

Digital Geoarchaeology 2013 – New Technologies for Interdisciplinary Human-Environmental Research

Organization: **DR. CHRISTOPH SIART**
Geographical Institute, Heidelberg University
MARKUS FORBRIGER
Institute of Geography, University of Cologne

Venue: Akademie der Wissenschaften,
Karlstr. 4, Heidelberg

Date: 7.–9. November 2013

Beginning: 7. November 2013, 10.00 am

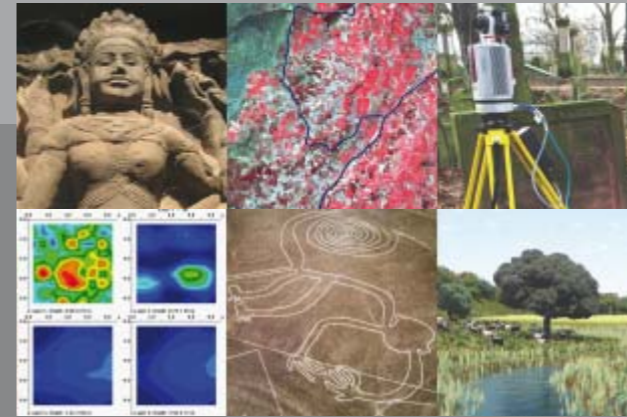
Modern archaeology can be considered as an interdisciplinary approach that increasingly combines different methods and datasets to answer questions about ancient cultures and their remains. This trend can be traced back to the rising awareness about the inextricable link between past human activities and environmental conditions. Therefore, computer sciences, geosciences and archaeology form a scientific triad whose interface can be best described as Digital Geoarchaeology.

Having its major focus on these new technologies and multi-method research approaches, the symposium intends to promote an interdisciplinary dialogue between different disciplines such as archaeology, computer sciences, geography, geoinformatics, geodesy and history. Common fields of work as well as future challenges are to be identified and discussed from different scientific perspectives in order to generate synergies.

By stimulating knowledge transfer and collaboration, Digital Geoarchaeology wants to contribute to an effective protection of cultural heritage and a better understanding of ancient landscapes along with their forming processes.

Digital Geoarchaeology 2013

New Technologies for Interdisciplinary Human-Environmental Research



Academy Conference
7.–9. November 2013

HEIDELBERGER AKADEMIE DER WISSENSCHAFTEN

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Registration:
Attendance is free of charge but registration is mandatory as the number of participants is limited. Please use the registration form provided on the conference website www.digitalgeoarchaeology.wordpress.com/attendance/ or register via email: christoph.siart@geog.uni-heidelberg.de.



**HEIDELBERGER AKADEMIE
DER WISSENSCHAFTEN**
Akademie der Wissenschaften
des Landes Baden-Württemberg

PROGRAM

THURSDAY, 7 NOVEMBER 2013 (SYMPOSIUM)

10.00 a.m. RECEPTION AND REGISTRATION

11.00 a.m. OPENING AND WELCOME ADDRESS

PROF. DR. THOMAS HOLSTEIN
(CHAIRMAN OF HEIDELBERG ACADEMY OF SCIENCES)

PROF. DR. BERNHARD EITEL
(RECTOR OF HEIDELBERG UNIVERSITY)

DR. CHRISTOPH SIART, MARKUS FORBRIGER
(ORGANIZING COMMITTEE)

11.30 a.m. **Session I**
Palaeoenvironmental Reconstructions

1 | Diamantis Panagiotopoulos, Bernhard Höfle, Irina Rabenseifner – The Heidelberg Koumasa Project. A Geoarchaeological Approach to the History of a Marginal Mediterranean Landscape.

2 | Matthieu Ghilardi, Marc-Antoine Vella, Ousmane Diouf, Philippe Dussouilliez, Jules Fleury, Estelle Senna, Michel Berthelot – Reconstructing archaeological landscapes at the Bridge of Avignon (Provence, France): the original cross-combination of digital technologies and palaeoenvironmental techniques

3 | Felix Bachofer, Geraldine Quènerhervèa, Michael Maerkera, Volker Hochschild – Paleolake-delineation within the Lake Manyara basin, Northern Tanzania

1.00 p.m. LUNCH BREAK

2.00 p.m. **Session II**
Spatial Analysis and Feature Extraction (pt.I)

4 | Benjamin Vis – Demonstrating Boundary Line Type Mapping for the Comparative Formal Description of the Socio-Spatial Properties of Urban Built Environments

5 | Volker Sossna – Theory and Practice. Experiences with a Non-Professional Database Solution under Field Conditions

6 | Hubert Mara – retrieving manmade features from high resolution 3D models with gigamesh

3.30 p.m. COFFEE BREAK

4.00 p.m. **Session III**
Spatial Analysis and Feature Extraction (pt.II)

7 | Eleftheria Paliou – Enhancing the interpretation of Roman street networks: The application of urban network analysis to integrated geophysical datasets

8 | Daniel Knitter, Luise Lorenz, Oliver Nakoinz – Graves, pottery, and pathways of Funnel Beaker societies in relation to their natural environment

5.00 p.m. **Special lecture**

Heiko Riemer – Wadi Sura and the Cave of Beasts: Interdisciplinary studies on a Saharan rock art landscape

5.45 p.m. GET-TOGETHER
at Beletage of Heidelberg Academy of Sciences

7:30 p.m. CONFERENCE DINNER (optional)

FRIDAY, 8 NOVEMBER 2013 (SYMPOSIUM)

9.00 a.m. **Session IV**
Remote Sensing and Visualization

9 | Olaf Bubenzer, Andreas Bolten – Detecting ancient caravan routes from satellite imagery and field observations, Egypt

10 | Karsten Lambers, Igor Zingman – The past as seen from space: Detecting archaeological objects in high-resolution satellite images of the Silvretta Alps

11 | Uta Lungershausen, C. Heinrich, Rolf Gabler-Mieck, Rainer Duttmann – 3D visualization of past dune landscapes: An approach to communicate geo archaeological research

10.30 a.m. COFFEE BREAK & POSTER SESSION

11.30 a.m. **Session V**
LiDAR in Geoarchaeology

12 | Bernhard Höfle – Geoinformation extraction from 3D pointclouds – current status and future perspectives

13 | Ralf Hesse – Visualising archaeological topography – current methods for analytical visualisation of high-resolution digital elevation models

14 | Dirk Hoffmeister, M. Kehl, A. Pastoors, K. Kindermann, C. Zielhofer, K. Reicherter, G.-C. Weniger, O. Bubenzer, G. Bareth – Terrestrial laser scanning surveys supporting geoarchaeologic research of the CRC806: Our way to Europe

1.00 p.m. LUNCH

2.00 p.m. **Session VI**
Multi-method Research Designs and Geophysical Prospecting

15 | Felix Teichner – Ecological changes, natural disasters and economic crisis – new scenarios for the Hispania romana and its non-agricultural economy

16 | Katerina Theodorakopoulou, C. Athanassas, Y. Bassiakos, G. Schukraft, M. Forbriger, S. Hecht, B. Mächtle, G.A. Wagner – A geoarchaeological approach for the localization of the prehistoric harbour at Akrotiri, Thera.

17 | Ayla Jung, Timo Lang – Combining archaeological and geophysical methods – A case study about the Gallo-Roman settlement area of Oberlöstern (northern Saarland)

18 | Erich Nowaczinski – 3-dimensional reconstruction of Early Bronze Age pits – 3D and pseudo-3D geoelectrics

4.00 p.m. COFFEE BREAK

4.30 p.m. GENERAL DISCUSSION
conclusion and closing at Beletage

5.30 p.m. GUIDED CITY TOUR (optional)

SATURDAY, 9 NOVEMBER 2013 (OPTIONAL WORKSHOP, GISCIENCE, HEIDELBERG UNIVERSITY)

LiDAR in geoarchaeology – terrestrial laser scanning in theory and practice

8.30 a.m. Introduction and on-site practice (including shuttle service)

12.00 a.m. LUNCH BREAK

1.00 p.m. Data Processing and Visualisation (GIScience Computer Lab)

4.00 p.m. END OF WORKSHOP

Please note: The workshop is part of the side programme of the conference and will take place at a different venue.

Meeting place for shuttle service is at 8.15 a.m. in front of Heidelberg Academy of Sciences and Humanities.

