on 3D shape similarity analysis

• YUHE ZHANG, PENGBO ZHOU, KANG LI, GUOHUA GENG, XIANRAN WEI

Virtual Restoration Method of Terracotta Warriors and Horses of Qin based on classified template registration in collections of 3D models

 STÉPHANIE DUBOSCQ, JUAN ANTONIO BARCELO, KATIA FRANCESCA ACHINO, BERTA MORELL, FLORENCE ALLIESE, JUAN FRANCISCO GIBAJA

Discovering prehistoric ritual norms. A machine learning approach.

4B New trends in 3D Archaeology: Innovative techniques and methodologies for the acquisition, retrieval and analysis of cultural heritage Room D

Chair: Diego Jimenez

• IGOR BARROS-BARBOSA, KIDANE FANTA, PANAGIOTIS PERAKIS, CHRISTIAN SCHELLEWALD, LISE KVITTINGEN, THEOHARIS THEOHARIS

Establishing Parameter Values for the Stone Erosion Process.

• WILLEM VLETTER

An 4-D analysis of historical road and path networks.

5B Continuing the Revolution with Spatial Methods & Archaeological Interpretation: the how and whys of spatial analysis Room A

Chair: Moritz Mennenga, Gary Robert Nobles, Georg Schafferer

OLIVER NAKOINZ

How to detect and interpret patterns in cultural landscapes?

JOHN POUNCETT, CHRISTOPHE SNOECK, RICK SCHULTING

Coming to Knowth: Areal interpolation, strontium isotope analysis and Neolithic mobility

 VINCENZO SPAGNOLO, DANIELE AURELI, PAOLO BOSCATO, FRANCESCO BOSCHIN, JACOPO CREZZINI, GIULIA MARCIANI, STEFANO RICCI, ANNAMARIA RONCHITELLI, GIULIO POGGI

Integration between spatial analysis in a GIS environment and 3D models for the study of Middle Palaeolithic contexts: Molare Rockshelter (Scario – SA) and Oscurusciuto Rockshelter (Ginosa – TA)

KELIN FLANAGAN, WALTER R T WITSCHEY, CLIFFORD T BROWN

The Fractal Topology of Archaeological Site Distributions: Killing the Spherical Chicken in the Vacuum

6E Low Altitude Aerial Photography for archaeology – where is the revolution leading us? Room 14

Chair: Mikolaj Kostyrko, Katie Simon, Emilia Smagur, Kasepr Hanus

• MATTHIAS LANG, THORSTEN BEHRENS, KARSTEN SCHMIDT

A fully integrated UAV-system for archaeological prospection - Workflow and experiences on the Celtic oppidum Heidengraben

KARIM SADR

A comparison of accuracy and precision in detecting stone-walled structures using satellite imagery, high resolution aerial photography and LiDAR; a case study from the South African Iron Age.

KATE WELHAM, LAWRENCE SHAW, ADAM STANFORD

A comparison of data obtained from low altitude aerial imaging from remotely piloted aircraft, and Lidar. A case study from the New Forest National Park, UK.

 DIEGO BELLIDO CASTAÑEDA, LAURA GONZÁLEZ LÓPEZ, MERCEDES FARJAS, SERAFÍN LÓPEZ CUERVO, JULIO ZANCAJO

UAV on the geometric documentation of archaeological sites: technology approach and analysis of products' accuracy. Main (uae).

8A Digital cities: documenting and transmitting the archaeological-architectonical record Room C

Chair: José María Martín Civantos, Alexandra Chavarría Arnau

- BERNARD D. FRISCHER, PAOLO LIVERANI, MATTHEW R. BRENNAN Documenting and Restoring the Augusteum of Rusellae (Roselle, Italy)
- FRANCESCA ANICHINI, MARA FEBBRARO, GABRIELE GATTIGLIA, FABIANA SUSINI, VALERIO NOTI

The representation of archaeological-architectonical record of Pisa

- JOSÉ MARÍA MARTÍN CIVANTOS, MÉRIDA RAMÍREZ BURGOS GIS and digital platform for Guadix (Granada, Spain)
- ALEXANDRA CHAVARRIA
 Digital Padova: recording, analysing and telling stories of a medieval city

8B Urban Digital-Scapes: Computer application to the study of past urban developments Room 15

Chair: Sorin Hermon, Hanna Stöger

ERMAL SHPUZA

The effect of gridiron street pattern on urban growth: evolution of Adriatic and Ionian coastal cities 1800-2010

- BENJAMIN N. VIS
 Shaped by the Paths Shaping the City: Examples of BLT Mapping Maya Urban Circulation Space
- JEFFREY BARRON GLOVER, ROBERT BRYANT, BRENNAN COLLINS, TIM CRIMMINS, MARNI DAVIS, JOE HURLEY, IAN JOHNSON, MICHAEL PAGE

 The digital Atlanta project: an interdisciplinary approach to remapping Atlanta's past
- SORIN HERMON, GEORGIOS ARTOPOULOS, NIKOLAS BAKIRTZIS
 3D virtual environments for simulating past urban experiences in pluri-cultural spaces the Pafos Gate, Nicosia as a case-study

9C Modelling the archaeological process

Room E

Chair: Cesar Gonzalez-Perez, Patricia Martín-Rodilla

- SORIN HERMON, VALENTINA VASSALLO, LOLA VICO, ELENA CHRISTOPHOROU, GIANCARLO IANNONE
 - A 3D visual and geometrical approach to epigraphic research; the Soli (Cyprus) inscription as a case study
- ISTO HUVILA, DANIEL LÖWENBORG, LISA BÖRJESSON, BODIL PETERSSON, NICOLÒ DELL'UNTO, PER STENBORG

What is archaeological information?

MATTHIAS LANG, CHRISTIAN CHIARCOS, PHILIP VERHAGEN

IT-assisted Exploration of Excavation Reports - Using Natural Language Processing in the archaeological research-process

ANNA MARIA MARRAS

Mind mapping and archaeological research. Concepts, themes and know-how dissemination

10B Electronic resources for archaeology: from databases to digital open data Room F

Chair: Alessandra Piergrossi, Alessandra Caravale

- ANDREW DUFTON, MICHAEL JOHNSON, ELIZABETH FENTRESS

 Exploring sustainable publication and the web: a case-study from the Villa Magna Project
- STEFANO COSTA, ALESSANDRO CARABIA, ENRICO ZANINI GQBWiki goes open
- MONTEIL AURÉLIE, BOULETREAU VIVIANE Archaeological contents: from open access to open data
- FINNEGAN POPE-CARTER, GRAEME ATTWOOD Legacy Data Open strategies for closed data

16.40-17.00 Coffee break

17.00-18.40

3B Occupation floors of Hunter-gatherers in the Digital Era: Impact and expectations

Room A

Chair: Joan Antón Barceló

- FRANCESCA ROMAGNOLI, AMELIA BARGALLÓ, MARÍA GEMA CHACÓN, MARIA JOANA GABUCIO, BRUNO GÓMEZ DE SOLER, PABLO SAÑUDO, MANUEL VAQUERO A storey is a floor, but a floor could be many stories! The problem of time in the definition of occupation floor.
- ALEJANDRO GARCÍA-MORENO, SABINE GAUDZINSKI-WINDHEUSER, JAROD HUTSON, LUTZ KINDLER, EDUARD POP, WIL ROEBROEKS, GEOFF SMITH, ELAINE TURNER, ARITZA VILLALUENGA

Evaluating the influence of hydrological processes on Pleistocene "occupation floors": a comparative case study of archaeological material orientation from Schöningen 13II-4 and Neumark-Nord 2/2 (Germany).

JENS AXEL FRICK

Visualizing occupation layers in homogenous sediments: Examples from the Grottes de la Verpillière I & II, Burgundy, France

• FABIO MARTINI, DOMENICO LO VETRO, MICHELE DE SILVA, GIOVANNA PIZZIOLO, ENRICO ORTISI, VINCENZO DE TROIA, PAOLO MACHETTI

Ritual use of Romito Cave during the Late Upper Palaeolithic: an integrated approach for spatial reconstruction

5J Spatial analysis in ethnoarchaeology and experimental archaeology

Room C

Chair: Francesco Carrer, Fabio Cavulli, Carla Lancelotti

- JONAS ALCAINA-MATEOS, CARLA LANCELOTTI, JAVIER RUIZ-PEREZ Revisiting kriging methods for microspatial data: an ethnographical approach
- JOAN NEGRE PÉREZ, MYRIAN ÁLVAREZ, IVAN BRIZ I GODINO, DÉBORA ZURRO HERNÁNDEZ, JORGE CARO SAIZ, JAVIER RUIZ PÉREZ

The influence of spatial demarcations on the modelling of intra-site anthropic markers. An ethnoarchaeological case study from Lanashuaia-II, a shell-midden in Tierra del Fuego (Argentina).

FRANCESCO CARRER

Interpreting intra-site activities and post-depositional processes: ethnoarchaeological case studies from the western Italian Alps

6E Low Altitude Aerial Photography for archaeology – where is the revolution leading us? Room 14

Chair: Mikolaj Kostyrko, Katie Simon, Emilia Smagur, Kasepr Hanus

• MARCO BLOCK-BERLITZ, BENJAMIN DUCKE, BENJAMIN GEHMLICH, NIKLAAS GÖRSCH, SÖREN STARK

Thirteen desert castles: Towards best practice in 3D reconstruction from video streams with low-cost UAV kits.

• EMANUEL DEMETRESCU, ENZO D'ANNIBALE

Massive archaeological 3D survey with UAV support for technical drawings production: the case study of Sarmizegetusa Ulpia Traiana.

7B New Cultural Heritage economies in the digital era

Room D

Chair: Augusto Palombini

AUGUSTO PALOMBINI

The bottom-up approach to project funding: an analytical overview of crowdfunding in archaeology

DARIA HOOKK, VLADIMIR OPREDELENOV, TATIANA KHARITONOVA

Modeling of a communication with virtual visitors of the museum web-site "Virtual archaeology"

FRANCESCO ULIANO SCELZA

Archaeology, GIS and urban planning. Territorial polity and economy of cultural heritage

DOMENICO PARISI, LUCINA GIACOPINI, CRISTINA DELOGU

Simulating the role of the Tiber in ancient Rome

7D What came first, the interface or the user? About reasoning and the illusiveness of interfaces in the practice of digital and virtual archaeology Room G

Chair: Thomas Bremer, Arian Goren, Arie Kai-Browne

TOMMASO EMPLER, FABIO QUICI

Paleontology 2.0 - Public awareness of paleontological sites thorough new technologies

JAVIER PEREDA

Enhancing Engagement with Online Cultural Heritage

• BRUNO FANINI, ALFONSINA PAGANO

Visual and rewarding strategies in gesture-based Serious Games

TOMMASO EMPLER, MATTIA FABRIZI

Interactive communication and Cultural Heritage

9C Modelling the archaeological process

Room E

Chair: Cesar Gonzalez-Perez, Patricia Martín-Rodilla

SVETA MATSKEVICH, ILAN SHARON

Modelling the archaeological record: A look from the Levant – past and future approaches

• STAVROS ANGELIS, AGIATIS BENARDOU, NEPHELIE CHATZIDIAKOU, PANOS CONSTANTOPOULOS, COSTIS DALLAS, LORNA M. HUGHES, LEONIDAS PAPACHRISTOPOULOS, ELIZA PAPAKI, VAYIANOS PERTSAS

Documenting and reasoning about research on ancient Corinthia using the NeDiMAH Methods Ontology (NeMO)

• IGOR BOGDANOVIC, JUAN ANTONIO BARCELÓ, ANTONI PALOMO, RAQUEL PIQUÉ, XAVIER TERRADAS

From Data to Knowledge - telearchaeological approach

• ALBERTO BELUSSI, SARA MIGLIORINI, PATRIZIA BASSO, PIERGIOVANNA GROSSI The Archaeological Urban Information System of the Historical Heritage of Verona

9F Machine learning and Pattern Recognition for Archaeological Research Room B

Chair: Daniel Gatica-Perez, Salvador Ruiz-Correa, Diego Jimenez-Badillo, Edgar Roman-Rangel

- ELENA SIZIKOVA, THOMAS FUNKHOUSER
 Automatically Assembling Frescos from Noisy Pairwise Fragment Measurements
- **DIEGO JIMENEZ-BADILLO, EDGAR ROMAN-RANGEL**Application of the bag-of-words approach to the analysis of archaeological sherds and artifacts
- ØYVIND ØDEGÅRD, STEIN M. NORNES, THIJS J. MAARLEVELD, ASGEIR J. SØRENSEN Autonomy in Marine Archaeology
- VLAD-ANDREI LĂZĂRESCU, VINCENT MOM
 Pottery Studies of the 4th Century Necropolis at Bârlad-Valea Seacă, RO

10B Electronic resources for archaeology: from databases to digital open data

Room F

Chair: Alessandra Piergrossi, Alessandra Caravale

- ANTHONY CORNS, LOUISE KENNEDY
 From Lamp-light to Laser-light: Opening access to the historic and contemporary imaging of monuments
- NICHOLAS ANDRE HOLMER, BUCK BENSON, JESSE PRUITT, ROBERT SCHLADER, NICHOLAS CLEMENT, HERBERT D.G. MASCHNER, COREY SCHOU, JONATHAN HOLMES From past to present: Reconciling years of Arctic archaeological data into a single visual database
- TAMAKI SUZUKI, IVAN VASILIEV
 High-resolution Image Database for the Conservation of Cultural Heritage: Documentation of Architecture
 and Paintings of the Medieval Churches in the East Europe.

20.00 City hiking (further info on CAA web site)