Gianmarco Alberti

Archaeologist (Ph.D.)

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http://uniud.academia.edu/GianmarcoAlberti

https://impactstory.org/GianmarcoAlberti

http://cainarchaeology.weebly.com

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1. Summary

I am an archaeologist (Ph.D.) with interests in pottery seriation, radiocarbon chronology, household archaeology, ceramic style and identity, communal food consumption, settlement archaeology, and analysis of activity areas at the site level.

I am also interested in Geographic Information Science, GIS, spatial analysis, 3D modelling and pointcloud generation from photogrammetry, statistical modelling, and in statistics applied to social science data, with a focus on multidimensional scaling techniques (*Correspondence Analysis* in particular).

2. Education History

2012 Ph.D. in Archaeology - University of Udine (Italy)

Dissertation's Title: Social Organization and Community Practices. Analysis for a reconstruction of the social organization of the Aeolian communities during the Middle Bronze Age (in Italian).

European Qualification Framework level: 8

2007 <u>Master of Arts in Archaeology</u> - University of Lecce (Italy)

Dissertation's Title: The Middle Bronze Age in the Aeolian Archipelago. The Milazzese pottery repertoire and the Aegean component (in Italian). Grade: 70/70 European Qualification Framework level: 8 (Diploma di Specializzazione)

<u>Laurea quadriennale in Classics and Archaeology</u> - University of Catania (Italy)

Thesis' Title: The Thapsos facies in the area of Syracuse (Sicily). The problem of the Aegean component (in Italian). Grade: (110/110 cum laude)

European Qualification Framework level: 7

3. Research Interests

- -GIS, spatial analysis, spatial modelling, raster analysis, 3D modelling
- -Statistics and Multivariate Techniques applied to archaeological data
- -Chronology (absolute, relative); Pottery seriation; seriation techniques
- -Radiocarbon chronology and Bayesian chronological modelling
- -Archaeology of death

2003

- -Household archaeology
- -Social analysis of funerary and domestic contexts
- -Identity, ceramic style, feasting in small scale to complex societies
- -Cultural and contextual facets of Aegean imports to central Mediterranean Bronze Age contexts

4. Technical Skills

- -GIS software (ArcGIS, QGIS, Global Mapper)
- -Spatial analysis software (CrimeStat, PASSaGE, SAM, GeoDa)
- -LiDAR processing tools (LiDAR module in ArcGIS and SAGA-GIS, Global Mapper, LasTools)
- -3D modelling from photogrammetry (Agisoft *Photoscan*)
- -3D GIS software (Esri's ArcScene and QGIS' Qgis2threejs)
- -Statistical software (e.g., R, STATISTICA, JMP)
- -Simple and Multiple Correspondence Analysis for data structure interpretation
- -Data exploration, hypothesis tests, and multivariate analysis
- Bayesian radiocarbon calibration and modelling (OxCal and BCal)
- -Microsoft Access and Excel
- -Word processors (Microsoft Word, Pages, Open Office)
- -Corel Draw, Corel Photo-Paint, Adobe Acrobat
- -Website Editing (RapidWeaver, iWeb)

Statistical computer programs (see full description at: http://cainarchaeology.weebly.com/)

- R 'CAinterprTools': R package for Correspondence Analysis interpretation
 - -'CAseriation': R package for seriation via Correspondence Analysis
 - -'ca.scatter': R function for Correspondence Analysis scatterplots
 - -'ca.plus': R function for interpretation-oriented Correspondence Analysis scatterplots
 - -'ca.percept': R function for perceptual-map like Correspondence Analysis scatterplot
 - -'scalar.stress': R function for scalar stress calculation
 - -'prob.phases.relat': R function for posterior probability for relations between two Bayesian radiocarbon phases
 - -'ppd.plot': R function for Posterior Probability Density plot of Bayesian modelled radiocarbon dates
 - -'BRsim': R function for Brainerd-Robinson similarity coefficient
 - -'outlier': R function for univariate outliers detection
 - -'perm.t.test': R function for permutation t-test
 - -'plot.mw': R function to plot Mann-Whitney test' result

2/11

- -'plot.kw': R function to plot Kruskal-Wallis test' result
- -'chi.perm': R function for permutation-based Chi square test of independence
- -log.regr: R function for binary Logistic Regression modelling
- -'model.valid': R function for binary Logistic Regression internal validation
- -'auc.adjust': R function for optimism-adjusted AUC

Excel -Kruskal-Wallis Excel Template

- -Chi-square Excel Template
- -XLTRS (Excel Template for Robust Statistics)

Languages

English (very good) Italian (mother tongue)

5. Employment History

October 2016-current

<u>Project researcher</u> within the LARSOCS (*Low Altitude Remote Sensing Of Compact Sites*) project, funded by The University of Malta and Research, Innovation, Development Trust Fund (RIDT).

Department of Classics and Archaeology - University of Malta

The aim of the project is to create a low cost capability for low altitude aerial remote sensing and survey for archaeology, which can also be used for other areas of research including geosciences, environment, resource and cultural heritage. The highly interdisciplinary colleagues brings together archaeologists, engineers and scientists to develop an effective methodology for imaging of small sites and processing the data captured; and to develop a simple and effective low cost guidance system which will allow controlled low level flight over archaeological sites to record stages in the excavation process.

- -Duties: 3D modeling from photogrammetry, processing and analysis of DEM and DTM in GIS environment (http://researchtrustmalta.eu/team/drgianmarco-alberti/)
- -Output: 3D model generation and Digital Elevation model analysis of a quarry with traces of Roman-time activities located in the limits of Dingli (central-western Malta) and of the cart ruts in at the so-called Clapham Junction (Malta). Further info: https://www.researchgate.net/project/LARSOCS-Low-Altitude-Remote-Sensing-Of-Compact-Sites.

March 2014-June 2016 January-July 2017

Research Support Officer II within the ERC 'FRAGSUS' project Department of Classics and Archaeology – University of Malta

-Duties: research into Maltese landscape archaeology, with a focus on setting up a GIS laboratory within the Department and building a GIS geo-database of prehistoric and historical evidences in the Maltese archipelago. The work also comprised: georeferencing and digitizing of modern survey sheets and historical cadastral maps; LiDAR data processing; analysis and processing of Digital Elevation Models; analysis and processing of airborne imagery; building predictive models for land productivity quality. I delivered a presentation at the 2014 Annual Meeting of the European Association of Archaeology (EEA) held in Istanbul. I also designed and put online a website for showcasing the results of the University of Malta team's research in the framework of the FRAGSUS project (http://fragsusuom.weebly.com). I took also care of the logistic for

project seminars in Malta, and of the logistic of fieldwork in Malta and overseas. I also delivered lectures on settlement archaeology, quantitative archaeology, and the use of GIS in archaeology and the social science.

-Related publications: 28, 30

2009-2012

Ph.D. student with scholarship

University of Udine

-Duties: research into the social organization of the Bronze Age communities in North East Sicily (i.e., Aeolian Islands) with focus on radiocarbon chronology, activity areas analysis, material culture patterning and settlement architecture/layout at the site-level, archaeology of household, identity, and communal food consumption.

-Related publications: 8, 15, 17, 21

2007-2009

Member of research project

University of Catania

Project (PRIN 2007) Beyond equality: Communal space and the individual dimension in Mediterranean Prehistory, coordinated by Prof. V. La Rosa

-Duties: study of Middle Bronze Age settlement contexts in Sicilian North and South-East to address the issues of the chrono-typological development of the local ceramic repertoires and of settlement architecture and layout.

-Related publications: 12, 14

2006-2007

Consultant

Archaeological Superintendence of Catania (Italy)

-Duties: Preparation of the International Exhibition titled *In Ima Tartara: Preistoria e leggenda delle grotte dell'Etna* (organized by Regione Sicilia-Assessorato ai BB.CC.AA-Soprintendenza di Catania; Centro di Archeologia Cretese-Università di Catania; Scuola Archeologica Italiana ad Atene). preparation of panels providing information on funerary rituals during the Sicilian prehistory, and on the Sicilian prehistoric chronology and cultural phases.

-Related publications: 13

2005-2007

Member of research project

University of Catania

Project (PRIN 2005) Central and Eastern Mediterranean in the 2nd millennium B.C.: The development of an international network through inner transformations and external projections, coordinated by Prof. V. La Rosa, funded by the Italian Ministry of the Scientific Activities

-Duties: study of the archaeological evidence from Sicilian Bronze Age funerary contexts to address the issues of the development of local hierarchical social structures and of trade networks between Sicily and Aegean.

-Related publications: 10, 11

2005-2009

Consultant

Cittadinanzattiva Onlus (Italian not-for-profit organization)

Duties: data mining and statistical analyses of survey data.

6. Additional Information

Other professional experiences

2015

Shortlisted for the Research Associate position at

the Institute of Archaeology - University College London (project: Supply and demand

in prehistory? Economics of Neolithic mining in NW Europe).

2015 Shortlisted for the Research Associate position at

the *Institute of Archaeology – University College London* (project: Changing the face of the Mediterranean: land cover and population since the advent of farming).

2013 Shortlisted for the Visiting Scholar position 2013-14 at the *Institute for*

European and Mediterranean Archaeology (SUNY Buffalo).

2012 Positive evaluation at the competitive examination for the position of Teaching

Fellow in Prehistory and Proto-history (University of Salento-Lecce).

2008 Positive evaluation at the competitive examination for the position of Teaching

Fellow in Prehistory and Proto-history (University of Catania).

Participation at conferences

2014 Oral communication at the 2014 Meeting of the European Association of

Archaeology (Istanbul).

2011 Oral communication at the 15th Symposium on Mediterranean Archaeology (SOMA)

(University of Catania, Catania).

2006 Oral communication at the Postgraduate Cypriot Archaeology (POCA) Conference

Island Dialogues-Cyprus in the Mediterranean network (Univ. of Edinburgh).

2005 Oral communication at the Conference Emporia. Aegeans in the Central and

Eastern Mediterranean, 10th Intern. Aegean Conference (Athens).

2004 Oral communication at the Primo Simposio Siracusano di Preistoria Siciliana in

memoria di Paolo Orsi (Siracusa).

Field experience

May 2015 Organization of the logistic and participation to the environmental fieldwork in

Sicily, led by Dr. Michelle Farrell (Queen's University Belfast) for the purposes of the EU-funded FRAGSUS project (Principal Investigator Prof. Caroline

Malone)

2004-2006 Cavallino (University of Lecce) - native Apulian settlement (Bronze to

Hellenistic Age)

2004-2006 Rocavecchia (University of Lecce) - native Bronze Age fortified settlement

with Aegean ceramic imports and metalworking activities

1997 Paphos-Cyprus (University of Catania)

Website design and maintenance

Correspondence Analysis in Archaeology http://cainarchaeology.weebly.com Website that aims to introduce the statistical exploratory technique called *Correspondence Analysis*. It is taken into

account from an archaeological perspective, and is illustrated by means of worked examples. Scripts and packages to perform

Correspondence Analysis in R are also described.

FRAGSUS Project – University of Malta

http://fragsusuom.weebly.com

Website aiming at showcasing the achievements of the

research performed at the Department of Classics and

Archaeology (University of Malta) in the framework of the EU-

funded 'FRAGSUS' project.

Ship Graffiti in Malta (in progress) Web-based database of the Ship graffiti in Malta. Map of the

graffiti spatial distribution, monuments description, and graffiti

pictures are provided.

(https://drive.google.com/open?id=1WxyNrf2BNq0yUYVAlX9nRTnxVTY&usp=sharing)

7. Academic Appointments

Lecturing activity

24 March 2017 Invited Lecturer

Department of Classics and Archaeology - University of Malta

2-hours lecture on The Uses of GIS in Maritime Archaeology

29 October 2016 <u>Invited Lecturer</u>

Department for the Built Environment - University of Malta

2-hours lecture on The use(s) of Geographic Information System: a short introduction

14 October 2016 <u>Invited Lecturer</u>

Department of Classics and Archaeology - **University of Malta** 2-hours lecture on *The archaeology of settlements: from theory to data analysis*

16 June 2016 <u>Invited Lecturer</u>

Department of Classics and Archaeology - University of Malta

2-hours lecture on GIS and Maritime Archaeology: an Introduction by Means of

Worked Examples

15 December 2015 <u>Invited Lecturer</u>

Department of Classics and Archaeology - **University of Malta** 2-hours lecture on *Maritime Archaeology and Geographic Information System*

27 October 2015 <u>Invited Lecturer</u>

Department for the Built Environment - **University of Malta** 2-hours lecture on *The use(s) of Geographic Information System:*

a short, problem-oriented, commonsense introduction

11-18-25 March 2015 <u>Invited Lecturer</u>

Department of Classics and Archaeology - University of Malta

2-hours lectures on Statistics for Archaeologists for BA (Hons) students in

Archaeology.

1 December 2014 <u>Invited Lecturer</u>

Department of Classics and Archaeology - University of Malta

2-hours lecture on From artefacts and architecture to social organization: the case of the Aeolian islands in the Middle Bronze Age following ARC 2034 The prehistory of Sicily

and Sardinia (6 ECTS).

13-14 May 2014 Invited Lecturer

Dept of History and Preservation of Cultural Heritage - University of Udine 2-hours lecture on *Correspondence Analysis in Archaeology: utility, issues, interpretation* for PhD students in Archaeology.

Fall 2013 <u>Lecturer</u>

Arcadia University the College of Global Studies (Siracusa campus)

6 hours of lectures (1 ECTS) on Material culture, spatial patterns, and social organization: a view from Bronze Age Aeolian archipelago and Statistics in archaeology: approaches and perspectives as a module of the course "CSAR 350 - Crossroads of Civilizations: Archaeology of Ancient Sicily".

June 2013 Instructor

Arcadia University the College of Global Studies (Siracusa campus)

Instructor of the GIS and R 'ggmap' module (2 ECTS) of the program "FSDA 310S - Field School in Archaeology" undertaken by the Arcadia University – The College of Global Studies at Ognina (Siracusa).

May 2012 <u>Invited Lecturer</u>

University of Catania

Lecture on *Statistical approaches for the analysis of the ancient funerary contexts* as a module of the course on Archaeology and History of Art of the Ancient Near East (3 ECTS) held by Prof. Nicola Laneri.

2009-2012 Invited Lecturer

University of Udine

Lectures on Settlement archaeology, material culture and spatial patterns interpretation and other themes related to my doctoral research.

Jan-Dec 2007 Lecturer

University of Catania

(a) course (3 ECTS) on Funerary practices in Sicilian prehistory: from theory to the analysis of the archaeological data; (b) guided tours at some key archaeological sites and local Museums; (c) looking after graded assignments and final exam.

Mentoring activity

March-May 2017 Postgraduate teaching in advanced GIS for archaeology

Department of Classics and Archaeology - University of Malta

Lectures and tuition in advanced GIS to Mr Tore Lomsdalen for his PhD dissertation on Neolithic Malta (supervisors: Dr Reuben Grima).

Dec 2014-Apr 2016 <u>Co-supervisor</u>

Department of Classics and Archaeology - University of Malta

Co-supervisor of Miss Jessica Spiteri's MA dissertation in Archaeology on Exploring Connectivity in the Central Mediterranean in Prehistory (supervisor: Prof. Nicholas Vella).

Apr-Oct 2015 GIS advisor

Department of Classics and Archaeology - University of Malta

GIS advisor for Mr Bernard Cachia Zammit's MA dissertation in Archaeology on Conflict Archaeology in the Landscape: A Survey of World War II Defences at Selmun, Malta (supervisors: Dr Timmy Gambin and Dr Stephen Spiteri).

8. Awards & Achievements

2009-2011 Scholarship from the University of Udine - Ph.D. cycle XXIV

Oct 2015-Sept 2016 Publins award: Top reviewers for Sentinels of Science: Arts and Humanities

9. Referee Activity (reviewer record available at: https://publons.com/author/339676/gianmarco-alberti)

Journals

2014-current Antiquity (number of manuscripts reviewed: 2)

Archaeometry (1)

Current Anthropology (1)

International Journal of Osteoarchaeology (1)

Journal of Archaeological Science (1)

Journal of Island & Coastal Archaeology (1)

Open Archaeology (10)

PLoS ONE (4) Radiocarbon (1) R Journal (1) Rubriq (1) West & East (1)

World Archaeololgy (1)

Books

2016 Grant S. McCall. Archaeology by Numbers: A Handbook of Strategies for Quantitative

Research. Routledge

10. Publications

Journal articles and chapters

[30] in preparation G. Alberti, N. C. Vella. Locating potential pastoral foraging routes in Malta through the

use of Geographic Information System

[29] under review G. Alberti, TRANSIT: a GIS toolbox for estimating the duration of ancient sail-powered

navigation. Submitted to Cartography and Geographic Information Science

[28] under review G. Alberti, R. Grima, N. C. Vella. The use of GIS and 1860s cadastral data to model

agricultural suitability before heavy mechanization. A case study from Malta. Under

review for PLoS ONE

[27] under review E. J. Beh, R. Lomardo, G. Alberti. Correspondence Analysis and the Freeman-Tukey

Statistic: A Study of Archaeological Data. Under review for Computational

Statistics and Data Analysis

[26] 2017 G. Alberti. New light on old data: Toward understanding settlement and social

organization in Middle Bronze Age Aeolian Islands (Sicily) through quantitative and

multivariate analysis. Journal of Archaeological Science: Reports 11, 310-329

[25] **2016** G. Alberti. Correspondence Analysis. Invited entry for The SAS Encyclopedia of Archaeological Sciences, edited by Sandra Lopez Varela; Wiley-Blackwell (in press). [24] 2015 **G.** Alberti. CAinterprTools: An R package to help interpreting Correspondence Analysis' results. SoftwareX 1-2, 2015, 26-31 [23] 2015 G. Alberti. The aid of Bayesian radiocarbon modeling in assessing the chronology of Middle Bronze Age Sicily at the site level. A case study. Journal of Archaeological Science: Reports 2, 2015, 246-256 [22] 2015 G. Alberti. Brocche Base Ring II da contesti del Bronzo Medio in Sicilia: produzione levantina, cipriota, o locale? Alcune considerazioni. In AKROTINIA. Contributi di giovani ricercatori italiani agli studi egei e ciprioti, edited by L. Bombardieri, A.M. Jasink, 12/2015; Firenze University Press. [21] **2015 G. Alberti**. Material Culture and People. Some Methodological Remarks on the Study of Aeolian Middle Bronze Age Settlement Contexts. In 'SOMA 2011 Proceedings of the 15th Symposium on Mediterranean Archaeology, held at the University of Catania 3-5 March 2011', edited by Pietro Maria Militello and Hakan Öniz, BAR S2695 2015. ISBN 9781407313443, 185-195 [20] **2014** G. Alberti. Modeling group size and scalar stress by logistic regression from an archaeological perspective. PLoS ONE 9(3), 2014, e91510 (Impact Factor: 3.234) [19] **2013** G. Alberti. An R Script to Facilitate Correspondence Analysis. A Guide to the Use and the Interpretation of Results from an Archaeological Perspective. Archeologia e Calcolatori 24, 2013, 25-53 [18] **2013** G. Alberti. Issues in the absolute chronology of the Early-Middle Bronze Age transition in Sicily and southern Italy: a Bayesian radiocarbon view. Journal of Quaternary Science 28(6), 2013, 630-640 (Impact Factor: 2.661) [17] **2013** G. Alberti. Making Sense of Contingency Tables in Archaeology: the Aid of Correspondence Analysis to Intra-Site Activity Areas Research. Journal of Data Science 11, 2013, 479-499 [16] 2013 **G. Alberti**. A Bayesian 14C chronology of Early and Middle Bronze Age in Sicily. Towards an independent absolute dating. Journal of Archaeological Science 40(5), 2013, 2502-2514 (Impact Factor: 2.139) [15] 2011 G. Alberti. Radiocarbon evidence from the Middle Bronze Age settlement at Portella (Aeolian Islands, Italy): chronological and archaeological implications. Radiocarbon 53(1), 2011, 1-12 (Impact Factor: 2.842) [14] 2008 **G.** Alberti. There is "something Cypriot in the air". Some thoughts on the problem of the Base Ring pottery and other Cyprus-related items from (local) Middle Bronze Age contexts in Sicily. In MCCarthy (ed.), 'Island dialogues': proceedings of the Postgraduate Cypriot Archaeology Conference (POCA), 2006, University of Edinburgh Archaeology Occasional Papers 21, Edinburgh 2008, 130-153 [13] 2008 G. Alberti. Comparative cultural-chronological chart (Sicily, Aeolian Archipelago, Late Helladic Greece). In F. Privitera-V. La Rosa (eds), 'In Ima Tartara. Preistoria e leggenda delle grotte dell'Etna', Palermo 2008, 28

di Scienze Preistoriche LVII, 2007, 363-376

G. Alberti. Minima Thapsiana. Riflessioni sulla cronologia dell'abitato di Thapsos. Rivista

[12] **2007**

[11] **2006** G. Alberti. Per una "gerarchia sociale" a Thapsos: analisi contestuale delle evidenze funerarie e segni di stratificazione. Rivista di Scienze Preistoriche LVI, 2006, 369-427 [10] **2005** G. Alberti. The earliest contacts between south-eastern Sicily and Cyprus in the Late Bronze Age. In R. Laffineur, E. Greco (eds.), Emporia. Aegeans in Central and Eastern Mediterranean', Proceedings of 10th International Aegean Conference, Aegaeum 25, Eupen 2005, 343-351 [9] 2004 G. Alberti. Contributo alla seriazione delle necropoli siracusane. In La Rosa V. (ed.), Le presenze micenee nel territorio siracusano, Padova 2004, 99-170 Books and monographs [8] 2012 Social Organization and Community Practices. Analysis for a reconstruction of the social organization of the Aeolian communities during the Middle Bronze Age. Ph.D. Dissertation, University of Udine, supervisor: Prof. Elisabetta Borgna [7] 2008 La ceramica eoliana della facies del Milazzese: studio crono-tipologico e culturale sulla base dei dati editi da Filicudi, Lipari, Panarea, Salina (in Italian with English summary). BAR IS 1767, Archaeopress 2008, ISBN 9781407302560 **Book reviews** [6] 2010 G. Alberti. Review: R. D. Drennan, Statistics for Archaeologists. A Common Sense Approach (2nd edition), New York. American Journal of Archaeology 114, 2010 [5] **2009** G. Alberti. Review: D. Tanasi, La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio, Palermo 2008. American Journal of Archaeology 113, 2009 [4] 2008 G. Alberti. Review: C.J. Bergoffen, The Cypriot Bronze Age Pottery from Sir Leonard Wooley's Excavations at Alalakh (Tell Atchana), Vienna 2005. American Journal of Archaeology 112, 2008 G. Alberti. Review: M.C. Martinelli, Il villaggio dell'età del Bronzo medio di Portella a [3] **2007** Salina nelle Isole Eolie (Firenze 2005). American Journal of Archaeology 111, 2007, 373-374 [2] 2006 G. Alberti. Review: Andrea Vianello, Late Bronze Age Mycenaean and Italic Products in the West Mediterranean. A Social and Economic Analysis. (Oxford 2005). European Journal of Archaeology 9, 2006, 134-137

11. References

Nicholas C. Vella

[1] **2006**

Cattolica. Orpheus 22, 2004, 227-232

G. Alberti. Review of M Sannazaro (a cura di), Ricerche archeologiche nei cortili dell'Università Cattolica. La necropoli tardoantica, Milano 2001, and of S Lusuardi Siena-M P Rossignani (a cura di), Ricerche archeologiche nei cortili dell'Università

Associate Professor Department of Classics and Archaeology Faculty of Arts - University of Malta nicholas.vella@um.edu.mt

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Davide Tanasi Assistant Professor Center for Virtualization and Applied Spatial Technologies (CVAST) Department of History University of South Florida dtanasi@usf.edu

Reuben Grima Senior Lecturer Faculty for the Built Environment Built Environment Building University of Malta

Dr Gianmarco Alberti