



DEUTSCHES
ARCHÄOLOGISCHES INSTITUT

Archaeohydrology of Oases and Cities

Water Management, Climate, Technological Change and Social Contexts

International Conference and Workshop

May 31 – June 2, 2017

Venue:



Topoi Building Dahlem, Hittorfstraße 18, D-14195 Berlin

Introduction

The main aim of the conference is to promote a disciplinary concept of archaeohydrology by three means: 1) to present examples of archaeohydrological research from oases and cities, 2) to evaluate methodological characteristics of the new subject in a workshop, discussing strategies of how to establish archaeohydrology as a research field in its own right, and 3) to identify basics for an „applied archaeohydrology“, i.e. in terms of using its results to establish rehabilitation programmes for sustainable water usage in deficit areas, as well as to promote heritage education and protection in this field.

Fieldwork undertaken in the Near East in recent years in arid environments and in ancient cities, as well as the cooperation in Research Cluster 2 of the German Archaeological Institute, have shown that a mere archaeological approach to hydraulic features (hydro-archaeology) may result in an insufficient understanding of water-related (infra-) structures. An understanding of excavated and non-excavated (landscape) hydraulic findings has all too often been provided by hydrological experts and hydro-engineers. For the first time, this conference will focus explicitly on ‘archaeohydrology’, a term that is still not commonly used. This meeting will bring together hydrological experts and archaeologists working on cultures from arid and/or irrigated lands: Archaeologists will profit from the expertise of hydro-engineers, while hydrologists will learn about the need to understand the cultural background of their fields of study.

It is intended that our meeting will be a kick-off for merging research efforts in real interdisciplinary working milieus, focussing on joint research questions, shared methods, and synergetic efforts.

Organization: DAI, *Cluster 2, Innovation: technical, social*; DAI, *Orient-Abteilung*; DAI, *Kommission für Alte Geschichte und Epigraphik*. In cooperation with: *H. G. Gebel, M. Trümper (FU Berlin)*; *M. Grottker, K. Wellbrock (FH Lübeck)*; *G. Wiplinger (ÖAW-ÖAI Wien)*.

Wednesday, May 31, 2017

09:00-09:15 Ricardo Eichmann / Hans Georg K. Gebel / Christof Schuler
Introduction: Why another conference on water management, why archaeohydrology?

Session 1 Disciplinary Foundations of Archaeohydrology

Moderator:

Christof Schuler, DAI, Kommission für Alte Geschichte und Epigraphik, München

- 09:15-10:00 1 Hans Georg K. Gebel, Freie Universität Berlin, Institut für Vorderasiatische Archäologie
Archaeohydrology: The Archaeological Perspective
- 10:00-10:45 2 Kai Wellbrock / Matthias Grottker, Fachhochschule Lübeck, Fachbereich Bauwesen, Labor für Siedlungswasserwirtschaft
Archaeohydrology: the Hydrological Perspective
- 10:45-11:15 *coffee break*
- 11:15-12:00 3 Monika Trümper, Freie Universität Berlin, Institut für Klassische Archäologie
Archaeohydrology and Ancient Cities: State of Research and Perspectives
- 12:00-12:45 4 Panel Discussion, starting with 5-minute statements by:
- Maurits Ertsen, Delft University of Technology, The Netherlands – International Water History Association (IWHA)
- Max Engel, Universität Köln, Geographisches Institut
Geographie, Klimaarchive
- Sophie Bouffier, Universität Aix-Marseille, HYDRQMED-Project
- Reinder Neef, DAI, Naturwissenschaftliches Referat, Berlin
- Michèle Dinies, DAI, Naturwissenschaftliches Referat, Berlin
- Cees Passchier, Gül Sürmelihiindi, Universität Mainz, Institut für Geowissenschaften
- 12:45-13:45 *lunch break*

Session 2 **Archaeohydrological Case Studies on Oases: Interrelations between Cultural Change, Water Resources, and Climate Change**

Moderator:

Ricardo Eichmann, DAI, Orient-Abteilung, Berlin

- 13:45-14:30 5 Bernd Müller-Neuhof, DAI, Orient-Abteilung, Berlin
Chalcolithic / Early Bronze Age Agricultural Strategies in Arid Regions: Rain Water Harvesting Irrigation in NE-Jordan
- 14:30-15:15 6 Arnulf Hausleiter, DAI, Orient-Abteilung, Berlin
Oasis Economy in Northwest Arabia in the Context of Water Resources
- 15:15-15:45 *coffee break*

Moderator:

Burkhard Vogt, DAI, Kommission für die Archäologie Außereuropäischer Kulturen, Bonn

- 15:45-16:30 7 Julien Charbonnier, Louise Purdue, Sophie Costa, Maël Crépy, Emmanuelle Régagnon, Carine Calastrenc and Thomas Sagory, Cepam-CNRS Nice
Archaeohydrology of Masafi Oasis (UAE): from the Early Iron Age to the Present-day
- 16:30-17:15 8 Ingrid Hehmeyer, Ryerson University, Toronto, Canada
Why is Archaeohydrology Important? Some Examples from Yemen
- 17:15-18:00 9 Margarte van Ess, DAI, Orient-Abteilung, Berlin
Experiments of Water Management. Uruk (Southern Mesopotamia) in the Fourth and Third millennium BC
- 19:30 *dinner*

Thursday, June 1, 2017

Session 3 **Archaeohydrological Case Studies on Cities: Interrelations between Cultural Change, Water Resources, and Climate Change**

Moderator:

Betsey Robinson, Department of History of Art, Vanderbilt University, Nashville, TN, USA

09:00-09:45 10 Andreas Schachner, DAI, Abteilung Istanbul
Water for the Empire - the Function of Artificial Water Reservoirs in Hittite Cities

09:45-10:30 11 N.N.
Water Management in Ancient Greek Cities

10:30-11:00 *coffee break*

Moderator:

Gilbert Wiplinger, Österreichische Akademie der Wissenschaften – Österreichisches Archäologisches Institut, Wien, Frontinus-Gesellschaft

11:00-11:45 12 Duncan Keenan-Jones, Department of the Classics, University of Glasgow
Water Management in Roman Cities (Late Republican-Imperial Period)

11:45-12:30 13 Kai Wellbrock, Fachhochschule Lübeck, Fachbereich Bauwesen, Labor für Siedlungswasserwirtschaft
Investigating the Urban Water Management of Pergamon - An Integrated Archaeohydrological Approach

12:30-13:30 *lunch break*

Session 4 **Sustainability and Hydraulic Heritage**

Moderator:

N.N.

13:30-14:15 14 Burkhard Vogt, DAI, Kommission für die Archäologie Außereuropäischer Kulturen, Bonn
Wetland Water Management on Easter Island / Chile

14:15-15:00 15 Joshka Wessels, Kopenhagen, Dänemark
Rehabilitation of Historical Qanats in Syria and Iraq

15:00-15:30 *coffee break*

Moderator:

H.G.K. Gebel, Freie Universität Berlin, Institut für Vorderasiatische Archäologie

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| 15:30-16:15 | 16 | Abdallah al Ghafri, University of Nizwa, Oman
<i>Sustainability of Ancient Water Supplies in Dry Areas: Lessons from the Aflaj of Oman</i> |
| 16:15-17:00 | 17 | Saket Pande, Delft University of Technology, Delft
Stefan Uhlenbrook, Coordinator, United Nations World Water Assessment Programme (WWAP) UNESCO, Perugia, Italy
<i>On the Linkages between Hydrology, People and Heritage</i> |
| 17:00-17:45 | 18 | Ali Asghar Semsar Yazdi, International Center on Qanats and Historic Hydraulic Structures, Yazd, Iran
<i>Lessons Learnt from the Sustainability of Hydraulic Heritage. Case Study Qanats</i> |
| 19:30 | | <i>dinner</i> |

Friday, June 2, .2017

International Workshop

Archaeohydrology: A Discipline to be Formally Established?

Facilitators:

Hans Georg Gebel, Freie Universität Berlin
Matthias Grottker, Fachhochschule Lübeck

Attending colleagues from the various disciplines involved in hydroarchaeological and archaeohydrological research are invited to contribute their ideas and advice on future water-related research in archaeology, explaining for example;

- 1) Their understanding of methodological and (inter-) disciplinary concepts.
- 2) The synergetic input that their discipline can provide to interdisciplinary water-related research.
- 3) How we can cope with subjects of applied archaeohydrology, such as the need for hydraulic heritage protection or for the sustainable use of experience in traditional water management.

Participants may advocate (or criticize) the need to establish archaeohydrology as a university subject and independent discipline. Discussion should highlight the disciplinary and methodological frameworks and ingredients in which future water-related research might continue.

As one of the outcomes of the workshop, it is intended to assemble the essential elements and arguments for a paper of understanding to be transferred into a *Call for Establishing Archaeohydrology as a Discipline*. This paper will be circulated for signature after the conference.

Workshop schedule

09:00-09:15 h	Introduction to Workshop by Facilitators
09:15-09:30 h	Short Statement: Example Ephesos for an Interdisciplinary Work (Gilbert Wiplinger)
09:30-10:30 h	Short Statements by the Attending Disciplines' Representatives (Saket Pande; Gül Sürmeli Hindi; further statements on request)
10:30-11:00 h	<i>coffee break</i>
11:00-13:00 h	World Cafe* on Archaeohydrology

Table 1 / Facilitators: Sophie Bouffier with Kai Wellbrock

Topics: Definition of archaeohydrology / content of subject area / "Applied Archaeohydrology" / methods / time-space-spectrum / from theory to application / impact on culture and society, and other

Table 2 / Facilitators: Ingrid Hehmeyer with Hans Georg K. Gebel

Topics: Systemic integration and systemic networking with natural sciences / humanities including philologies / social sciences / engineering sciences/ heritage studies, and other

Table 3 / Facilitators: Maurits Ertsen with Matthias Grottker

Topics: Necessity of archaeohydrology in science / culture and society / daily life / employment market / sustainable survival of subject area, and other

World Café Outcomes: Presentation table results and Discussion

13:00-14:00 h	<i>lunch break</i>
14:00-15:30 h	Negotiating Elements and Arguments of a Paper of Understanding: Call for Establishing Archaeohydrology as a Discipline
15:30-16:30 h	Establishing an Expert Network on Core Points of a Research Application and on a Schedule for Further Cooperation

* World Café means: Workshop participants split into three groups / tables moderated by two colleagues. After ½ hour discussion a table group shifts to next table / topic. Moderators then summarize the results of all groups at their table.