

Third International Conference on Archaeological Prospection (1999): Program

Organization Committee: Doris Ebner, Jörg Fassbinder, Walter Irlinger, Robert Hetu, Dorit Reimann, Peter Weinzierl

Host organization: European Geophysical Society EGS

The International Advisory Board will be considered as responsible for the program:

Michel Dabas, Jörg Fassbinder, Walter Irlinger, Jürg Leckebusch, Wolfgang Neubauer, Armin Schmidt

■ Wednesday (September 8)

16:00 – 20:00 Registration: Alte Munze (Old Mint)
Hofgraben 4, 80539 Munich

■ Thursday (September 9)

9:00 – 9:45 **Opening session**

9:45-10:00 Break and Souvenir picture

Aerial Prospection and Remote Sensing

10:00 – 12:00 Oral session

Chair: Tomek Herbich

K. Leidorf

Aerial archaeology in Bavaria

M. Brown

Macro- and micro-land division in the later prehistoric period:
Aerial survey, pit-alignments and GIS in South-East Scotland

M. Doneus, C. Gugl

Interpretation and mapping of aerial photographs using digital
photogrammetry and GIS

B. Song

Aerial archaeology in China: possibilities, perspectives
and results

D. Donoghue, C. Brooke

Airborne thermal prospection in the 8-12 micro meter
wavelength range

G. Leroux

Aerial prospection at low altitude in Brittany and Pays de la
Loire: region, results and synthesis of 1989-1999 researchs

12:00 – 13:30 Break

Radar Prospection

13:30 – 15:30 Oral session

Chair: Neil Linford

M. Dabas, C. Camerlynck, G. Bossuet

Detection of neolithic cultural layers by GPR in a lacustrine area:
the case of Chalain (Jura, France)

D. Goodman, Y. Nishimura, S. Piro

High-resolution GPR surveys for archaeological prospections,
data acquisition and elaboration techniques

J. Leckebusch, R. Peikert

Automated extraction of 3-D features from georadar data for
interpretation and visualization

Y. Nishimura, D. Goodman

A trial GPR survey for accomplishment of deeper penetration
in wet soil conditions

H. Kamei, H. Igarashi, Y. Ueda

FM-CW GPR and its signal processing

W. Neubauer, A. Eder-Hinterleitner, S. S. Seren, P. Melichar

Integrated geophysical prospection of Roman villas in Austria

15:30 – 16:00 Break

Resistivity Prospection, Electromagnetic Prospection, Prospection Generally

16:00 – 18:00 Oral session

Chair: Salvatore Piro

A. Schmidt

Recent work on pseudosections for archaeology

I. Trinks, H. Stümpel, S. Lorra

Integrated geophysical surveys for archaeological prospection
– new results

S. Groh, W. Neubauer, A. Eder-Hinterleitner

A resistivity survey to locate the forum of the Roman town
Flavia Solva (Austria)

B. Hoffmann, A. Neville, F. Teichner, D. Wooliscroft

The first geophysical survey at the Roman villa of Milreu
(Algarve/Portugal)

W. Edwards, M. Okita

Application of GPR to the study of subterranean chamber
graves in Kyushu, Japan

C. F. Gaffney, J. A. Gater

Popularising archaeological geophysics: the “Time Team”
experience on British Television

20:00 **Wellcome Party**

■ Friday (September 10)

Modelling, Magnetometry

9:00-11:00 Oral session

Chair: Michel Dabas

A. Eder-Hinterleitner, W. Neubauer, P. Melichar

Magnetic modelling for the 3D reconstruction of the neolithic
circular ditch system of Steinabrunn/Austria

M. Kandler, M. Doneus, A. Eder-Hinterleitner, P. Melichar,
W. Neubauer, S. S. Seren

Carnuntum – The largest archaeological landscape in Austria
and the impact of archaeological prospection

P. Hirschegger-Ramser, P. Ferschin, M. Kandler, W. Neubauer

Computer aided virtual reality reconstruction based on
prospection data. An example from the Roman town
Carnuntum, Austria

C. W. Pierce, C. A. Shell

Three dimensional geophysics and visualization

C. Batt

The use of in situ magnetic susceptibility measurements to interpret archaeological deposits

M. Cole, A. David, J. W. E. Fassbinder, N. Linford, P. Linford, A. Payne

Comparative high resolution caesium vapour and fluxgate gradiometer survey at a range of archaeological sites in England

11:00 – 11:30 Break

Magnetometry

11:30 – 12:50 Oral session

Chair: Juerg Leckebusch

B. S. Ottaway

Archaeological relevance of CS-Magnetometry

W. Neubauer, A. Eder-Hinterleitner, P. Melichar

Large scale geomagnetic survey of an early neolithic settlement in Lower Austria (5,250-4,950 B.C.)

S. Buteux, C. Gaffney, J. Gater, S. Oviden-Wilson

Fluxgate, Caesium Vapour and excavation: establishing the validity of high sensitivity and high sample density magnetic measurements

G. N. Tsokas, R. O. Hansen

The use of complex attributes in interpreting magnetic data from archaeological sites

12:50 – 14:00 Break

Magnetometry

14:00-16:20 Oral session

Chair: Armin Schmidt

A. Gibson, H. Becker

Archaeological prospection at the Hindwell neolithic enclosure in the Walton Basin, Wales, UK

E. Lueck, M. Meyer

Geophysical preparation of an archaeological excavation in the Highlands (Mardorf, Hessen)

J. J. M. Wippert

Integrated archaeological prospection: some case studies

C. Benech, G. Desivignes, A. Tabbagh

Simultaneous interpretation of electromagnetic and magnetic data using linear filtering

A. Payne

Functional variability in Wessex Hillforts: new evidence from geophysical survey

M. Posselt, B. Zickgraf

Magnetometer survey at the early La-Tène barrow at Glauberg, Germany and its environs

T. Weski

The value of prospection from a users point of view

16:20 – 16:30 Break

Fig. 2. The city of Kelheim and the "Liberation Hall" in the background (Bayerisches Landesamt für Denkmalpflege, Photograph Klaus Leidorf, Archivnr. 7136/082a, 20.8.1991)

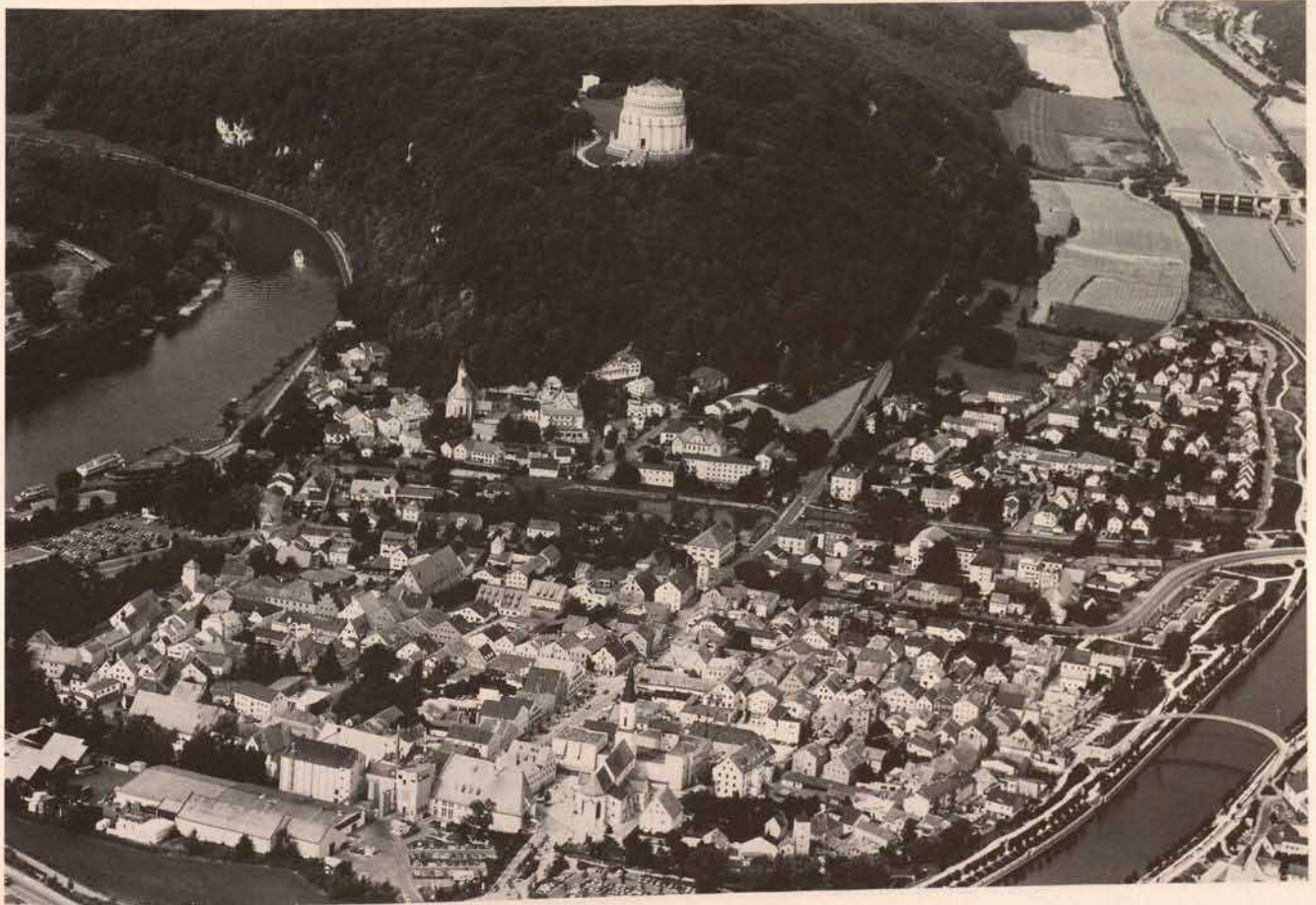




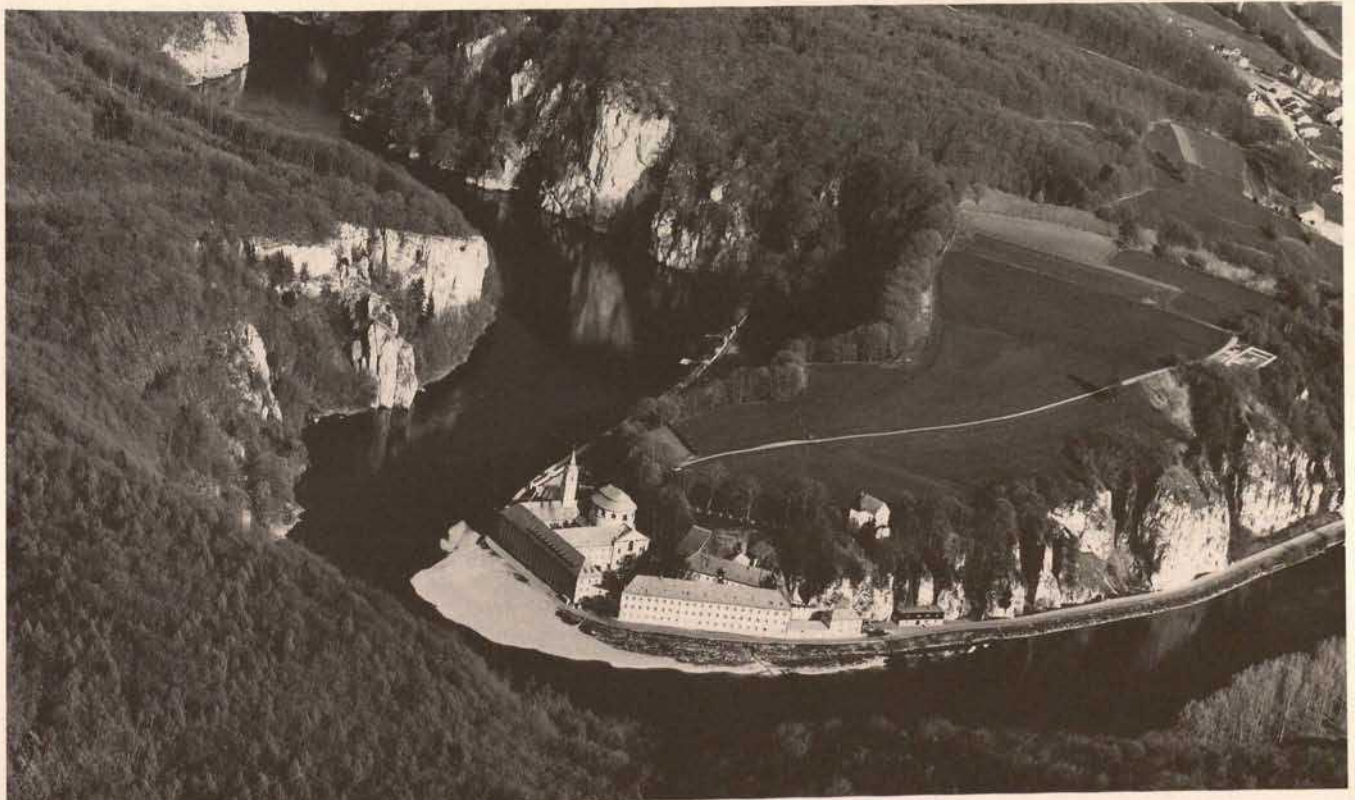
Fig. 3. Airphoto of the "Liberation Hall" on a cloudy day (Bayerisches Landesamt für Denkmalpflege, Photograph Otto Braasch, Archivnummer 7136/015a, 4.12.1986)

16:30 – 20:00 Poster session

1. F. Almeida, R. Moura, A. Rocha, A. Silva, C. Martins
Geophysical techniques and GIS applied to archaeological prospection in Porto Old Town Center (Portugal)
2. C. Benech, N. Florsch, J. C. Gaborit, G. Thebaut
Integration of geophysical survey into archaeological prospecting strategy: the case of Apamée upon Euphrat
3. G. Bossuet, P. Barral, C. Petit, C. Camerlynck, M. Dabas
Diachronic interpretation in magnetic prospection. The archaeological sites of Ribemont-sur-Ancre (Somme, France) and Authumes (Saône-et-Loire, France)
4. T. C. Brunet, A. U. González, V. M. Herrera, J. M. V. García, A. L. R. Alcalde, S. O. Villajos
Remote sensing analysis and the design of archaeological prospections: a regional study of settlement patterns at Eastern Andalusia (Spain)
5. F. Cammarano, B. Di Fiore, P. Mauriello, D. Patella
Application of a 3D probabilistic multi-methodological tomography to cultural heritage
6. A. C. De Lima Canto
Spatial, geoarchaeological and palaeoenvironmental analysis of the archaeological site "Furna do Estrago" – Brazil
7. B. Cech, G. Walach
The importance of integrated prospection techniques for archaeological investigations on mining sites in rugged alpine topography
8. H. Chapman
The prospection of archaeological features in wetland landscapes: an approach using cell-based GIS modelling of high resolution GPS data
9. M. Chlodnicki, T. Herbich
The magnetic survey at Tell el Farkha, Egypt
10. F. Chouker
Archaeological site investigation by means of geoelectric measurements in Tel-Halawi (Northern Syria)
11. R. Chujo
Assignment of mummies in Chusonji temple to Fujiwara chieftains with the aid of NMR for silks in these coffins
12. Z. Czajlik
Archaeological aerial photography in Hungary: A landscape vanishes
13. M. Doneus, W. Neubauer, A. Eder-Hinterleitner
3D reconstruction of archaeological sites based on prospection data
14. M. G. Drahor, E. Sengül
Large scale geophysical investigations in Ulucak Höyük archaeological site
15. G. Fuchs, I. Kainz
Archaeological prospection of the Koralmbahn in Austria
16. V. V. Glazounov
Archaeomagnetic object dating at conditions of shape magnetic anisotropy

17. H. J. Greenfield
Surveying early agricultural sites in Southern Africa: the application of the Geonics EM-38 conductivity meter to the Early Iron Age site of Ndongondwane, South Africa
18. K. Hamilton, J. G. McDonnell, A. Schmidt
Assessment of early lead working sites in the Yorkshire Dales by archaeological prospection
19. A. Hesse
The ten commandments of the genuine surveyor in archaeology
20. G. Indruszewski
Geophysical prospection in the Oder Mouth area – contributions to archaeological target verification
21. G. Indruszewski, W. Karrasch
Aerial reconnaissance as an aid to reconstruct coastal geomorphological processes.
22. U. Koppelt, N. Abrahamsen, G. Dittrich, J. Frandsen, Y. Hofmann, C. Kroner
Interpretation enhancement of archaeometric investigations due to joint interpretation of geophysical fields
23. N. Kozhevnikov
Barun-Kahl: history of purely geophysical discovery of the oldest iron age site at the Western Shore of Lake Bakail
24. R. K. Krivanek
Contribution of caesium magnetometer prospections to archaeological projects in Bohemia
25. S. Lemke, L. Mankowski, D. Hayes, S. Martin
Geophysical characterization of a sugar mill on St. Croix, U.S. Virgin Islands
26. M. Martinaud, F. Madani
Resistivity vertical filtering for horizontal prospecting. Physical basis and archaeological case histories
27. Y. Marukawa, Y. Lu, H. Kamei
Reconstructing the 3D distribution of the magnetic field data and its application
28. P. Mauriello, D. Monna, I. Bruner
Development of a system of geoelectrical data acquisition and elaboration
29. C. Meyer, E. Danckwardt
DC Tensor geoelectrics – now applicable to archaeological prospection
30. W. Neubauer, A. Eder-Hinterleitner, M. Doneus, P. Melichar
Archaeological prospection of the middle neolithic site Puch/Kleedorf, Lower Austria
31. W. Neubauer, A. Eder-Hinterleitner, P. Melichar
Geomagnetic survey of the middle neolithic circular ditch system Glaubendorf II, Lower Austria
32. J. Orbons
Prospecting Roman pottery industries in the Argonne, France
33. J. Orbons
Archaeological pioneering prospection in Rumania
34. A. E. Patzelt, M. Waldhör, B. Greiner
Resistivity and GPR survey of two Early Mediaeval grave yards in Southern Germany

Fig. 4. The Weltenburg monastery on the southern bank of the Danube river and the “Weltenburg Gap”, the river’s last preserved natural stretch (Bayerisches Landesamt für Denkmalpflege, Photograph Otto Braasch, Archivnr. 7136/497, 24.4.1985)



35. C. Peters, C. Batt, R. Thompson, I. Dewar, G. Wilmot
Mineral magnetic study of enhanced soils
from Old Scatness Broch, Shetland
36. C. Peters, M. Church, C. Mitchell
Investigation of hearth fuel sources on Lewis using mineral
magnetism
37. M. Posselt, B. Zickgraf
Geophysical prospection of Linearbandkeramik sites in the
landscape archaeology of the Western Wetterau and the
Usinger Becken, Hessen, Germany
38. H. Sakai, K. Maekawa, T. Uno
A comparative study of electromagnetic survey
and excavation results at archaeological sites containing
kilns and buildings
39. N. Schleifer, J. Bigalke, M. Koetter, A. Junge
Geophysical application of the induced-polarization (IP)-
effect for the detection of medieval wells
40. A. Schmidt, R. Coningham
Archaeological geophysics in South Asia
41. G. Schönfeld
Wetland-Archaeology in Lake Starnberg, Bavaria
42. R. W. Vernon, G. McDonnell, A. Schmidt, M. Fletcher
Geophysical surveys on two Yorkshire blast furnace sites,
England
43. A. R. Volker
Geophysical mapping of archaeological structures
in Sachsen-Anhalt (Germany)
44. R. Walker, C. Adam, L. Somers
Processing and presentation of geophysical data
45. R. Zantopp
Archaeological prospection from the air in the district
around the open mining of the Cologne Basin
in Nordrheinwestfalia/German
46. M. Zupancic, D. Najdovski
Decoding an invisible Late Roman inscription using GPR
imaging and EM modelling

■ Saturday (September 11)

8:00 ~ 21:00 Field trip:

The city of Kelheim and the archaeological museum (Fig. 2);
Liberation Hall (Fig. 3); Celtic Oppidum Michelsberg (Fig. 1);
Monastery of Weltenburg (Fig. 4).

Methods and Equipment used by the Department Archaeological Prospection and Aerial Archaeology at the Bavarian State Conservation Office, Munich

J. W. E. Fassbinder, W. E. Irlinger
Combining magnetometry and archaeological interpretation:
a square enclosure in Bavaria

H. Becker
Duo- and quadro-sensor configuration for high-speed/high-res-
olution magnetic prospecting with caesium magnetometry

Prospection in cooperation with foreign authorities

J. W. E. Fassbinder, H. Becker
Magnetic prospection of a Megalithic Necropolis at Ibbankatuwa
(Sri Lanka)

J. W. E. Fassbinder, H. Becker
Magnetometry in the garden of the Sigiriya rock fortification
(Sri Lanka)

H. Becker
In search for the city wall of Homers Troy – development of
high resolution caesium magnetometry 1992–1994

H. Becker, J. W. E. Fassbinder, F. Chouker
Magnetic and resistivity prospection in Munbaqa-Ekalt
(Syria) 1993

H. Becker
Ultra high resolution caesium magnetometry at Monte
da Ponte, Concelho Evora, Portugal 1994–1996

H. Becker, J. W. E. Fassbinder
The discovery of the Royal capital of Awsan at Hagar Yahirr,
Wadi Markha, Yemen by satellite images, aerial photography,
field walking and magnetic prospecting

H. Becker
Discovery of a first Neolithic settlement in the Meseta
of Central Spain near Ambrona (Soria) by caesium magneto-
metry in 1996

H. Becker
Prospecting in Ostia Antica (Italy) and the discovery
of the Basilica of Constantinus I. in 1996

J. W. E. Fassbinder, H. Becker, T. Herbich
Magnetometry in the desert area west of the Zoser's pyramid,
Saqqara, Egypt

H. Becker, J. W. E. Fassbinder
In search for Piramesses – the lost capital of Ramesses II.
in the Nile delta (Egypt) by caesium magnetometry

H. Becker, F. Chouker, J. W. E. Fassbinder, D. Sack,
C. Schweitzer, M. Stefani
Prospection of the Early Islamic residence Rusafat Hisam
(Syria) by caesium magnetometry and resistivity surveying
1997–1999

H. Becker, J. W. E. Fassbinder,
Combined caesium magnetometry and resistivity survey
in Palmyra (Syria) 1997 and 1998

J. W. E. Fassbinder, H. Becker, I. Gerlach
Magnetometry in the cemetery and the Awâm-Temple
in Marib, the capital of the Queen Saba, Yemen

J. W. E. Fassbinder, H. Becker
Magnetometry of the prehistoric necropolis Suchanicha
in the Minusinsk Basin, South Siberia

H. Becker, J. W. E. Fassbinder
Magnetometry of a Scythian settlement in Siberia near Cich
in the Baraba steppe 1999