

**GIA**

**Groningen Institute of Archaeology**

**Annual Report 2005**

University of Groningen



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## FOREWORD

In 2005 an international panel assessed GIA's research over the period 1998-2003: Neil Roberts (Plymouth, United Kingdom, chair), Reidar Bertelsen (Tromsø, Norway), Lars Larsson (Lund, Sweden) and Frank Vermeulen (Ghent, Belgium) evaluated the research of GIA in May 2005. The overall assessment of the institute was positive: *Quality, very good; Productivity, very good; Relevance, excellent; Vitality and feasibility, very good.* For details of the assessment, readers are referred to GIA's website.

The year 2005 was overshadowed by the death of Sytze Bottema on 21 November. We will not only miss a renowned scholar and his expertise in the field of palynology but also an inspiring friend. Personally, I will never forget our coring campaigns in the Eastern Mediterranean: Sagalassos, Halos, Zerelia, Delphinos, Gavdos, Xyniai, Mavrikopoula and Konispol. In Konispol, Albania, each evening jackdaws gathered in front of the old gymnasium and Sytze lectured in the open air about their social life and related topics to an audience of surprised Albanian and American archaeologists.

Nanka Karstkarel defended her thesis on Thursday 9 June. The title of her thesis was '*Changes in Shelf-ice extent in West Antarctica between 1840 and 1960*'. No fewer than five PhD students started their projects in 2005: Rik Feiken, Tymon de Haas, Alice Overmeer, Ricardo Roura and Johan Thilderquist. Details about the projects may be found on GIA's website.

Ray Newell retired in July, after a period of 38 years at the institute. Ray will continue his research on European Mesolithic and Ethnoarchaeology in the United States. Gertie Entjes worked for a period of 30 years in the paleobotany laboratory; she retired in December.

The number of GIA excavations in The Netherlands as well as abroad is steadily increasing. Members of the institute, technicians, students and volunteers continued the excavation of a settlement in Midlaren near the Zuidlaren Lake. The settlement was inhabited from the Bronze Age until the Late Middle Ages. Other members of the institute conducted fieldwork in Swifterbant, Deventer, Leeuwarden and Wetsingermaar (The Netherlands). GIA was also active abroad where fieldwork was conducted in the Pontine region and Calabria (Italy), Halos (Greece), the Fayum (Egypt) and on Spitsbergen in co-operation with foreign universities and archaeologists in the respective areas.

The annual meeting of GIA members, support staff, students and alumni was organized on Friday 9 December. Ten papers on current research were read in '*Het Heerenhuis*'. New issues of *Paleo-Aktueel* and *Palaeohistoria* were presented at the social meeting after the lectures. The Advisory Board met twice in 2005 and GIA members met three times with the Director to discuss the state of affairs of the institute.

As in previous years the annual report contains overviews of the research clusters, the postdocs and PhD students and a list of publications. More information may be found on the institute's website: <http://www.rug.nl/let/gia>

Reinder Reinders

## **1. GRONINGEN INSTITUTE OF ARCHAEOLOGY**

The Groningen Institute of Archaeology (GIA) was established on 23 November 1995. Before 1995, archaeological research within the Faculty of Arts had been organized into four separate departments: the Biologisch-Archaeologisch Instituut, the Department of Classical Archaeology, the Department of Languages and Cultures of the Near East, and the Department of Arctic Archaeology.

### **1.1 INSTITUTIONAL EMBEDDING**

The Groningen Institute of Archaeology is a research institute within the Faculty of Arts of the University of Groningen, and is responsible for all archaeological research within the University. Nationally, GIA is associated with ARCHON, the Dutch research institute and graduate school for archaeology, which comprises archaeology departments at five universities (University of Amsterdam, Vrije Universiteit Amsterdam, University of Groningen, University of Leiden, Radboud University Nijmegen), and the National Service for Archaeological Heritage (ROB) at Amersfoort.

Within the University of Groningen, GIA is associated with the Centre for Isotope Research (CIR), the Department of Molecular Biology of Plants (MBP), the Centre for Ecological and Environmental and Evolutionary Studies (CEES), the Department of Cultural Geography, and other research groups in the Department of Biology and the Faculty of Spatial Sciences.

### **1.2 PROFILE**

GIA engages in fundamental archaeological research with a strong ecological component in the Eurasian, Mediterranean and Arctic regions. Operating within the Faculty of Arts, it undertakes all the ecological-archaeological and cultural-archaeological research that is carried out by the University of Groningen. GIA stimulates and integrates fundamental research on past human societies and their environments, from the level of Palaeolithic hunter-gatherers to that of historical complex urban societies. The Institute facilitates research and archaeological fieldwork through its laboratories, drawing facilities, documentation, GIS, and technical support. In addition, GIA co-ordinates the PhD student training programme and stimulates the dissemination of knowledge and culture to society at large.

### 1.3 STAFF

#### **Director**

Reinders, Prof. Dr. H.R.

#### **Advisory board**

Attema, Prof. Dr. P.A.J.

Lanting, Drs. J.N.

Galestin, Dr. M.C.

Prummel, Dr. W.

Satijn, Drs. O.

#### **Managementteam**

Attema, Prof. Dr. P.A.J.

Cappers, Dr. R.T.J.

Hacquebord, Prof. Dr. L.

Raemaekers, Prof. Dr. D.C.M.

Reinders, Prof. Dr. H.R.

#### **Members**

Attema, Prof. Dr. P.A.J.

Bos, Dr. J.M.

Cappers, Dr. R.T.J.

Galestin, Dr. M.C.

Hacquebord, Prof. Dr. L.

Kooi, Dr. P.B.

Lanting, Drs. J.N.

Leusen, Dr. P.M. van

Newell, Dr. R.R.

Nicolay, Dr. J.A.W.

Nijboer, Dr. A.J.

Plicht, Dr. J. van der

Prummel, Dr. W.

Raemaekers, Prof. Dr. D.C.M.

Reinders, Prof. Dr. H.R.

Stapert, Dr. D.

Veluwenkamp, Dr. J.W.

Voutsaki, S.

#### **PhD students**

Abbink, Drs. B.P.

Alessandri, Drs. L. (Ubbo Emmius)

Dam, Drs. K.I.M. van

Devriendt, Drs. I.I.J.A.L.M.

Mulder, Drs. S.A.

Mulders, Drs. K.E.A.

Niekus, Drs. M.J.L.T.

Roura, Drs. R.

Satijn, Drs. O.

Smit, Drs. B.I.

Thilderqvist, Drs. J.G.M.

#### **Post doc**

Loonen, Dr. M.J.J.E.

#### **Support Staff**

Boersma, S.E.

Bolhuis, E.

Entjes-Nieborg, G.

Jacobs, T.P.

Kosters, R.J.

Los-Weijns, M.A.

Maring-Van der Pers, N.D.

Oortmerssen, G.J.M. van

Palfenier-Vegter, R.M.

Steenhuisen, F.

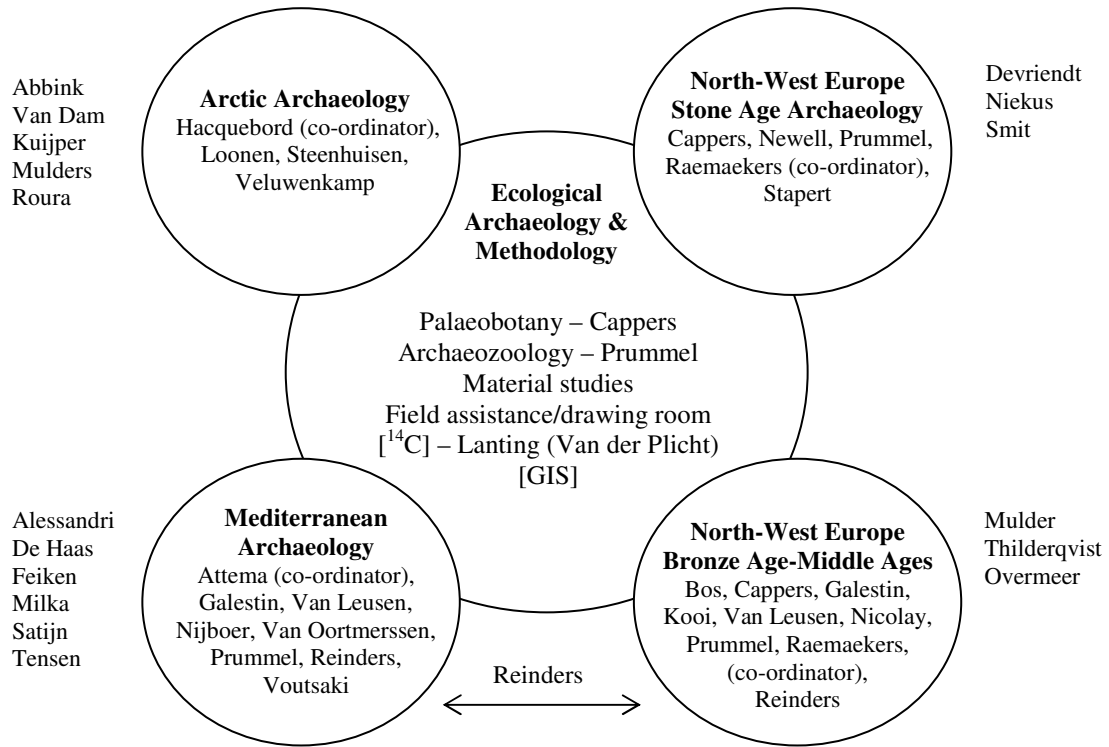
Tiebackx, S.

Tol, L.

Woldring, H.

Zwier, J.H.

## Groningen Institute of Archaeology: Society and Environment



Inside diagram: permanent staff; outside diagram: temporary staff  
Between brackets: associated researchers; between square brackets: associated lab or lab in development

## 2. RESEARCH RESULTS

### Research Programme 2004-2009: Society and Environment

The GIA research programme for 2004-2009 focuses on the relationship between former societies and their environments. A major focus of research is on understanding, on the one hand, how the development of societies has been influenced by environmental factors such as climate, topography, and natural resources, and, on the other hand, how societies and the gradual development of a cultural landscape in which man-made elements predominate have changed the environment. For additional information about the 2004-2009 programme, the reader is referred to GIA's website.

#### 2.1 GENERAL THEMES

##### *Archaeological Heritage Management*

###### *eDNA – e-Depot Nederlandse Archeologie (Van Leusen)*

This national pilot project to investigate the feasibility of web-enabled archiving of primary digital archaeological data, funded by Stichting SURF, was started and completed in 2005. Two showcase project archives have been published on the edna website [www.edna.itor.org](http://www.edna.itor.org), and moves towards a full national archaeological data archive DANS are currently underway.

###### *Predictive Modelling for Dutch Archaeological Heritage Management (Van Leusen)*

Also known as the BBO project, this NWO-funded project was continued in 2005. One edited volume of reports and proceedings (Van Leusen & Kamermans, 2005) was published, and in January a small international workshop was held at RAAP Amsterdam to create a showcase predictive model of the De Borkeld (Overijssel) region, with which new methods incorporating uncertainty can be demonstrated. Preparations were also made for a second expert meeting and edited volume, to appear late in 2006.

###### *Digital research documentation at the GIA (De Haas & Van Leusen)*

In January-April 2005, a pilot project was executed as a part of the national project 'e-Depot Nederlandse Archeologie' (eDNA). Within the project, an inventory was made of the GIA research projects for which digital documentation is available. Subsequently, two projects were selected (the 1991-1993 excavations at Wijnaldum and the Pontine Region Project, 1994-1997); for these two, all available digital files (in total more than 600 files) were collected, described and converted for long-term archiving; the results of the project are available on <http://edna.itor.org/nl/projecten>.

##### *Taphonomy of the archaeological archive*

###### *Digital seed atlas of the Netherlands (Cappers)*

From May 2005 onwards, digital photographs were made for the 'Digitale zadenatlas van Nederland'. Book and website can be used for the identification of subfossil plant remains.



### ***Isotopes in archaeology: diets and chronology***

#### *Chronology of Dutch prehistory and protohistory (Lanting)*

A large part of the available time for research was spent on preparing and writing the chapter on Middle and Late Iron Age chronology in the Netherlands and adjacent areas. Series of new radiocarbon dates on cremated bone make it possible to describe the development in burial customs during these periods in a more detailed way than before.

#### *The Absolute Chronology of the Iron Age in the Mediterranean (Nijboer)*

In December 2005 it was decided to stop actively collecting more radiocarbon dates after receiving more radiocarbon results from Carthage and Huelva, unless someone offers me good samples from a pristine archaeological context. The results are good. In the past years, in collaboration with quite a few colleagues, a good sequence of radiocarbon dates has been gathered for the Late Bronze Age – Early Orientalizing period in *Latium Vetus* and the earliest Phoenician settlements so far excavated in the western Mediterranean (a process that definitely starts from 900 BC onwards). There are still some problems with the sequence obtained for Tarquinia and hopefully Dendrodata will send the last samples for wiggle-matching a tree-trunk tomb at Celano that we collected some years ago.

In the next two to three years I will wind down this project on Iron Age absolute chronology with some papers and hopefully a book.

### ***Vegetation, fauna and the human impact***

#### *Man and animal in the prehistory and protohistory of the north of the Netherlands (Prummel)*

An overview was written for the *Jaarboek ecologische geschiedenis* of the history of the relationship between man and animals in the provinces of Groningen, Friesland and Drenthe from the late Mesolithic until the Middle Ages.

#### *Ritual bones or common waste – A study of bone deposits in Northwestern Europe (Thilderqvist)*

The analyses (and re-examination) and registration of the animal bone material from the Midlaren excavation have been ongoing. This analysis is now almost complete, but lacks some smaller parts of the material, the merging of the data from the different excavations, and the finishing interpretative work. The rest of the time in the autumn of 2005 was spent reading literature, mainly to extend my knowledge of Dutch archaeology and to search for other suitable material to incorporate in my studies, both within the Netherlands and in Northwest Europe in general. In addition, a Dutch-language course was attended during the autumn (4 hours per week for 14 weeks).

### ***Material studies and conservation***

#### *The preservation of archaeological metal finds in soil deposition (Van Oortmerssen)*

A large settlement (Midlaren) near the current lake Zuidlaardermeer was excavated in 2004 and 2005. A surprising result of the archaeological investigations was the relatively high number of metal finds (iron and copper) from a supposedly aerated site.

At the Laboratory for Conservation and Material studies (LCM), the state of preservation of all metal finds was analysed. If necessary, objects were cleaned and treated in order to prevent further deterioration. The results have been used to support a reconstruction of the soil conditions at the Midlaren site, embedded in the general topic of artefact preservation under different soil conditions (in co-operation with J. Nicolay).

*Fabric analysis on ceramics from Latium Vetus (Italy) (Van Oortmerssen)*

This concerns a long-term project on the analysis of inclusions in pottery shards to improve our understanding of pottery production and of local and regional changes in pottery technology in *Latium Vetus*. The analyses contribute to the reading of pottery production and distribution in the region around Rome between 1200 and 300 BC.

See: [www.lcm.rug.nl](http://www.lcm.rug.nl) → research → fabric analysis on ceramics from Lazio, Italy. In 2005 the fabric analysis of the excavation at P13 near Nettuno was concluded (in co-operation with A.J. Nijboer and P.A.J. Attema).

*Conservation of waterlogged wood (Van Oortmerssen)*

Waterlogged archaeological wood is difficult to preserve. The removal of the water leads to unwanted changes in condition and shape. In recent decades, research has been conducted on methods to preserve waterlogged wood without harming shape and condition. Currently, in most cases freeze-drying is applied. Only one company in the Netherlands has the necessary equipment and the technique is rather expensive from a commercial point of view. GIA excavations often uncover artefacts of waterlogged wood. Therefore, the LCM analysed existing techniques. The most suitable technique, rosin/acetone impregnation, was tested for treatment of smaller finds from GIA excavations at the LCM in the future. The test results will lead to the acquisition and employment of suitable equipment for the treatment of small pieces of waterlogged wood (in co-operation with A.J. Nijboer).

## **2.2 NORTHWEST EUROPE: STONE AGE**

### ***Stone Age society: pattern and process***

*Middle and Late Paleolithic of the Northern Netherlands (Stapert)*

Research was conducted on several Middle Palaeolithic finds from the northern Netherlands. The research included an analysis of several hand axe sites from the provinces of Overijssel and Friesland (several sites belonging to Mr I. Vonk in Gaasterland) and finds from several quarries near Rhenen. Most of this work was done with the help of M. Niekus or L. Johansen, or both. Two articles about hand axes from the province of Overijssel were published.

Research on the Late Palaeolithic focused on two sites. First, the Hamburgian material from the site at Sassenhein (Haren) was studied (together with L. Johansen and R. den Boer). Second, a start was made concerning the creation of a digital file of the Hamburgian site at Ureterp, on the basis of an original distribution map made by Bohmers (in co-operation with L. Johansen). Together with G.R. Boekschoten, quite some time was spent in upgrading the Analithic computer package for spatial analysis. Several new modules were added to the package (incl. centroids, area analysis), increasing its value.

*The Mesolithic Occupation in the northern Netherlands: Time, Space and Subsistence (Niekus)*

In 2005, the first part of research into radiocarbon dates for the Mesolithic in the northern Netherlands was completed and a paper on the subject was submitted for publication in *Palaeohistoria*. Co-operation with the Centre for Isotopic Research (CIO) at the University of Groningen has resulted in an extensive database of more than 400 reliable <sup>14</sup>C dates. All radiocarbon dates have been systematically described and analysed for chronological and spatial patterning. These analyses have shown that a significant change occurred in the location of

Mesolithic settlements during the Atlantic period. Before approximately 8000 BP, sites are located throughout the study area, but afterward most sites are situated in river valleys, on lake shores and other 'wetlands'. This remarkable change is most probably related to the transition from coniferous forests to denser woodlands during the Atlantic period, thus significantly reducing hunting possibilities and forcing parts of the population to 'retreat' to more open and articulated environments, e.g. contact zones between uplands and lowlands. This phenomenon has also been recorded in other parts of Europe.

*The late Mesolithic site of Jardinga in the Tjonger river basin (province of Friesland) (Prummel, Niekus, Bottema-Mac Gillavry, Bottema, Cappers, Baak, Van Gijn & Cleveringa)*

A discussion was held on the vegetation and sedimentation history of the Tjonger river valley at the Jardinga site. A start was made with the final writing up of the results of the Jardinga 2002 and 2003 excavations. A preliminary paper was written for the 'Archeologische kroniek van Fryslân over 2003 en 2004'.

*Animal remains from the Mesolithic site Zwolle 1994: Vrouwenlaan /Oude Deventerweg (province of Overijssel)(Prummel)*

A small complex of Mesolithic calcined animal bones from a flint concentration at this Mesolithic and Iron Age site was studied. Most of the fragments were unidentifiable. Bones of hare (*Lepus europaeus*), badger (*Meles meles*) and a large ruminant, presumably a deer species, could be identified.

*Imprints in Funnel Beaker pottery (Prummel)*

The decoration method of two Funnel Beaker pots from the Megalith grave G2 (Glimmen, province of Groningen) was studied with Erik Drenth (ROB). It was proved that the decoration was made with the proximal end of the femur of a long-eared owl, *Asio otus*.

*Prospection and assessment of Stone Age settlements within the excavation of late prehistoric settlements (Smit)*

In 2005, together with Archeologie Deventer, a large-scale excavation was conducted to the south of Deventer. During this excavation archaeological traces from early and late prehistory were unearthed. The research focused on excavation and research techniques to detect and evaluate stone age settlements which have been obscured by later prehistoric activity. During this excavation several zones were discovered with Stone Age material. The second stage of the research, the interpretation of these zones, is in progress.

*Midlaren (Niekus, Raemaekers, Smit & Stapert)*

An isolated Upper Palaeolithic point from Midlaren-'De Bloemert' was studied. This work inspired the development of the typological notion of the 'truncation index'. This idea was then explored using a sample of Hamburgian and Creswellian points, and the truncation index turned out to be a useful instrument. The point from Midlaren could on the basis of this work be classified as more probably Creswellian (rather than Hamburgian). A first article on this work was published in *Paleo-Aktueel* (Stapert, 2005).

The first three researchers worked on an article on the finds dating from the Stone Age and Bronze Age of the Midlaren site. As a by-product of the large-scale excavation of a Roman period settlement, a large number of flint tools from various periods and some pottery from the Neolithic and Bronze Age were recovered. The most spectacular finds were three burials from the Late Neolithic Single Grave Culture.

### ***Origins and spread of agriculture***

#### *Research in Indonesia (Bartstra)*

In 2005, concluding fieldwork was carried out along the stream terraces of the rivers Baksoka (southern Java) and Walanea (southern Sulawesi), with a view to answering the old question of the age of the riverdrift stone artefacts and vertebrate fossils in the areas. These mainly geomorphological observations produced further evidence for new ideas concerning this age (See S.G. Keates & G.J. Bartstra, 2001. 'Observations on Cabengian and Pacitanian artefacts from island Southeast Asia'. *Quartär* 51/52, pp. 9-32).

#### *The Swifterbant culture (Prummel & Raemaekers)*

The fieldwork at Swifterbant continued in 2005 at site S4. This site is considerably better preserved than location S2 of 2004. Analysis of the botanical evidence (Cappers) and zoological remains (Prummel) is in progress. The most spectacular find is the skull of a child (c. five years old) and some vertebrae. An analysis of the burial rituals of the Swifterbant culture (Molthof & Raemaekers, 2005) suggests that child burials are exceptional and always combined with the burial of an adult. The fieldwork in 2006 will reveal whether this assumption holds true.

Research on Late Swifterbant pottery was concluded (Raemaekers, 2005). The analysis was based on a series of <sup>14</sup>C dates on food remains. To underline the interpretation of these dates as too old as a result of a fresh water reservoir effect, the analysis included an overview of all Groningen dates of both cereal grains and food remains.

The animal remains of layer 2 of the 2005 excavation at the Neolithic site S4 were studied. The majority of the preserved remains were calcined, which means that the preservation conditions for uncalcined bone was not optimal. Remains were identified from the mammal species dog (*Canis familiaris*), pig (*Sus domesticus*), cattle (*Bos taurus*), sheep and/or goat (*Ovis aries/Capra hircus*), beaver (*Castor fiber*), otter (*Lutra lutra*), wild boar (*Sus scrofa*), red fox (*Vulpes vulpes*) and red deer (*Cervus elaphus*). Remains of domestic pig and beaver are the most numerous. Birds and fish were represented in small numbers.

## **2.3 NORTHWEST EUROPE: BRONZE AGE-MIDDLE AGES**

### ***Occupation history of the sandy soils***

#### *Farmhouse, farmyard and settlement structures during the Bronze Age and Iron Age in southeastern Drenthe (Kooi)*

This study focused on settlement traces from excavations at the housing estates Angelslo-Emmerhout during the 1960s. Farmhouses from different periods overlap each other and settlement phases shift in time, making a clear picture rather complicated. Changes in house plans reveal alterations in house-building and repairs and also give an indication about changes in farming practices.

#### *A possible central place (Nicolay)*

On the flanks of the natural ridge called the 'Hondsrug', the remains of a settlement complex dating from the Late Iron Age into the Medieval period were unearthed during large-scale excavations (2003-2004). The occupation history starts with several individual, scattered farmsteads. During the Roman period a fixed settlement develops. Although the exact size and layout of this settlement are still unclear, the subdivision into a central living area with houses

and wells, and an area reserved for craft activities (weaving, metal and glass production) can be seen. That the goods produced were not only used locally, but also exchanged in interregional networks is shown by the relatively large number of Roman imports, mainly pottery, fibulae and coins. It will be interesting to compare this site with the well-known settlement of Wijster and several recently excavated settlements in Drenthe. An important question to be asked is how far the concentration of specialized craft activities and the amount of imports point to the specific status of Roman Midlaren as a central place of regional and interregional importance. After the Roman period the picture is again dominated by isolated farmsteads. Occupation continues into the 12<sup>th</sup> century, when the settlement seems to move a little higher up the Hondsrug. Here the villages of present-day Midlaren and Noordlaren develop.

*Handmade pottery (Nieuwhof)*

A large amount of handmade pottery was found during the excavation in Midlaren 'De Bloemert'. All this material was studied. On the basis of this study it was possible to date many of the Midlaren features. It was also possible to calculate the size of the settlement at several periods. The settlement was shown to have been inhabited continuously from the Iron Age until the Middle Ages. The Midlaren pottery types fit in the pottery tradition that prevailed in the Groningen coastal area and nearby Germany. In the Roman period some influences from the south, the so-called Rhein-Weser-Germanische tradition, can be noticed. This influence seems to be limited to individual potters. It is suggested that these potters are women who come from the south, which points to a virilocal marriage system.

*Archaeozoological research (Prummel)*

The animal remains from the site of Midlaren were studied by three students, Johan Thilderqvist and myself. The material, partly hand-collected and partly sieved, dates from the Iron Age, the Roman period, the Migration Period, the Early Middle Ages and the post-medieval period. Since the preservation conditions at the site of Midlaren are poor, the amount of recovered bone material is small. Uncalcined bone, which decays more rapidly than calcined bone, was only preserved in wet contexts, such as wells, pithouses and deep pits. Among the uncalcined bones several closed upper and lower cheektooth rows from cattle and horse were found, obviously from unbutchered skulls. They perhaps originate from ritual deposits. A large cremation pit, dated AD 600-800, proved to be a deposit of cremated bones from several domestic mammals. The final report of the material will be written in 2006. The first step is to sort the bones by period on the basis of the pottery and other archaeological sources of information.

*Roman finds (Galestin)*

The numerous Roman pottery fragments from the excavation at Midlaren were identified and dated. The fragments date from the second to the fourth century AD. The different Roman pottery types were suitable for different purposes, like food storage, food processing and food consumption. The questions why and how this pottery could have arrived in Midlaren, far from the Roman border, have yet to be answered. The pottery assemblage from Midlaren has been compared with other assemblages of Roman pottery from the northern part of the Netherlands to find an answer to these questions.

*Archaeozoological research from the Hunze near Plankensloot (province of Drenthe)(Prummel)*

Animal bones of medieval or post-medieval date, found during dredging activities in the Zuidlaardermeer, were studied with a student. They presumably originate from a ford over the river Hunze.

*The Episcopal manor of Calthorne near Diever (Reinders)*

In December 2004 in Kalteren, a medieval site was uncovered by Archaeological Research & Consultancy at the edge of the stream valley of the headwaters of the Wapserveense A river. A 1.6-hectare farmyard, enclosed by a ditch, contained the remains of a farmstead that was 50 metres long and 17 metres wide, a large barn, granaries and a well. Tree-ring analysis revealed that the farmstead was built shortly after 1150. In 2005 written sources about the occupation history of the hamlet of Kalteren were studied. The extent of the site and the dimensions of the farmstead suggest that this was the Episcopal manor of Calthorne, which is mentioned in a deed in 1209. Apart from the *curia Calthorne*, which was held in fief by Wouter Sturm, the deed also mentions a nearby *mansus*, a farmstead belonging to the bishopric. This hypothesis is supported by the fact that fields slightly to the southwest of the excavation site are named *Olde Hof*. The unusual location at the edge of a stream valley suggests that livestock farming – and in particular cattle-raising – was an important activity at the site. It is also possible that a location at the headwaters of the Wapserveense A would have made it easier to transport agricultural products by water to Steenwijk. The Episcopal property is at the centre of a settlement that had grown to about nine farmsteads by about 1300. It was still an important settlement at the beginning of the 17<sup>th</sup> century. However, the later 17<sup>th</sup> century saw the beginning of a decline that continued into the 18<sup>th</sup> and 19<sup>th</sup> centuries.

***Exploration and exploitation of the coastal area***

*Settlement history of east Fivelgo (province of Groningen) (Kooi)*

The development of this part of the coastal area was analysed, based on finds, maps and publications by Roeleveld and Miedema (AIVU). There is a striking difference between the northern marine clay area and the southern part originally covered by peat. The habitation pattern shows a decisive influence of the sea and especially of the river Eems.

*Handmade pottery from Hoxwier (province of Friesland) (Nieuwhof)*

Some years ago, during an excavation in the *state* Hoxwier near Mantgum, the remains of a Late Iron Age / Early Roman terp were partly uncovered. As the terp remains were in the location line of a new waterway, features were documented and finds were retrieved. These finds, mainly consisting of potsherds and animal bone, were saved from oblivion. The potsherds were studied and features were dated, so that animal bone can now be studied as well.

*Archaeozoological research of the terpen (wierden) area (Prummel)*

The report of the research into the animal remains from Wierum (province of Groningen) (studied in 2004) was written in 2005 and will be published in 2006. The animal remains from Iron Age and Roman period layers of the wierde Englum (excavation 2000) were studied with a student. The results will be used in the study of the livestock composition on the terpen in various environments and through time. Remarkable finds were bones of wild boar (*Sus scrofa*) and grey seal (*Halichoerus grypus*). A paper was written together with R.T.J. Cappers on plants and animals in the salt marsh area for the book accompanying the exhibition ‘Professor van Giffen en het geheim van de wierden’ in the Groninger Museum. The topics discussed are the wild vegetation and the wild fauna of the salt marsh area, arable farming and animal husbandry on the salt marsh, the impact of pasturing on the salt marsh vegetation, the ritual use of animals and the impact of the building of dikes on vegetation and fauna.

### ***Interrelationships, exchange and trade***

#### *Non-Roman finds from Roman contexts (Galestin)*

Local handmade pottery has been discovered in several Roman military camps. The pottery appears not only to have come from the region around the camp but also from distant regions. Native pottery was also made by ethnic groups in the Roman army, for instance the Frisians in camps along Hadrian's wall. The purpose of this research is to find out what the function of this category of pottery was and who was making these pots, the soldiers or their Frisian female relatives.

#### *Gold bracteates from the Frisian terp region (Nicolay)*

Since the introduction of the metal detector during the 1980s in the province of Friesland, a surprising number of new finds from the terp region have been made. Among these finds are two gold bracteates of Scandinavian type, dating from the early 6<sup>th</sup> century AD. Together with several older finds (six bracteates from a hoard and three single bracteates) these pendants point to strong cultural and political-religious relations between the Frisian terp region and the Scandinavian world. It is assumed that the gold bracteates reflect the arrival of Jutish immigrants in the terp region and that these new people played a key role in the process of power formation that can be seen in the following century. The results are published in this year's volume of the *Vrije Fries* (No. 85).

#### *Dutch clinker-built ships in the 15<sup>th</sup> and 16<sup>th</sup> centuries (Overmeer)*

In July 2005, PhD research started on late medieval clinker-built ships found in the Netherlands. The Dutch clinker-built ships show characteristics found in the hitherto known medieval shipbuilding traditions in Scandinavia (with rove and rivet, and caulked with hair), the Baltic (with small treenails) and the Dutch IJsselmeerpolders, the area of reclaimed land in the former Zuiderzee (caulked with moss). However, none of these ships can be classified under one single tradition. This PhD research attempts to allocate the Dutch clinker-built ships, with their deviant features, to the medieval shipbuilding traditions of Europe. The activities of 2005 consisted mainly of literature research, the production of a research plan and the studying of the construction of the largest clinker-built ship found in the Netherlands, the U 34.

#### *Roves and Rivets from Wijnaldum (Reinders)*

The results of the investigation of roves and rivets from the early medieval dwelling mound Wijnaldum (Frisia) were presented at a congress in Oslo. The finds from Wijnaldum, a hull fragment from Dorestad and roves and rivets from early medieval cemeteries in Oosterbeintum and The Hague, are indications for the presence of clinker boats in the Netherlands during the period from the 5<sup>th</sup> to the 9<sup>th</sup> centuries AD.

#### *Migration Period and following centuries (Bos)*

Inventories of important find groups from the Migration Period (Anglo-Saxon pottery from the Northern Netherlands; cruciform brooches from Friesland) resulted in theses and provisional papers (see Publications). The general introduction to the Corpus of Medieval Brooches from Friesland was prepared for publication, as was the publication of the first part of the catalogue, on small equal-armed brooches (174 finds) (both *Palaeohistoria*).

## 2.4 MEDITERRANEAN ARCHAEOLOGY

### *Centralization of settlement, urbanization and colonization processes, land use*

#### ITALY

##### *Pontine Region Project (Attema)*

Subproject: Carta Archeologica del Comune di Nettuno (Nettuno project)

In February and in June/July, staff and students of GIA carried out a second survey and material campaign to collect the necessary data for an archaeological map of the parish of Nettuno from the Bronze Age to the Late Roman period. Not yet surveyed parts of the landscape were covered and pottery from surveyed sites was processed. Much work was also done on the local museum collection that is now almost wholly inventoried, drawn and described. Part of the collection was documented using a 3D scanner. In 2006, a final campaign will be held to round off the project and prepare the publication.

##### *The Romanization of the Pontine Region (De Haas)*

This PhD project started in September 2005. It focuses on an in-depth analysis of developments between the 6<sup>th</sup> and 1<sup>st</sup> centuries BC and emphasizes the dynamics of rural exploitation systems as studied through landscape archaeological (survey) methods.

From September-December, work focused on collecting data from various studies and bringing these data together into one database, on which later analysis will be based.

##### *A socioeconomic and political landscape archaeology of the transition between Late Antiquity and the Medieval period in Lazio (Satijn)*

In this project the digital cartographic base for the dissertation was finished as well as the topographical database based on the study of literature. Part of the dissertation on toponymy and historical cartography was written, as well as the introductory part. The year 2005 ended with a stay in Rome (Royal Dutch Institute in Rome) where the final data were collected for the chapters that are still to be written.

##### *Landscape and human settlement in protohistoric southern Latium (Alessandri)*

In this project the phase of data collection and dating of all protohistorical sites in the study area was concluded, resulting in a comprehensive catalogue on which the analysis of site data in the Pontine Region and adjacent Alban Hills will be based. In addition, the researcher prepared his graduate thesis for publication in the British Archaeological Reports series.

##### *Raganello Archaeological Project (Attema & Van Leusen)*

The campaign of October 2005 was dedicated to the preparation of the second preliminary report (foreseen for late spring 2006) and to additional fieldwork at sites documented in previous campaigns. Some 170 sites in the Raganello watershed were defined and described, and the diagnostic pottery from a number of these was catalogued and inked for publication. Fieldwork included the mapping, by Total Station, of a large Hellenistic rural complex and three protohistorical village sites. Within the framework of the VIDI project 'Hidden Landscapes', geoarchaeological investigations were carried out into site formation processes at various locations while a pilot survey was carried out to prepare for next year's survey campaign. The discovery of a rural pattern dating to the Final Bronze Age was a remarkable result.



*Hidden Landscapes (Van Leusen)*

The Hidden Landscapes project began in mid-2005 when H. Feiken was appointed to a PhD position for the geoarchaeological research. The startup phase has been used mostly to collect literature and digitize cartographic and other datasets needed for detailed landscape classifications, and preparatory field campaigns were conducted both in the Pontine region and in the Raganello watershed to assess ways in which these upland and highland landscapes can be investigated in the future, as well as to develop local contacts. The fieldwork consisted of visits and revisits to known archaeological and pollen sites, a few trial surveys, and a programme of soil sampling for magnetic susceptibility readings.

*Geoarchaeological approaches to the Hidden Landscapes of Italy (Feiken)*

This PhD project started in June 2005. The aim of the project is to study the protohistoric systems of settlement and land use in two sample areas (in the Italian regions Lazio and Calabria) within the framework of a detailed geoarchaeological analysis, which will take into account both the possibilities afforded by the landscape in the past, and the geological and anthropogenetic processes that determine how much of these landscapes is in fact visible archaeologically. The central thesis to be tested is the existence of 'hidden landscapes', i.e. significant portions of the archaeological record which have so far remained undetected and unrecorded. In October 2005 a geomorphological map of the Raganello watershed area was made. The map is based on fieldwork and topographic information. In Autumn 2005 a draft version of the geomorphological map of the Lepine Mountains was completed; this map is based on stereoscopic air photo research and topographic information.

*Centralization of settlement, urbanization and colonization processes (Nijboer)*

With regard to research in Mediterranean Archaeology, three publications were written in 2005, partially based on research done in 2004, and two volumes were edited:

A paper on the beginning of the Orientalizing phenomenon in Italy around 800 BC (in *Festschrift Peroni*); A paper on the final report of the GIA excavations at P13 near Nettuno (to be published in *Palaeohistoria*. In co-operation with P.A.J. Attema & G.J.M. van Oortmerssen); An introduction paper on the social-economic changes in Italy from 1200 to 500 BC (*Organizzazione della produzione e modalità dello scambio dal Bronzo finale al periodo arcaico*. In *Atti della XXXIX Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria. Materie prime e scambi nella preistoria italiana, Firenze, 25-27 novembre 2004*); Nijboer was co-ordinating editor of the Proceedings of the 6<sup>th</sup> Conference of Italian Archaeology held in Groningen, April 2003. The Proceedings were printed by BAR in December 2005. It is a substantial publication consisting of two volumes each containing 123 papers.

## GREECE

*The Middle Helladic Argolid Project (Voutsaki)*

In 2005, direction and co-ordination of the MH Argolid Project continued. I oversaw the osteological examination of 2 important MH sites, arranged for the human bones to be sampled for <sup>14</sup>C, DNA and stable isotopes analyses, and planned the publication of the results which are now becoming available. In addition, a new subproject was initiated, the final publication of the MH tumuli from Argos, and preliminary visits to see the material were carried out. Work on the question of gender representation in the Shaft Graves of Mycenae was also conducted; the work will lead to an article on the topic.

*The analysis of the funerary data from the Middle Helladic cemeteries of Lerna and Asine, Argolid, Southern Greece (Milka)*

In 2005 the burial data from the cemetery of Lerna (collected in 2004) were further analyzed. Special attention was paid to synchronizing the various dating systems applied to Lerna graves and also to the relationship between graves and houses.

Furthermore, the burial data from Asine, the second most important site in the Argolid, were collected. First, the burial offerings were systematically re-examined and photographed at the Nauplion Museum. An electronic archive of all the available grave photos was also created. During a second stage, all the available archaeological and anthropological information from the three cemeteries of Asine were encoded into a relational database. In total 148 burials were included. The type, size, construction and orientation of the tombs, the burial offerings, the sex and the age of the deceased and the position and orientation of the body together with any evidence of ritual behaviour were used as tools to detect variation among the burials and among the different cemeteries.

*The Southeast Gate of New Halos (Reinders)*

The excavation of the Southeast Gate of New Halos was continued in 2005. The 2005 campaign focused on the excavation of a small building built against the northeast wall of the gate. Two olive presses came to light which are an indication of the activities in this area in the period after the destruction of the gate when the complex was used as a farm. Objects from the excavation date to the period 260-220 BC, but in 2005 a few ceramics from the beginning of the 2<sup>nd</sup> century BC were also found. In addition to the find of a hoard of 12<sup>th</sup>-century Byzantine coins in 2004, another eight coins belonging to the same hoard were found during the 2005 campaign. At the end of the excavation the whole site was cleaned, and the walls of the gate and surrounding structures were measured. Aerial photographs were taken which provide an excellent view of the remains.

*Archaeozoological research of the Southeast Gate of New Halos (Prummel)*

The identification of the animal remains from the Southeast Gate houses (260-220 BC) was continued in July 2005. The material is characterized by high proportions of wild animals: red deer (*Cervus elaphus*), wild boar (*Sus scrofa*), red fox (*Vulpes vulpes*) and hare (*Lepus europaeus*) are better represented than in other Hellenistic sites. Marine molluscs and wild birds are well represented, and fish and crabs in smaller numbers. Two extremely large *Athene* sp. (type of little owl) bones were compared with *Athene* sp. bones from a cistern in Kárystos (Évia island) with the object of establishing the taxonomic position of the material.

*Ancient Monuments and Modern Identities: towards a history of Greek Archaeology (Voutsaki)*

In 2005, editing (with Prof. P. Cartledge, University of Cambridge) of a volume entitled *Ancient Monuments and Modern Identities: towards a history of Greek Archaeology* continued. The manuscript will be sent to the publishers (Ashgate, London) in spring 2006.

## 2.5 ARCTIC ARCHAEOLOGY

### *Exploration and exploitation of the polar areas*

#### *LASHIPA, Spitsbergen fieldwork: Rijpsburg and Kokerineset (Hacquebord)*

In August 2005 an archaeological survey was carried out in the central part of Spitsbergen. In the Isfjord region two settlements were roughly mapped with a GPS-Trimbling apparatus. Both settlements will be mapped in detail in 2006 and Kokerineset will be excavated when permission is received from the Norwegian Authorities, in 2007-2008. Rijpsburg is a mining settlement from the beginning of the 20<sup>th</sup> century and the whaling station on Kokerineset dates from 1610-1655, and was reused by Russian furhunters in the 18<sup>th</sup> century. The work is being done by a small international team with funds from NWO.

#### *Arctic Goose ecology (Loonen)*

The long-term monitoring of a goose population on Spitsbergen has revealed a period of decline in the population size. This trend can be attributed to a change in vegetation and predation. The vegetation has become less productive after more than 15 years of heavy grazing. The predators have increased in numbers since they discovered the geese as a food supply and predation pressure is increasing. More information on: <http://loonen.fmns.rug.nl/nyaal>.

In 2005, barnacle geese were caught on Spitsbergen and sampled for the occurrence of parasites, antibodies and viruses. This project is funded by the Netherlands Arctic programme and is a pre-project for an international co-operative study during the international polar year. More info on <http://www.birdhealth.nl>.

#### *Fragility of Arctic Goose habitats: Impacts of Land use, conservation and Elevated temperature (FRAGILE) (Loonen & Kuijper)*

The experimental grazing trials with captive barnacle geese on Spitsbergen showed that there are strong negative relationships between grazing pressure and the energy intake rate of a goose. Favourite food plants become quickly depleted and geese have to switch to lower quality plants. Also, between years there is a clear decrease in energy gain on plots that were previously grazed with a high grazing pressure. These results show large similarity to data collected in natural goose-grazed systems on Spitsbergen. These relationships can be used to determine the threshold of grazing pressure these arctic tundra systems can sustain. This European-funded project ends in 2005. An impression of the fieldsite can be found on <http://loonen.fmns.rug.nl/fragile>.

#### *Arctic Environmental Co-operation (ACD/NRPA/AMAP) (Steenhuisen)*

In 2005, Steenhuisen participated in several international project groups. Within the ACD framework, several GIS-related activities were carried out in which changes in the Arctic coastline as a consequence of climate change were mapped. Mappings of radio nuclides in Norway were carried out for NRPA and maps of the distribution of pollutants were made for AMAP.

#### *The Arctic products markets (Veluwenkamp)*

In 2005 the phenomenon that the European commerce of the Dutch in the 17<sup>th</sup> and 18<sup>th</sup> centuries was carried out by small family companies and trade with other continents by large-scale chartered companies was analyzed. The conclusion is that this difference can be explained by two tendencies in government policy. On the one hand, it was the norm among Dutch merchants and regents that market access be free to all individuals. The only exception to this rule within the European trade was the Northern Company, which for about thirty years was a constantly

widening cartel for the whaling industry. On the other hand, the Estates General found that the war against Spain and Portugal outside Europe could only be successfully waged by monopolistic companies with far-reaching administrative and military authority. For that reason they granted the VOC and the WIC, the chartered companies for Dutch trade with Asia and the Atlantic area respectively, exceptional and wide-ranging privileges.

### *Science and politics in polar areas*

#### *Dutch Antarctic policy and research since 1945, in comparison with that of Belgium and Germany (Abbink)*

The second year of this doctoral research was largely devoted to the 1980s. This is the most complex, turbulent and interesting period in the political and scientific involvement in Antarctica of the three research countries. Another third of the archival research has been done at the Arctic Centre and in the Hague, and the historiographical research has almost been completed. A total of twelve persons were interviewed in the Netherlands and Germany. The efforts resulted in a lecture, the submission of an article to a German journal, and a draft of a chapter about the 1980s for the thesis. A start has been made on a chapter about the Antarctic events in the 1950s.

#### *Regional Identity and Sustainable Development in Nunavut, North Canada (Van Dam)*

The activities in 2005 concentrated on fieldwork that was organized in May and June. Two students from the Faculty of Spatial Sciences, Annemieke Logtmeijer and Harm de Muinck, joined the research project for their Master's theses. The main issues that were addressed during fieldwork in Pond Inlet were the representation of Nunavut in tourism, and the involvement of young people with their community. Interviews with young people, field experts, representatives of the tourism industry in Nunavut and government officials provided most of the data. Additional interviews were done in Iqaluit focusing on mining and, related to this, the implementation and practicalities of sustainable development. In addition, considerable time was spent collecting sources from the Library of the Legislative Assembly of Nunavut. The remainder of the year was used for transcribing and analysing the data. Towards the end of the year the writing phase to complete the dissertation started. Side activities included participation in a meeting of the Sustainable Development Working Group of the Arctic Council in Khanty-Mansiysk in October 2005.

#### *Polar heritage, management and change (Roura)*

The aim of this project is to evaluate and compare recent and contemporary activities at historic sites in the polar regions and the changes to the cultural landscape that result from these activities. Particular attention will be paid to tourist exploitation of historical sites in the polar regions.

In the first nine months of this PhD research a research plan was drawn up. The main research activities during this period included a critical overview of the current list of Antarctic Historic Sites and Monuments, and the status of Antarctic tourism including the current debate in the Antarctic Treaty System. This analysis will help to understand the basic elements of the heritage industry in the Antarctic region. It will also serve as a basis for a comparable analysis in the Arctic region. Additional research was conducted on methodological aspects of this project, and in particular the development of a case-study framework that can be applied to selected sites in the Arctic and in the Antarctic.

Interviews with over thirty individuals with expertise on heritage, governance or tourism in the Antarctic were conducted in the Netherlands, Buenos Aires and Ushuaia (Argentina), Cambridge and Edinburgh (UK), Paris (France), and Oslo (Norway). In addition, I participated as an invited

expert at the XXVIII Antarctic Treaty Consultative Meetings (Stockholm, Sweden, June 2005). Side activities included participation in the workshop 'The future of Antarctic tourism', organized by Maastricht University researchers at the NWP in The Hague. Preparations began for fieldwork to be conducted in the South Shetland Islands, Antarctic Peninsula, during January-February 2005. There were preliminary discussions with Norwegian officials in relation to fieldwork in Spitsbergen during summer 2006.

#### *Findings*

Key components of the Antarctic cultural heritage are protected as *Historic Sites and Monuments* (HSMs) designated by the Antarctic Treaty Consultative Meeting. In 2005 the complete listing of Antarctic HSMs (n=80) as described in official designation instruments was coded. Different categories of sites and monuments were identified, and a typology of Antarctic heritage sites was produced. Some pairs of categories were subsequently analyzed using a correspondence analysis. Approximately 70% of Antarctic HSMs are material remains of events in Antarctica that are contemporary with these events (including memorials to the deceased in Antarctica). The remaining HSMs are memorials and monuments put in place after the events, or unrelated to the Antarctic.

Over 10% of all Antarctic sites visited by tourists are visited primarily because of their historic values. These include several of the twenty most visited sites in the entire continent (2004-05 data). Thus, cultural heritage is a significant component of Antarctic tourism. An examination of tourism landings at key Antarctic historic sites during 1990- 2005 shows distinctive site-specific visitation patterns as well as a continuous growth at most sites.

### 3. RESEARCH ACTIVITIES

#### 3.1 FIELDWORK

##### ITALY

**Nettuno**, 5-25 February: Survey of the municipal territory of Nettuno.

Director: Peter Attema.

Staff: Tymon de Haas, Gijs Tol.

Participants: Rik Feiken, Marlies van Kruining, Edmée Sleijpen.

Co-operation: Michelangelo la Rosa, Arnaldo Liboni, Comune di Nettuno.

**Nettuno**, 2 July-22 July: Geoarchaeology of the Lepini Mountains, Hidden Landscapes Project.

Director: Martijn van Leusen.

Staff: Rik Feiken, Martijn van Leusen.

Participants: Nick Ryan, Hans Kamermans.

Co-operation: Carmela Anastasia, Prof. Dr. M. Cancellieri.

**Francavilla Marittima**, 30 September-22 October: Geoarchaeology of the watershed area of the Raganello, Hidden Landscapes Project and Surveys within the Raganello Archaeological Project.

Director: Peter Attema, Martijn van Leusen.

Staff: Siebe Boersma, Erwin Bolhuis, Jan Delvigne, Rik Feiken, Tymon de Haas, Patricia Roncoroni.

Participants: Paul van Ginneken, Nick Hogan, Neeltje Oome, Edmée Sleijpen, Nino la Rocca.

Guest researcher: Nick Ryan.

Co-operation: Soprintendenza Archeologica della Calabria, Associazione per la scuola Internazionale di Archeologia 'Lagaria' di Francavilla Marittima, University of Kent at Canterbury (UK, N. Ryan).

**Nettuno**, 25 June-31 July: Pontine Region Project (Carta Archeologica del Comune di Nettuno).

Director: Peter Attema

Staff: Luca Alessandri, Erwin Bolhuis, Tymon de Haas, Rik Feiken, Martijn van Leusen, Bert Nijboer, Gert van Oortmerssen, Olaf Satijn.

Participants: Annelies Berends, Hilde Boon, Tycho Derks, Rosa Doreleijers, Sander Droogsma, Pieter den Hengst, Evert Hensbroek, Naomi Huisman, Michèl de Jong, Tim Kauling, Tanja van Loon, Chris Luinge, Harry Pape, Maaike Peters, Jorn Seubers, Ilona von Stein, Bert Tuin, Jet Tolsma, Gijs Tol, Kees van der Veer, Mark van der Weg.

Guest researchers: Nick Ryan, Michelangelo la Rosa.

Visitors: Matt Ratto (KNAW), Hans Kamermans (RUL).

##### GREECE

**Argos Museum**, 7-15 February: Inspection of work undertaken under MH Argolid Project.

Director: Sofia Voutsaki.

Other participants: Sevi Triantaphyllou (Sheffield, UK), Eleni Milka (Groningen, Netherlands)

Co-operation: 4<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities (Nauplion, Greece).

**Argos Museum**, 2-18 May: Preliminary examination of material from Argos tumuli. Inspection of work undertaken under MH Argolid Project.

Director: Sofia Voutsaki.

Other participants: Popi Sarri (Athens, Greece), Sevi Triantaphyllou (Sheffield, UK), Eleni Milka (Groningen, Netherlands).

Co-operation: 4<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities (Nauplion, Greece).

**Argos Museum**, 16-26 July: Inspection of work undertaken under MH Argolid Project.

Director: Sofia Voutsaki.

Other participants: Popi Sarri (Athens, Greece), Sevi Triantaphyllou (Sheffield, UK), Eleni Milka (Groningen, Netherlands).

Co-operation: 4<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities (Nauplion, Greece).

**Halos**, 27 June-1 August: Excavation of the Southeast Gate of New Halos.

Director: Reinder Reinders.

Staff: Siebe Boersma, Sander Tiebackx, Paulien de Roever, Colette Kruyshaar, Wietske Prummel.

Students: Ypie Aalders, Sascha Benerink, Marloes Bergmans, Gert Bunt, Kitty Kramer, Chris Dickenson, Laura Edens, Johan van Gent, Ens Grefhorst, Tomek Hertig, Heleen Kranenburg, Marije Meddeler, Jeroen Mendelts, Stephan Nicolaij, André Pleszynski, Lana Radloff and Esther Rozema.

Co-operation: NAGREF, Larisa (Greece); 13<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities (Volos, Greece).

## EGYPT

**Fayum**, 15 September-15 December, excavations and survey of the northeastern Fayum (Neolithic and Graeco-Roman period).

Directors: René Cappers and Willeke Wendrich (UCLA).

Staff: Maria Gatto, Noriyuki Shirai, Brian Damiata, Lewis Owen, Hans Barnard, Mustafa Abdel-Qadr, Tom Wake, R. Finkel, K. Nelson.

Participation: Mans Schepers, Judith Jurjens, Ingrid Heijen, Tony de Wit and several American BA students.

## THE NETHERLANDS

**Midlaren**- 'De Bloemert', February-March: Excavation of the archaeological landscape around 'De Bloemert'.

Director: Johan Nicolay.

Staff: Sander Tiebackx, Erwin Bolhuis, Robert Kusters.

Participants: Jelle Weening, Annelies Berends, Hilde Boon, Judith Jans, Jorin Kuyper, Daniel Postma, Brigitte Saan, Bert Tuin, Kees van der Veer, Anne ten Brink, Hans Dalenberg, Freek Modderkolk, Gosse Kerkhof.

**Leeuwarden**- ‘Oldehoofsterkerkhof’, March-July: Excavation at the centre of the city of Leeuwarden near the church tower ‘Oldehove’.

Director: Johan Nicolay, Juke Dijkstra.

Staff: staff members of the commercial company ADC ArcheoProjecten.

Co-operation: ADC ArcheoProjecten, Amersfoort (Netherlands).

**Wetsingermaar**, 2 May-16 June: Coring campaign and test trench at the Middle Neolithic settlement.

Director: Daan Raemaekers.

Staff: Ton Jacobs, Robert Kusters, Hans Zwier.

Participants: Ypie Aalders, Sandra Beckerman, Martha de Jong, Helle Molthof, Marieke van der Wal (students).

**Swifterbant**, 27 June -26 July: Excavation of Middle Neolithic settlement site S4.

Director: Daan Raemaekers.

Staff: Izabel Devriendt.

Participants: Sandra Beckerman, Kristen Bresser, Stef Cheung, Anke Kramer, Joska Jansen, Marieke van der Wal, Saskia Wennink, Corien Wiersma (students).

Co-operation: province of Flevoland, National Service for Archaeological Heritage Management, Nieuwland Erfgoedcentrum (Lelystad), Archeologische Werkgemeenschap Nederland.

**Deventer**, 18 July-17 September: Excavation of early prehistoric settlement traces, with an emphasis on prospection and evaluation of these traces within regular excavation practices.

Director: M. Bartels (Archeologie Deventer).

Field director Stone Age: B.I. Smit (GIA).

Field director Bronze- Iron Age and Roman period: I. Hermsen (Archeologie Deventer).

Field director Middle Ages and historic period: B. Vermeulen (Archeologie Deventer).

Participants (GIA): Jasper Vosselman, Richard Fens, Christiaan Heerma van Voss, Mans Schepers, Jasper Holl, Wouter Ytsma, Eddie de Vries, Rianne Mulder.

Co-operation: Archeologie Deventer.

## ARCTIC

**Spitsbergen**, Longyearbyen, 20 June-20 July: Experimental grazing in Adventdalen.

Staff: Maarten Loonen, Dries Kuijper.

Participants: Eelke Folmer.

Co-operation: University Studies on Svalbard (UNIS) and partners in European FRAGILE project.

**Spitsbergen**, Ny-Ålesund, 20 June- 25 August: Arctic goose ecology.

Staff: Maarten Loonen.

Participants: Luis Schmidt, Jurjen Annen, Daan Vreugdenhil.

Co-operation: Norwegian Polar Institute.

**Spitsbergen**, Rijpsburg/Kokerineset, 7-21 August: LASHIPA, mapping of both settlements.

Director: Louwrens Hacquebord.

Participants: Ben Bekooy, Dag Avango, Ulf Gustafson, Cameron Hartnell.



### 3.2 WORKING VISITS

Abbink, B.P.

- 10 February, The Hague (Netherlands): Meeting of the Dutch Commission of the International Polar Year, 2007-2008.
- 25 February, Hattem (Netherlands): Interview with former director-general of Science Policy, Dr E. van Spiegel.
- 27 April, Leeuwarden (Netherlands): Interview with Royal Commissioner of Friesland, E.H.T.M. Nijpels.
- 29 April, Voorburg (Netherlands): Interview with former policy official of the Dutch Ministry of Foreign Affairs (MFA), A. Bos.
- 16 June, Haren (Netherlands): Interview with expedition leader of Dutch Antarctic expedition (1990-91), Prof. W.J. Wolff.
- 5 July, The Hague (Netherlands): NWO, research in archives.
- 27 July, The Hague (Netherlands): Parliament Building, research in archives.
- 16 August, Amsterdam (Netherlands): Interview with former policy official of MFA, P.J.M. Verbeek.
- 13 September, Rijswijk (Netherlands): Rijkwaterstaat, Noordzee Dept., research in archives.
- 21 September, The Hague (Netherlands): Meeting of the Dutch Commission of the International Polar Year, 2007-2008.
- 6 October, Papenburg (Germany): Interview with former Research Minister of the Federal German Republic, H. Matthöfer.
- 15 December, Den Burg (Netherlands): Interview with former policymaker of the KNAW, Prof. C. de Jager.

Attema, P.A.J.

- 31 January-6 February, Nettuno (Italy): Preparation fieldwork for February campaign 'Carta Archeologica del Comune di Nettuno'.
- 6-11 April, Nettuno (Italy): Preparation fieldwork for June/July campaign 'Carta Archeologica del Comune di Nettuno' and lecture.
- 9-10 November, Nettuno (Italy): Meeting with city council members on the 'Carta Archeologica del Comune di Nettuno'.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Cappers, R.T.J.

- 7-11 March, Cairo (Egypt): Analysis of archaeobotanical material stored at the Agricultural Museum.
- 20 April, Hamburg (Germany): Spice museum.
- 2 December, Wassenaar (Netherlands): Workshop on human impact on the vegetation in the early Neolithic.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Dam, K.I.M. van

- 7 May, Groningen (Netherlands): Governor General of Canada, Adrienne Clarkson.
- 8-12 October, Khanty-Mansyisk (Russian Federation): Sustainable Development Working Group Meeting, Arctic Council.

- 3 December, Groningen (Netherlands): Ambassador of Canada, Colleen Swords.

Devriendt, I.I.J.A.L.M.

- 5 February, Leiden (Netherlands): Steentijd dag (Stone Age archaeology).
- 4 March, Groningen (Netherlands): Lecture B. O'Brien.
- 10-11 March & 8 April, Groningen (Netherlands): OGWG seminar 'Cultural Change'.
- 21-22 March, Leiden (Netherlands): Wetland Conference.
- 16-18 May, Cardiff (England): Mesolithic-Neolithic Transition Conference.
- 15 September, Lelystad (Netherlands): Visit to Swifterbant artefacts depot.
- 25 October, Groningen (Netherlands): GIA Research Seminar.
- 10 November, Groningen (Netherlands): Meeting with J. Schreurs, Swifterbant artefacts.
- 18 November, Groningen (Netherlands): Meeting with E. Drenth, Swifterbant artefacts.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Feiken, H.

- 31 August, Utrecht (Netherlands): Library Earth-Science TNO-NITG literature research.
- 22 September, Amsterdam (Netherlands): Meeting with A. Kattenberg.
- 23 September, Delft (Netherlands): OSL symposium.
- 1 November, Amsterdam (Netherlands): Meeting with Prof. J. Sevink and A. Kattenberg.
- 16 November, Enschede (Netherlands): Library ITC literature research.
- 17 November, Wageningen (Netherlands): Library ISRIC literature research.
- 9 December, Groningen (Netherlands): Annual meeting GIA.
- 22 December, Amsterdam (Netherlands): PhD meeting Archon.

Galestin, M.C.

- 20 January, Groningen (Netherlands): Theoretical Archaeology Congress.
- 14 February, Midlaren (Netherlands): Excavation in the periphery of the 'Bloemert' area between Noordlaren and Midlaren.
- 12 March, Leeuwarden (Netherlands): Opening of Exhibition at the Fries Museum, 'Super Terpen'.
- 26 November, Stuttgart (Germany): Visit to Exhibition 'Romans in Germany'.
- 9 December, Groningen (Netherlands): Annual meeting GIA.
- 16 December, Groningen (Netherlands): Opening of Exhibition at Groninger Museum.

Haas, T.C.A. de

- 20-21 January, Groningen (Netherlands): Annual conference on theoretical archaeology and PhD workshops, Archon/GIA/Archaeological Dialogues.
- 3 June, Amsterdam (Netherlands): Evaluation of eDNA project with Milco Wansleeben.
- 9 December, Groningen (Netherlands): Annual meeting GIA.
- 22 December, Amsterdam (Netherlands): Archon meeting.

Hacquebord, L.

- 30 January-2 February, Oslo (Norway): Excom meeting IASC.
- 1 February, Oslo (Norway): Dinner at the Royal Dutch Embassy.
- 10 February, The Hague (Netherlands): IPO/IPY meeting.
- 17 February, The Hague (Netherlands): Directors meeting of the ministries of LNV, BUZA, OCW, VROM and V&W.

- 10 March, Utrecht (Netherlands): CPO/NWO.
- 16 March, Utrecht (Netherlands): CPO/NWO.
- 16-25 April, Kunming (China): ASSW meeting.
- 31 May, The Hague (Netherlands): IPO meeting.
- 1 June, The Hague (Netherlands): Meeting of the national IPY committee.
- 9 June, Groningen (Netherlands): Dissertation defence by Nanka Karstkarel (RUG).
- 22-24 August, Stockholm (Sweden): IASC meeting.
- 31 August, Amsterdam (Netherlands): Farewell meeting for Dr Willem Morzer Bruijns in the Dutch Maritime Museum.
- 8-11 September, Sandefjord (Norway): Whaling conference.
- 21 September, The Hague (Netherlands): Meeting of the national IPY committee.
- 22 September, The Hague (Netherlands): Meeting of the IPO.
- 26 September, Amsterdam (Netherlands): KNAW, meeting of the SCAR/CPO.
- 18 October, Groningen (Netherlands): Visit by Mrs I. Fokkens, Royal Norwegian Embassy (The Hague).
- 24 October, The Hague (Netherlands): NWO, meeting of the CPO/SPP.
- 8-9 November, Copenhagen: Excom meeting IASC.
- 9-10 November, Copenhagen: ICARP II.
- 19 November, Amsterdam: Transfer of the Smeerenburg Collection to Norway.
- 20 November, De Rijp (Netherlands): Arctic Weekend.
- 27-30 November, Longyearbyen (Spitsbergen): Presentation of the Smerenburg Collection to Norway.
- 1 December, The Hague (Netherlands): IPO meeting.

Kooi, P.B.

- 21 January, Ezinge (Netherlands): Dating pottery.
- 13 April, Ezinge (Netherlands): Terp mound and landscape.
- 4 October, Borger (Netherlands): Excavation of a Bronze Age/Iron Age settlement site.
- 27 October, Groningen (Netherlands): Study day on the Midlaren excavation.
- 5 November, Krewerd (Netherlands): Prehistoric finds.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Leusen, P.M. van

- 4-6 March, Prague (Czech Republic): EJA Board of Editors meeting.
- 21-24 March, Tomar (Portugal): CAA conference.
- 31 March-1 April, Heereburen (Netherlands): RPC publication meeting.
- 19 April, Amsterdam (Netherlands): BBO study day.
- 3 June, Amsterdam (Netherlands): NIWI-DARE project meeting.
- 8-9 June, Zeegse (Netherlands): BBO study days 'Drentse Aa'.
- 17-18 June, The Hague/Leiden (Netherlands): NWO-DARE meeting.
- 7-8 September, Cork (Ireland): EJA Board of Editors meeting.
- 23 September, Delft (Netherlands): TL conference.
- 28-29 October, Heereburen (Netherlands): RPC publication meeting.
- 22 December, Amsterdam (Netherlands): Archon meeting.

Loonen, M.J.J.E.

- 20 January, Haren (Netherlands): Workshop CEES, dispersal and habitat selection.

- 8 March, Groningen (Netherlands): Symposium Arctic Centre.
- 16-23 April, Kunming (China): Arctic Science Summit Week.
- 31 May, Beek-Ubbergen (Netherlands): SOVON Bird research.
- 5-7 September, Cambridge (UK): Circumpolar Biodiversity Monitoring Program CAFF.
- 27 October, Oslo (Norway): Norwegian Science Foundation and the IPY.
- 5-9 November, Sopron (Hungary): International Goose Specialist Group.
- 10-13 November, Copenhagen (Denmark): International Conference on Arctic Research Planning.

Milka, E.

- 20-21 January, Groningen (Netherlands): Archaeology & Theory Congress.
- 1 June-30 July, Museum of Nauplio (Greece): study of the burial offerings from the cemeteries of Asine.
- 2-5 June, Rethymno (Greece), University of Crete: symposium 'Engendering Prehistoric "Stratigraphies" in the Aegean and the Mediterranean'.
- 18-22 July, Museum of Argos (Greece): supplementary study of the pottery offerings from Lerna (with Dr S. Voutsaki and Dr. K Sarri).
- 31 October- 4 November, Thessaloniki (Greece): collection of bibliographical data from Greek archaeological journals; transport of bone samples from Asine to Groningen for stable isotope and <sup>14</sup>C analysis.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Niekus, M.J.L.T.

- January, Lonneker (Netherlands): Geological corings on a Middle Palaeolithic site.
- 5 February, Leiden (Netherlands): Steentijddag (Stone Age archaeology).
- 22 February, Amersfoort (Netherlands): National Service for Archaeological Heritage (ROB).
- 1 March, Surhuisterveen (Netherlands): Studying the collection of an amateur archaeologist.
- 12-16 March, Sheffield (UK), University of Sheffield: Archon Workshop 'Aspects of Palaeoanthropology & Palaeolithic Archaeology'.
- 21-22 March, Leiden (Netherlands), University of Leiden: Archon Workshop, 'Lowland Northwest Europe: late glacial and postglacial hunter-gatherers and early farmers' (The Neolithic below sea level).
- April, Hoogezaand (The Netherlands): Participation in excavation of a Mesolithic site.
- 29 August-3 September, Belfast (Northern Ireland), Queens University Belfast: Meso 2005, congress on the Mesolithic in Europe.

Nieuwhof, A.

- 20-21 January, Groningen (Netherlands): Archaeology & Theory Congress.
- 27 May, Amsterdam (Netherlands): Symposium Religion & Archaeology VU.
- 17 November, Nijmegen (Netherlands): Reuwendagen.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Nijboer, A.J.

- 20-21 January, Groningen (Netherlands): Archaeology & Theory Congress.
- 25 Februari, Amsterdam (Netherlands): KNAW meeting.
- 10-12 October, Huelva (Spain): Visit to museum storage rooms to inspect recent finds and to Rio Tinto mines.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Overmeer, A.B.M.

- 30 June, Swifterbant (Netherlands): Excavation of a Swifterbant site.
- 14 September, Amersfoort (Netherlands): Meeting ROB, workshop 'Scheepsarcheologische Voorraad Flevoland'.
- 16 September, Groningen (Netherlands): Meeting GIA to discuss PhD research plan.
- 17-18 November, Nijmegen (Netherlands): Reuwendagen.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Prummel, W.

- 20 January, Groningen (Netherlands): Archaeology & Theory Congress.
- 5 February, Leiden (Netherlands): Steentijddag (Stone Age archaeology).
- 17-18 February, Wilhelmshaven (Germany): Colloquium on archaeobotany.
- 8 March, Groningen (Netherlands): The changing arctic (Arctic Centre).
- 13-17 April, Athens (Greece): University of Athens.
- 25 May, Naardermeer (Netherlands): Ecologendag.
- 3 June, Amersfoort (Netherlands): Introduction to Archis II.
- 21-24 July, Karystos (Évia island, Greece): Karystos museum.
- 27 October, Groningen (Netherlands): Study day on the Midlaren excavation.
- 17 November, Nijmegen (Netherlands): Reuwendagen.
- 30 November, Amersfoort (Netherlands): Nationale referentie collectie.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Raemaekers, D.C.M.

- 13 January, Amsterdam (Netherlands): PhD J.A.W. Nicolay.
- 20 January, Groningen (Netherlands): Archeology & Theory Congress.
- 21 January, Groningen (Netherlands): Workshops Archeology & Theory Congress.
- 5 February, Leiden (Netherlands): Steentijddag (Stone Age archaeology).
- 21-22 March, Leiden (Netherlands): Wetland Conference.
- 27 October, Groningen (Netherlands): Study day on the Midlaren excavation.
- 17 November, Nijmegen (Netherlands): Reuwendagen conference.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Reinders, H.R.

- 10-12 October, Copenhagen (Denmark): Evaluation National Museum.
- 5-6 December, Copenhagen (Denmark): Evaluation National Museum.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Roura, R.

- 17 March-7 April, Buenos Aires, Ushuaia (Argentina): Interviews with key informants (Antarctic heritage, tourism).
- 12 May, Paris (France): Meeting at French Ministry of Foreign Affairs (Antarctic tourism).
- 27 May, Utrecht (Netherlands): Meeting with Tilburg University researcher (Antarctic tourism).
- 6-17 June, Stockholm (Sweden): Meeting of XXVIII Antarctic Treaty Consultative.
- 20-22 June, Oslo (Norway): Meetings of International Polar Heritage Committee, WWF-Arctic Program (Polar heritage, tourism).

- 19 July, Utrecht (Netherlands): Meeting with Utrecht University researcher (Antarctic tourism).
- 23 September, The Hague (Netherlands), NWO: Stakeholder workshop 'De toekomst van toerisme in Antarctica', organized by B. Amelung, M. Lammers, J. Stel (ISIS, Maastricht University).
- 11-16 December, Cambridge, Edinburgh (UK): Research visit, Scott Polar Research Institute. Interviews with key informers.

Smit, B.I.

- 13 January, Amsterdam (Netherlands): PhD J.A.W. Nicolay.
- 20 January, Groningen (Netherlands): Archeology & Theory Congress.
- 21 January, Groningen (Netherlands): Workshops Archeology & Theory Congress.
- 1 February, Amersfoort (Netherlands): PhD meeting with J. Deeben.
- 21-22 March, Leiden (Netherlands): Workshop 'Lowland Northwest Europe: late glacial and postglacial hunter-gatherers and early farmers' or 'The Neolithic below sea level'.
- 12 April, Leiden (Netherlands): Visit to RAAP Archaeological Consultancy Office.
- 25 April, Amersfoort (Netherlands): PhD meeting with M. Snoek and B. Peters to discuss the availability of electronic database of stone age findspots (ARCHIS).
- 13 May, Amersfoort (Netherlands): PhD meeting with J. Deeben.
- 16-18 May, Cardiff (United Kingdom): Mesolithic-Neolithic Conference.
- 21 September, Amersfoort (Netherlands): PhD meeting with J. Deeben and J. Schreurs (ROB).
- 24 October, Amsterdam (Netherlands): Mini symposium 'Het uitverkoren erfgoed. Over het maken van keuzes uit het erfgoed van stad en land'.
- 27 October, Groningen (Netherlands): Study day on the Midlaren excavation.
- 15 December, Deventer (Netherlands): Meeting with I. Hermsen (Archeologie Deventer).
- 16-17 December, Ghent (Belgium): Meeting with Prof. Crombé and symposium Notae Praehistoricae.

Stapert, D.

- 1 March, Surhuisterveen (Netherlands): Studying the collection of an amateur archaeologist.
- 11 July, Leeuwarden (Netherlands), Fries Museum: Studying Middle Palaeolithic finds from the province of Friesland.
- 12 August, Denmark, Klosterlund Naturcenter: Congress about the Ahrensburgian in Denmark, including a visit to the excavation at the Ahrensburgian site near Bølling Sø.

Steenhuisen, F.

- 3-4 February, Bremerhaven (Germany): ACD.
- 7-11 February, Oslo (Norway): NRPA.
- 24-26 February, Oslo (Norway): AMAP.
- 25-29 April, Oslo (Norway): NRPA.
- 26-27 May, Potsdam (Germany): ACD.
- 29 August-2 September, Oslo (Norway): NRPA.
- 12-16 September, St. Petersburg (Russia): AMAP.
- 23 September, The Hague (Netherlands): NWO, Stakeholder workshop 'De toekomst van toerisme in Antarctica'.
- 26-30 September, Potsdam (Germany): ACD.
- 10-14 November, Copenhagen (Denmark): ICARP II.

Thilderqvist, J.G.M.

- 16 October, Leeuwarden (Netherlands): Fries Museum, exhibition 'Super Terpen'.
- 27 October, Groningen (Netherlands): Study day on the Midlaren excavation.
- 11 November, Kalteren (Netherlands): Excavation of a Medieval site.
- 9 December, Groningen (Netherlands): Annual meeting GIA.

Veluwenkamp, J.W.

- 28 January, Utrecht (Netherlands): Editors meeting Tijdschrift voor Zeegeschiedenis.
- 3 June, Utrecht (Netherlands): Editors meeting Tijdschrift voor Zeegeschiedenis.
- 26 August, Moscow (Russia): Meeting with Publisher Rosspen.
- 14 October, Utrecht (Netherlands): Editors meeting Tijdschrift voor Zeegeschiedenis.
- 19 November, Amsterdam (Netherlands): Transfer of the Smeerenburg Collection.
- 23 November, Leeuwarden (Netherlands): Meeting with Tresoar.
- 19-20 December, Stockholm (Sweden): Lashipa Workshop.

Voutsaki, S.

- 25 February, Amsterdam (Netherlands): Meeting Verkenning Archeologie KNAW.
- 6 April, Amsterdam (Netherlands): Meeting Verkenning Archeologie KNAW.
- 10 March, Amsterdam (Netherlands): Meeting of the Council for the Foundation of Archaeological Dialogues.
- 8 October, Amsterdam (Netherlands): Meeting of the Council for the Foundation of Archaeological Dialogues.

### 3.3 LECTURES

Abbink, B.P.

- 3 June, Munich (Germany): 'The Antarctic Treaty System in the 1980s'.

Attema, P.A.J.

- 20 January, Groningen (Netherlands): Archeology & Theory Congress, 'Contextualizing memory in landscape archaeology'.
- 8 September, Cork (Ireland): 11<sup>th</sup> Annual Meeting of the European Association of Archaeologists, 'The significance of "natural places" in the Raganello watershed (northern Calabria, Italy)'.
- 11 November, Formia (Italy): Convegno dalle Sorgenti alla Foce, 'Dalle Montagne al Mare, il ruolo della Valle dell' Astura durante la protostoria e l'epoca romana, alla luce delle recenti scoperte'.
- 2 December, Rome (Italy): XL Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria (with P.M. van Leusen), 'Regione Pontina: strategie di insediamento e sussistenza durante il periodo protostorico'.
- 9 December, Groningen, (Netherlands): Annual meeting GIA, 'Nieuwe inzichten in de protohistorie van een Zuid-Italische riviervallei: een overzicht van de nieuwste resultaten van het Raganello Archaeological Project'.

Devriendt, I.I.J.A.L.M.

- 20-21 January, Groningen (Netherlands): Archeology & Theory Congress, 'Herinnering in het Mesolithicum en Neolithicum van Noord-Nederland'.
- 9 December, Groningen (Netherlands): Annual meeting GIA, 'De stenen van Swifterbant. Een ontdekkingstocht naar prehistorische artefacten'.
- 17 December, Ghent (Belgium): Contactdag Prehistorie.

Galestin, M.C.

- 27 October, Groningen (Netherlands): meeting Midlaren Publication Team, 'Roman pottery from Midlaren'.
- 9 December, Groningen (Netherlands): Annual Meeting GIA, 'Fries aardewerk in Romeinse legerkampen'.

Haas, T.C.A. de

- 22 February, Nettuno (Italy): primary School, 'L'archeologia di Nettuno'.
- 17 March, Groningen (Netherlands): course 'Villa's en boeren' at the RUG, 'Villa's en boerderijen: surveys in het ommeland van Norba'.

Hacquebord, L.

- 3 February, Sauwerd (Netherlands): 'Vondsten uit het ijs. Archaeologische opgravingen op Spitsbergen'.
- 17 February, The Hague (Netherlands): 'Het Nederlands Arctisch Programma. Bestaand onderzoek en toekomstige ontwikkelingen'.
- 1 March, Groningen (Netherlands): Studium Generale Groningen, 'Zal de walvis een nieuwe aanval overleven'.
- 1 April, Groningen (Netherlands): Lecture for the Junior Academy, RUG, 'Als de noordpool



warmer wordt’.

- 24 April, Kunming (China): ‘Large Scale Historical Industrial Activities in Polar Areas’.
- 31 August, Amsterdam (Netherlands): Dutch Maritime Museum, ‘Musea en het onderzoek van het Nederlands erfgoed in de Arctis 1970-2005’.
- 9 September, Sandefjord (Norway): ‘Two centuries of Bowhead whaling around Spitsbergen; its impact on the Arctic avifauna’.
- 19 November, Amsterdam (Netherlands): ‘The Smeerenburg Collection returns to Spitsbergen’.
- 20 November, De Rijp (Netherlands): ‘Nederlandse nederzettingen in het Arctisch gebied’.
- 22 November, Groningen (Netherlands): HOVO-RUG, ‘Als de noordpool warmer wordt’.
- 29 November, Longyearbyen (Spitsbergen): ‘The unique character of the Smeerenburg objects’.
- 19 December, Stockholm (Sweden): ‘A survey of Green Harbour, Kokerineset August 2005’.
- 22 December, Groningen (Netherlands): Geography students’ society LCDC, ‘Als de noordpool warmer wordt’.

Kooi, P.B.

- 1 October, Archeologisch Centrum Leiden (Netherlands): ‘Bronstijd-nederzettingen in Drenthe’.

Kuijper, D.P.J.

- 13 January, Groningen (Netherlands): lecture for the Arctic Centre.
- 17 October, Wroclaw (Poland): lecture for Avian Ecology department.

Leusen, P.M. van

- 19 April, Amsterdam, VU: BBO study day, ‘Omgaan met onzekerheid en risico’.
- 23 March, Tomar (Portugal): CAA conference, ‘Upgrading the digital field assistant’.
- 8 September, Cork (Ireland): EAA conference, ‘Reasoning with Uncertainty’.
- 8 September, Cork (Ireland): EAA conference, ‘Hidden Landscapes, obstacles to mapping and interpretation of the surficial archaeology of upland areas’.
- 2 December, Rome (Italy): IIPP XL conference, ‘Regione Pontina: paesaggi, strategie di insediamento e sussistenza durante il periodo protostorico’.

Loonen, M.J.J.E.

- 22 February, Groningen (Netherlands): lecture for Studium Generale.
- 5 August, Spitsbergen (Norway): UNIS course AB201, ‘Arctic Goose Ecology’.
- 20 December, Haren (Netherlands): Groningen Biologists Club, ‘Winter’.

Milka, E.

- 19 February, Leiden (Netherlands): Symposium Onderzoek Jonge Archeologen (SOJA), ‘From cemeteries to society. The study of the Middle Helladic burials from the Argolid, Southern Greece’.
- 20 December, Sheffield (UK): Theoretical Archaeology Group (TAG), ‘Burial diversity and change in Middle Helladic Asine, Southern Greece’.

Nicolay, J.A.W.

- 11-14 July, Leeds (UK): International Medieval Congress, ‘Frisian identity from an archaeological perspective: the interpretation of gold finds’, presented as part of the session

'Fresh looks at medieval Frisia'.

Niekus, M.J.L.T.

- 20 January, Groningen (Netherlands): Archeology & Theory Congress, 'Herinnering in het Mesolithicum en Neolithicum van Noord-Nederland'?
- 14 February, Groningen (Netherlands): Algemene Ledenvergadering AWN Noord-Nederland, 'Archeologisch onderzoek in de Hornsund, Spitsbergen 2004'.
- 18 December, Veendam (Netherlands): Veenkoloniaal Museum Veendam, 'Archeologisch onderzoek in de Hornsund, Spitsbergen 2004'.

Nieuwhof, A.

- 27 October, Groningen (Netherlands): workshop excavation results Midlaren 'De Bloemert', 'Het handgemaakte aardewerk'.

Overmeer, A.B.M.

- 10 November, Lelystad (Netherlands): NLE, 'Overnaadse schepen in Nederland (PhD research Alice Overmeer)'.

Prummel, W.

- 16 June, Amersfoort (Netherlands): ROB, NOA lecture, 'Archeozoölogie, verleden, heden en toekomst'.
- 2 September, Noordwolde (Netherlands): Stichting Stellingwarver Schrieversronte, 'Jardinga aan de Boven-Kuunder/Kuinder/Tjonger: een jacht- en slachtplaats uit het einde van de midden-steentijd: 5600-4900 v.Chr.'
- 27 October, Groningen (Netherlands): GIA, 'Midlaren-de Bloemert 2003-2005, uitwerking archeozoölogie, stand van zaken'.
- 9 December, Groningen (Netherlands): Annual meeting GIA, 'Een nieuwe, uitgestorven uilensoort, *Athene* sp. in de Zuidoostpoort van Nieuw Halos en in Karystos'.

Raemaekers, D.C.M.

- 15 January, Leiden (Netherlands), Leiden University: 'Het aardewerk van Schipluiden. Enige opmerkingen met betrekking tot technologie en chronologie'.
- 20 January, Groningen (Netherlands): Archeology and Theory Congress, 'Herinnering in het Mesolithicum en Neolithicum van Noord-Nederland?'
- 21 March, Leiden (Netherlands), Leiden University/ARCHON: 'The new Swifterbant excavations. Arable farming in a wetland?'
- 21 April, Almere (Netherlands): 'Wat maakt de vindplaats zo uniek? De Zenith-vindplaats in Almere Buiten'.
- 2 June, Frankfurt (Germany), Goethe University: 'The hunter-gatherer-farmers of the Dutch Neolithic Swifterbant culture'.
- 28 June, Lelystad (Netherlands): Nieuwland Erfgoedcentrum, 'Terug naar Swifterbant. Terugblik, vooruitblik en stand van zaken'.

Reinders, H.R.

- 20 May, Oslo (Norway): Congress 'Klink og Seil', 'Frisian traders and clinker technique?'

Roura, R.

- 13 October, Groningen (Netherlands): 'An overview of the current tourism debate in the

Antarctic Treaty System.’ Presentation in parallel with course ‘Leven en overleven in het poolgebied’.

Smit, B.I.

- 19 April, Amsterdam (Netherlands): Symposium ‘Bodemarchief in behoud en ontwikkeling’ (NWO), Introduction of the research ‘Valuable Flints’.
- 11 October, Deventer (Netherlands): lecture on the preliminary results of the excavation, for members of the National Service for Archaeological Heritage (ROB).
- 9 December, Groningen (Netherlands): Annual meeting GIA, lecture on the problems of excavating early prehistoric remains together with late prehistoric remains.

Stapert, D.

- 7 May, Denekamp (Netherlands): Museum Natura Docet, lecture for the Workgroup Pleistocene Zoogdieren, ‘De latere Neandertalers in noordelijk Nederland’.

Veluwenkamp, J.W.

- 24 May, St Petersburg (Russia): Conference, ‘Familiebedrijven en geotrooierde compagnieën. De invloed van de overheid op de bedrijfsorganisatie in de Nederlandse handel in de 17<sup>e</sup> en de 18<sup>e</sup> eeuw’.
- 28 October, Groningen (Netherlands): Ubbo Emmius Conference, ‘Peter Stuyvesant’.

Voutsaki, S.

- 25 February, Amsterdam (Netherlands): meeting Verkenning Archeologie KNAW, Comment on the present condition and future directions of Dutch archaeology.

Woldring, H.

- 26-27 March, Lebus (Germany): Workshop Hittites, ‘Vegetation development in Central Anatolia during the younger Holocene with special reference to the second and first millennium BC’.

### 3.4 WORKSHOPS AND EXHIBITIONS

- 16-20 January, Amsterdam (Netherlands): Workshop ‘Uncertainty’ for BBO project, organized by M. van Leusen and P. Verhagen.
- 20-21 January, Groningen (Netherlands): Landschap & Herinnering, 14<sup>th</sup> Archeology & Theory Congress/workshops, organized by S. Voutsaki, P. Attema and D. Raemaekers.
- 8 March, Groningen (Netherlands): Jubilee Symposium 35 years Arctic Centre University of Groningen with four lectures by Dr Volker Rachold (Germany), Dr Thor Larssen (Norway), Dr Yvon Csonka (Greenland) and Dr Ko de Korte (Netherlands).
- 10-11 March, Groningen (Netherlands): ‘Cultural Change’, organized by M. Wubbolts, ICOG/OGWG.
- 19 May, Groningen (Netherlands): ‘Het Raganello Archaeological Project – Veldwerk in Zuid-Italië Postertentoonstelling GIA, organized by J. Seubers, T. Derks, supervised by P. Attema.
- 21 March, Tomar (PT): Workshop ‘Upgrading the digital Field Assistant’, Congress CAA 2005, organized by M. van Leusen and N. Ryan.
- 1-3 June, Munich (Germany): Workshop on the history of Antarctic Research, organized by Dr C. Lüdecke and others.
- 3-4 June, Groningen (Netherlands): Workshop LASHIPA, organized by the Arctic Centre with participants from Norway, Sweden, the UK and the Netherlands. Preparation of the IPY application.
- 17-18 June, Leiden (Netherlands): Survey-workshop UL, organized by M. van Leusen.
- 23-26 October, Soesterberg (Netherlands): FRAGILE progress workshop, organised by M.J.J.E. Loonen, D. Kuijper and others.
- 27 October, Groningen (Netherlands): GIA ‘Midlaren bijeenkomst’, conference for the authors of the Midlaren publication, organized by J. Nicolay.
- 9 December, Groningen (Netherlands): GIA Annual meeting, organized by M.C. Galestin, J.N. Lanting, P.M. van Leusen and R.T.J. Cappers.
- 19-20 December, Stockholm (Sweden): Workshop LASHIPA, co-organized by the Arctic Centre with participants from Norway, Sweden, the UK, Finland, the Netherlands, Russia and the USA.

### 3.5 VISITING SCHOLARS

- 12 January: Dr B. Braadbaart, Leiden (Netherlands), biochemical analysis of charred grains.
- 25 January: P. Vos, Utrecht (Netherlands), vegetation reconstruction of Hunzedal.
- 3 February: P. Cleveringa, Utrecht (Netherlands), vegetation reconstruction of Hunzedal.
- 15 February: M. Bartels (Archeologie Deventer), fieldwork Deventer.
- 15-16 February: Dr Bob Corell, lecture Studium Generale Groningen.
- 22 February: Dr Bart Ebbing, Wageningen (Netherlands), lecture Studium Generale Groningen.
- 24 February: Prof. J. Crouwel, Amsterdam (Netherlands), lecture on the excavation at Geraki (Greece).
- 9 March: Dr Yvon Csonka, Nuuk (Greenland), lecture Studium Generale Groningen.
- 13 April: Dr O. Brinkkemper, Amersfoort (Netherlands), reference collections.
- 14-15 April: Dr A. Simpson, Department of Political Science and Public Policy, University of Waikato, Hamilton (New Zealand), Research visit (Antarctic heritage, tourism).
- 18 April: S.M. Djamali (Iran), PhD research.
- 11 May: P. Vos, Utrecht (Netherlands), vegetation reconstruction of Hunzedal.
- 17-18 May: Dr M. Polcyn (Poznan), identification of archaeobotanical material from Turkey.
- 3-4 June: Dr Susan Barr (Norway), Dr Dag Avango (Sweden), Dr Urban Wrakberg (Sweden), Dr Miles Oglethorp (UK), Dr Gustav Rossnes (Norway), Dr Mike Bravo (UK).
- 9 June: Dr. Hans Oerter, Alfred Wegener Institute for Polar and Sea Research in Bremerhaven (Germany).
- 16 June: Prof. J. Rozema, VU Amsterdam (Netherlands), research planning Spitsbergen.
- 17 June: Dr R.M. Bekker, Groningen (Netherlands), Digital Seed Atlas.
- 24 August: Dr R.M. Bekker, Groningen (Netherlands), Digital Seed Atlas.
- 8 September: Dr R.M. Bekker, Groningen (Netherlands), Digital Seed Atlas.
- 23 September: Delegation of the ICN, K. van Lookeren-Campagne and students of the restoration department visiting the LCM, introduction and possibilities for apprenticeships.
- 26 September: C. Kilger, J. K. Øhre Askjem, U. Pedersen, B.W. Hansen and B. Gaut, researchers of the Kaupang project (Norway).
- 4 October: Dr Willem Mörzer Bruyns, Amsterdam (Netherlands), history of polar research.
- 7 October: M. Bartels & I. Hermsen (Archeologie Deventer), research Deventer.
- 20 October: Hans Beelen of the University of Oldenburg.
- 24 October: Prof. V. Starkov, Archaeological Institute, Russian Academy of Science, Moscow.
- 2 November: delegation of the ROB at the LCM for presentation of the Fabrics research, Guus Lange and colleagues on the topic of the NRC (national reference collection).
- 2 November: Dr J.J. Roodenberg, Leiden (Netherlands), excavation at Yenisehir (Turkey).
- 11 November: Dr J. Kalis (Frankfurt), palynological research/education.
- 29 November: Dr Nico van der Brink, ALTERRA Wageningen (Netherlands), IPY, bird health and pollution.
- 2 December: Dr Colleen Swords, Canadian Ambassador.

### 3.6 EDITORSHIPS AND REPRESENTATION ON BOARDS AND COMMITTEES

Abbink, B.P.

- Advisor to the Dutch Committee of the International Polar Year 2007-2008

Attema, P.A.J.

- Head of the Department of Archaeology
- Director of the Research Master in Art History and Archaeology
- Member of the Management team GIA
- Chairman of the Advisory Board GIA
- Co-editor *Palaeohistoria*
- Member of the Advisory Board *Journal of Mediterranean Archaeology (TMA)*
- Member Editorial Board *Groningen Archaeological Studies*

Bos, J.M.

- Secretary of the Foundation for the Archaeology of the Middle Ages
- Co-editor *Paleo-Aktueel*
- Co-editor Series *Archaeology in Fryslân*
- Member Editorial Board *Groningen Archaeological Studies*

Cappers, R.T.J.

- Member of the Advisory Board GIA
- Member of the Management team GIA
- Member of the Berenike Foundation
- Member of the scientific committee of the Dutch School of Archaeological Research (ARCHON)
- Member of the Curatorium of the Dutch Institute for the Near East (NINO)
- Editorial board *Groningen Archaeological Studies*
- Editorial board *Palarch*

Dam, K.I.M.

- Member Centre for Canadian Studies
- Delegate for the Netherlands in the Sustainable Development Working Group, Arctic Council

Galestin, M.C.

- Member of the Advisory Board GIA

Haas, T.C.A. de

- (Chief) Editor *Journal of Mediterranean Archaeology (TMA)*

Hacquebord, L.

- Vice President of the International Arctic Science Committee (IASC)
- Council member and delegate for the Netherlands in IASC
- Member of the International Polar Heritage Committee ICOMOS
- Editorial Board of the International Network for Whaling Research digest
- Leader of the IPY-LASHIPA project ([www.LASHIPA.nl](http://www.LASHIPA.nl))
- Editorial Board *Groningen Archaeological Studies*

- Editorial Committee Circumpolar Studies
- Member of the Board of the Centre for Canadian Studies
- Member of the Committee for Polar Research of ALW/NWO
- Member of the Interdepartmental Polar Research Committee Ministries of BUZA, V&W, LNV, OCW and VROM
- Core member of the National Committee International Polar Year 2007-2008

Kooi, P.B.

- Member of the Northern Archaeological Platform (NAP)

Lanting, J.N.

- Co-editor Palaeohistoria

Loonen, M.J.J.E.

- Chairman study group 'Ecology of the Polar areas' of NECOV
- Member of the Scientific Advisory Committee Foundation for Bird research the Netherlands (SOVON)
- Representative for the Netherlands Ny-Ålesund Science Managers Committee (NySMAC)
- Representative for the Netherlands Committee Arctic Flora and Fauna (CAFF)
- Treasurer Foundation Underwater biology
- Webmaster Netherlands Ornithological Union ([www.nou.nu](http://www.nou.nu))
- Webmaster Journal ARDEA ([www.ardeajournal.nl](http://www.ardeajournal.nl))

Leusen, P.M. van

- Secretary of the Course Committee Archaeology
- Member of the Advisory Board of the Faculty of Arts for IT
- Member of the Union Internationale des Sciences Prehistoriques et Protohistoriques (UISPP)
- Co-editor European Journal of Archaeology
- Co-editor Paleo-Aktueel

Nijboer, A.J.

- Member of the Departmental Board Archaeology
- Member of the Educational Advisory Board Archaeology
- Co-ordinator International Educational Exchange
- Co-ordinator Library Groningen Institute of Archaeology
- Co-editor BABesch
- Co-editor Palaeohistoria
- Editorial Advisory Board 'Beyond the Homeland: Markers in Phoenician Chronology'

Niekus, M.J.L.Th.

- Chairman of the Archaeological Work community Netherlands (AWN) for the northern Netherlands.

Prummel, W.

- Member of the Advisory Board GIA
- Member of the Educational Advisory Board Archaeology
- Member Editorial Board Groningen Archaeological Studies
- Member of UCCA: Board on academic archaeology education (Bachelor, Master and postgraduates)

- Member for archaeozoology in NOA (Nationale Onderzoeksagenda)
- Member of the scientific committee of the Nationale Referentie Collectie
- Member for archaeozoology of the advisory committee on quality criteria for scientific research in Dutch archaeology for the College voor de Archeologische Kwaliteit (CvAK) (Board for the protection of quality in archaeology) (June-August 2005)
- Bibliography Groningen
- Member of the jury W.A. van Es-award of SNA (Foundation for Dutch Archaeology)
- Member of the Faculty Board, Faculty of Arts

Raemaekers, D.C.M.

- Member of the Management team GIA
- Member of the Board of Research School ARCHON
- Member of the Educational Advisory Board Archaeology
- Secretary of the Educational Board Archaeology
- Member of Educational Board Research Master in Art History and Archaeology
- Member of National *Verkenningcommissie* Archaeology, Royal Dutch Academy of Sciences
- Co-author National Research Agenda, chapter Early Prehistory
- Member of the Editorial Board Groningen Archaeological Studies

Reinders, H.R.

- Director GIA
- Member of the Management team GIA
- Member of the Evaluation Panel, National Museum Copenhagen

Roura, R.

- Member of the Board, Stichting Antarctica Netwerk (ASOC) (chair)
- Member of the International Association for Impact Assessment

Satijn, O.

- PhD board ARCHON
- Member of the Advisory Board GIA
- Editorship Journal of Mediterranean Archaeology (TMA)

Stapert, D.

- Co-editor Paleo-aktueel

Steenhuisen, F.

- Member of the Steering group of IASC project ACD

Veluwenkamp, J.W.

- Member of the Board of the Northern Maritime Museum Association
- Member of the Board of the Acker Stratingh Foundation
- Co-editor Journal of Maritime History

Voutsaki, S.

- Council of the Archaeological Dialogues Foundation
- Member of the Advisory Board of *Hesperia*, the official Journal of the American School of Classical Studies at Athens
- Member Editorial Board Groningen Archaeological Studies



## 4. PHD TRAINING PROGRAMME

The training programme for PhD students is the responsibility of the Research Schools: PhD students follow courses organized by ARCHON, the Archaeological Research School of the Netherlands. Since 2004, PhD students of GIA have followed practical and interdisciplinary modules at the Groningen Research School for the Study of the Humanities (OGWG). Plans for a Graduate School for Humanities are in preparation.

### 4.1 CURRENT PHD PROJECTS

#### **Peter Abbink**

*Dutch Antarctic policy and research since 1945 in comparison with that of Belgium and Germany*

Supervisors: Hacquebord & Veluwenkamp

#### **Luca Alessandri**

*Landscape and human settlement in protohistoric Southern Latium, Italy*

Supervisors: Attema, Peroni & Vanzetti

#### **Kim van Dam**

*Reception of sustainability in the Inuit territory Nunavut*

Supervisor: Hacquebord

#### **Izabel Devriendt**

*The flint and other stone material from Swifterbant*

Supervisor: Raemaekers

#### **Rik Feiken**

*Geo-archaeological Approaches to the Hidden Landscapes of Italy*

Supervisors: Attema & Van Leusen

#### **Tymon de Haas**

*The Romanization of the Pontine Region*

Supervisors: Attema & Van Leusen

#### **Nanka Karstkarel**

*The development of the Antarctic ice sheet, pack ice and iceberg boundaries during the period ca. 1770-1950 on the basis of old maps, charts and logbooks*

Supervisors: Hacquebord & Oerlemans

#### **Eleni Milka**

*Mortuary differentiation and social structure in the Middle Helladic Argolid*

Supervisors: Attema & Voutsaki

#### **Saskia Mulder**

*The development of agricultural autonomy in the northern Netherlands during the Iron Age,*

*Roman period and early Middle Ages (800 BC-AD 1000)*

Supervisors: Raemaekers & Cappers

**Marcel Niekus**

*Stone Age Occupation of the Northern Netherlands. Time, Space, Location and Subsistence*

Supervisor: Raemaekers

**Annet Nieuwhof**

*Ritual deposits in the northern Netherlands coastal area – Iron Age until Christianization*

Supervisor: Raemaekers

**Alice Overmeer**

*Dutch clinker-built ships in the 15th and 16th centuries*

Supervisors: Raemaekers, Reinders & Van Holk

**Olaf Satijn**

*A socio-economic and political landscape archaeology of transition: Southern Lazio from the late Roman period to incastellamento*

Supervisor: Attema

**Bjørn Smit**

*Valuable flints? Assessment and selection of stone age sites in the northern Netherlands*

Supervisor: Raemaekers

**Johan Thilderqvist**

*Ritual bones or common waste. A study of bone deposits in northwestern Europe*

Supervisors: Prummel, Cappers & Raemaekers

## 4.2 PHD PROJECTS 1999-2005

This table lists the GIA PhD students for the period 1999-2005 ( B = Starting date, E = End date, D = Defence, S = Stopped).

Name	1999	2000	2001	2002	2003	2004	2005
Alessandri, L.				1-11 B			
Bakker, R.					8-5 D		
Bosma, K.L.B.			28-2 E				
Dam, K.I.M. van			1-6 B				
Devriendt, I.I.J.A.L.M.						1-9 B	
Feiken, H.							1-9 B
Gerrets, D.A.		16-1 E					
Haas, T.C.A. de							1-9 B
Hekman, J.J.					15-5 D		
Jelsma, J.		15-5 D					
Joolen, E. van				31-8 E	12-6 D		
Karstkarel, N.	1-1 B					1-6 E	9-6 D
Leusen, P.M. van				30-5 D			
Milka, E.					1-11 B		
Mulder, S.A.						1-9 B	1-2 S
Mulders, K.E.A.	1-6 B					31-5 E	
Niekus, M.J.L.Th.				1-9 B			
Roura, R.M.							1-3 B
Satijn, O.			1-11 B				
Smit, B.I.						1-1 B	
Tensen, M.A.					16-8 B	15-8 E	
Thilderqvist, J.G.M.							1-9 B

## 5. PUBLICATIONS 2005

### Number of publications

PhD Thesis	1
Monograph	–
Chapters in book or proceedings	25
Articles in international journals	10
Articles in regional journals	38
Scientific editorial works	7
Archaeological reports	3
Reviews	4
Encyclopedia contributions	2

### PhD Thesis

KARSTKAREL, N., 2005. *Changes in shelf ice extent in West Antarctica between 1840 and 1960, Analysing historical maps in a Geographical Information System* (Circumpolar Studies, Volume 3). PhD thesis, University of Groningen, 170 pp.

### Chapters in books or proceedings

- ATTEMA, P.A.J., 2005. Early Urbanization between 800 and 600 BC in the Pontine Region (South Lazio), the Salento Isthmus (Apulia), and the Sibaritide (Northern Calabria). In: R. Osborne & B. Cunliffe (eds), *Mediterranean Urbanization 800-600 BC, Proceedings of the British Academy* 126. Oxford/New York, Oxford University Press, pp. 113-142.
- ATTEMA, P.A.J. & T.C.A. HAAS, 2005. Villas and farmsteads in the Pontine region between 300 BC and 300 AD: a landscape archaeological approach. In B. Santillo Frizell & A. Klynne (eds), *Roman villas around the Urbs. Interaction with landscape and environment. Proceedings of the conference at the Swedish Institute in Rome, September 17-18, 2004*. Rome, Swedish Institute in Rome, pp. 1-17.
- ATTEMA, P.A.J., J.J. DELVIGNE & P.M. VAN LEUSEN, 2005. Recenti Ricerche nei Pressi di Timpone della Motta, Vicino Francavilla Marittima (Calabria). In *Atti della XXXVII riunione scientifica, Preistoria e protostoria della Calabria, Scalea Papisidero, Praia a Mare, Tortora, 29 settembre-4 ottobre 2002*, Volume II. Firenze, Istituto Italiano di Preistoria e Protostoria, 2004, pp. 825-833.
- CAPPERS, R.T.J. & W. PRUMMEL, 2005. Planten en dieren in het kwelderlandschap. In E. Knol, A.C. Bardet & W.P. Prummel (eds), *Professor van Giffen en het geheim van de wierde*, pp. 136-151.
- DAM, K.I.M. VAN, 2005. A Place Called Nunavut: Building on Inuit Past. In G.J. Ashworth & B. Graham (eds), *Senses of Place: Senses of Time*. Ashgate, Hants (UK)/Burlington (USA), pp. 105-117.
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- HACQUEBORD, L. & W.A. LIGTENDAG, 2005. Noordelijk zeekleilandschap. In S. Barends et al. (eds), *Een historischgeografische benadering*. Utrecht, Matrijs, pp. 14-27.
- HESSING, W.A.M. & P.B. KOOI, 2005. Urnfields and cinerary barrows. In L.P. Louwe Kooijmans et al. (eds), *The prehistory of the Netherlands*. Amsterdam, Amsterdam University Press, pp. 631-654.

- KAMERMANS, H., P.M. VAN LEUSEN, J. DEEBEN, D. HALLEWAS, P. VERHAGEN & P. ZOETBROOD, 2005. Project Proposal. In P.M. van Leusen & H. Kamermans (eds), *Predictive Modelling for Archaeological Heritage Management: a research agenda* (= Nederlandse Archeologische Rapporten, deel 29). Amersfoort, Rijksdienst voor het Oudheidkundig Bodemonderzoek, pp. 15-25.
- KOOI, P.B., 2005. Water en wierden. In J.E. Emmelkamp (ed.), *De historie van boerderijen en molens in de gemeente Appingedam*. Bedum, Profiel, pp. 12-24.
- LEUSEN, P.M. VAN & H. KAMERMANS, 2005. Introduction. In P.M. van Leusen & H. Kamermans (eds), *Predictive Modelling for Archaeological Heritage Management: a research agenda* (= Nederlandse Archeologische Rapporten, deel 29). Amersfoort, Rijksdienst voor het Oudheidkundig Bodemonderzoek, pp. 9-14.
- LEUSEN, P.M. VAN, J. DEEBEN, D. HALLEWAS, H. KAMERMANS, P. VERHAGEN & P. ZOETBROOD, 2005. Baseline Report. In P.M. van Leusen & H. Kamermans (eds), *Predictive Modelling for Archaeological Heritage Management: a research agenda*. Amersfoort, Rijksdienst voor het Oudheidkundig Bodemonderzoek, pp. 27-94.
- NIEKUS, M.J.L.T. & D. STAPERT, 2005. Het Midden-Paleolithicum in Noord-Nederland. In J. Deeben, E. Drenth, M.F. van Oorsouw & L. Verhart (eds), *De Steentijd van Nederland* (= *Archeologie* 11/12), pp. 91-118.
- NIEUWHOF, A., 2005. Synopsis of conference discussions. In A.G. Lange (ed.), *Reference Collections. Foundation for Future Archaeology. Proceedings of the international conference on the European electronic Reference Collection, May 12-13, 2004*. Amersfoort, Rijksdienst voor Oudheidkundig Bodemonderzoek, pp. 15-22.
- NIJBOER, A.J., 2005. Characteristics of Emerging Towns in Central Italy, 900/800 to 400 BC. In P.A.J. Attema (ed.), *Centralization, early Urbanization and Colonization in First Millennium BC Italy and Greece. Part 1: Italy*. Leuven/Paris/Dudley, Peeters, MA, 2004, pp. 137-156.
- NIJBOER, A.J., 2005. Jeweller's workshops in context. In A. Perea, I. Montero & O. Garcia-Vuelta (eds), *Tecnología del Oro Antiguo: Europa Y America* (Ancient Gold Technology: America and Europe). Madrid, Consejo Superior de Investigaciones Científicas, pp. 371-383.
- PEETERS, H. & M.J.L.T. NIEKUS, 2005. Het mesolithicum in Noord-Nederland. In J. Deeben, E. Drenth, M.F. van Oorsouw & L. Verhart (eds), *De Steentijd van Nederland* (= *Archeologie* 11/12), pp. 201-234.
- POSTMA, H., M. BLAAUW, R. PEREGO, P. SCHILLEBEECKX, G. LOBO & A.J. NIJBOER, 2005. Elemental Composition of Bronze Artefacts Determined by Neutron-resonance-capture-analysis Using a Pulsed Beam of Epithermal Neutrons. In H. Kars, E. Burke (eds), *Proceedings of the 33rd International Symposium on Archaeometry, 22-26 April 2002*. Amsterdam, Institute for Geo- and Bioarchaeology Vrije Universiteit, pp. 377-380.
- PRUMMEL, W., 2005. The avifauna of the Hellenistic town of New Halos, Thessaly, Greece. In G. Grupe & J. Peters (eds), *Feathers, grit and symbolism; Birds and humans in the ancient Old and New Worlds* (= *Documenta Archaeobiologiae*; Bd. 3). Rahden/Westf., Leidorf, pp. 349-360.
- PRUMMEL, W., 2005. Molluscs from a Middle Bronze Age site and two Hellenistic sites in Thessaly, Greece. In D.E. Bar-Yosef Mayer (ed.), *Archaeomalacology: Molluscs in former environments of human behaviour*. Oxford, Oxbow Books, pp. 107-121.
- RAEMAEKERS, D.C.M., 2005. Het Vroeg- en Midden-Neolithicum in Noord-, Midden- en West-Nederland. In J. Deeben, E. Drenth, M.F. van Oorsouw & L. Verhart (eds), *De Steentijd van Nederland* (= *Archeologie* 11/12), pp. 261-282.
- RENSINK, E. & D. STAPERT, 2005. De eerste 'moderne' mensen. Jong-paleolithicum. In L.P. Louwe Kooijmans, P.W. van den Broeke, H. Fokkens & A.L. van Gijn (eds), *Nederland in de*

- prehistorie*. Amsterdam, Bert Bakker, pp. 115-134.
- STAPERT, D., 2005. Het Laat-Paleolithicum in Noord-Nederland. In J. Deeben, E. Drenth, M.F. van Oorsouw & L. Verhart (eds), *De Steentijd van Nederland (= Archeologie 11/12)*, pp. 143-169.
- STAPERT, D., 2005. The first 'modern' humans. Upper Palaeolithic. In L.P. Louwe Kooijmans et al. (eds), *The prehistory of the Netherlands*. Amsterdam, Amsterdam University Press, pp. 115-134.
- VERHAGEN, P., J. DEEBEN, D. HALLEWAS, P. ZOETBROOD, H. KAMERMANS & P.M. VAN LEUSEN, 2005. A review of predictive modelling for archaeological heritage management in the Netherlands. In J.F. Berger, F. Bertoncello, F. Braemer, G. Davtian & M. Gazenbeek (eds), *Temps et espaces de l'homme en société, analyses et modèles spatiaux en archéologie. XXVe rencontres internationales d'archéologie et d'histoire d'Antibes*. Éditions APDCA, Antibes, pp. 83-92.

#### Articles in international journals

- ATTEMA, P.A.J., T.C.A. DE HAAS & M. LA ROSA, 2005. Sites of the Fogliano survey (Pontine Region, central Italy), site classification and a comment on the diagnostic artefacts from Prehistory to the Roman period (2003/2004). *Palaeohistoria* 45/46, pp. 121-196.
- BOTTEMA, S., R.T.J. CAPPERS & A. KLOOSTERMAN, 2005. The pollen signal of early Neolithic farming along a habitation gradient in northern Drenthe. *Palaeohistoria* 45/46, pp. 37-58.
- CAPPERS, R.T.J. & H. WOLDRING, 2005. Sytze Bottema: an appreciation. *Palaeohistoria* 45/46, pp. 1-2.
- LEUSEN, P.M. VAN, T.C.A. DE HAAS, S. POMICINO & P.A.J. ATTEMA, 2005. Protohistoric to Roman Settlement on the Lepine Margins near Ninfa (south Lazio, Italy). *Palaeohistoria* 45/46, pp. 301-346.
- LOTZE, H.K., K. REISE, B. WORM, J. VAN BEUSEKOM, M. BUSCH, A. EHLERS, D. HEINRICH, R.C. HOFFMANN, P. HOLM, C. JENSEN, O.S. KNOTTNERUS, N. LANGHANKI, W. PRUMMEL, M. VOLLMER & W.J. WOLFF, 2005. Human transformations of the Wadden Sea ecosystem through time: a synthesis. *Helgoland Marine Research* 59, no. 1, pp. 84-95.
- PRUMMEL, W. & D. HEINRICH, 2005. Archaeological evidence of former occurrence and changes in fishes, amphibians, birds, mammals and molluscs in the Wadden Sea area. *Helgoland Marine Research* 59, no. 1, pp. 55-70.
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- RAEMAEKERS, D.C.M., I. DEVRIENDT, R.T.J. CAPPERS & W. PRUMMEL, 2005. Het nieuwe Swifterbant Project. Nieuw onderzoek aan de mesolithische en neolithische vindplaatsen nabij Swifterbant (provincie Flevoland, Nederland). *Notae Praehistoricae* 25, pp. 119-127.
- VOUTSAKI, S., 2005. Age and gender in the southern Greek mainland, 2000-1500 BC (jaargang 46 = 2004, verschenen in 2005). *Ethnographisch-Archaeologische Zeitschrift* 46, no. 2-3, pp. 339-363.
- WENDRICH, W.Z. & R.T.J. CAPPERS, 2005. Egypt's earliest granaries: evidence from the Fayum. *Egyptian Archaeology* 27, pp. 12-15.

### Articles in regional journals

- AALDERS, Y., H.M. MOLTHOF, W. DE NEEF & H.R. REINDERS, 2005. Nagels en plaatjes uit Wijnaldum (Fr.). Aanwijzingen voor Friese klinkerscheppen in de vroege Middeleeuwen? *Paleo-Aktueel* 14/15, pp. 150-154.
- ATTEMA, P.A.J. & G. TOL, 2005. Nieuwe veldverkenningen en een oude verzameling, werken aan de archeologische kaart van de gemeente Nettuno (Italië). *Paleo-Aktueel* 16, pp. 71-76.
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- ATTEMA, P.A.J., R. FEIKEN, T.C.A. DE HAAS, P.M. VAN LEUSEN & J. OOSTERHUIS, 2005. Survey in het dal van de Astura, 2003. *Paleo-Aktueel* 14/15, pp. 92-97.
- BAAK, P.J., S. BOTTEMA, R.T.J. CAPPERS & H. WOLDRING, 2005. Vegetatiehistorie van Jardinga (Fr.). *Paleo-Aktueel* 14/15, pp. 38-44.
- BOS, J.M. & E.W. BROUWER, 2005. Kruisvormige mantelspelden in vroegmiddeleeuws Friesland. *Paleo-Aktueel* 16, pp. 96-100.
- CAPPERS, R.T.J., 2005. Onderzoek aan plantenresten uit Grieks-Romeins Karanis (Fayum, Egypte): een doorstart na 70 jaar. *Paleo-Aktueel* 16, pp. 89-95.
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- CAPPERS, R.T.J., Y. BOEKEMA & S.A. MULDER, 2005. Zaadgrootte als domesticatiekenmerk. *Paleo-Aktueel* 14/15, pp. 58-63.
- CAPPERS, R.T.J., F. VREDE & H. DOPMEIJER, 2005. Plantenresten uit de Friesestraatweg-wierde. *Hervonden stad 2005, Jaarboek voor archeologie, bouwhistorie en restauratie in de gemeente Groningen*, pp. 93-104.
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- HACQUEBORD, L., 2005. Drie bijdragen (Amy van Marken en het Arctisch Centrum, De grenzeloze mogelijkheden van het Arctisch Centrum en Twenty-five years of multi-disciplinary research into the 17<sup>th</sup> century whaling settlements in Spitsbergen). In N. Boschman, L. Hacquebord & J.W. Veluwenkamp (eds), *Het topje van de ijsberg. 35 jaar Arctisch Centrum (1970-2005)* (Circumpolar Studies, Volume 2). Groningen, Barkhuis Publishing, pp. 15-20, 41-46, 53-60.
- HACQUEBORD, L., 2005. Hout vrede met de mense en oorlog met de vis. Drie walvisvaartjournalen en een memoriael van Fedde Jansz Visser. *Een nieuwe Chronyke van het Schermereiland* 22, no. 2, pp. 104-115.
- JANS, J.E.A. & R.T.J. CAPPERS, 2005. Brood- en macaroni-tarwe in het oude Egypte: een late oogst. *Paleo-Aktueel* 14/15, pp. 82-88.
- JOHANSEN, L., M.J.L.T. NIEKUS & D. STAPERT, 2005. Twee vuurmakers van vuursteen van het type Rijckholt. *Paleo-Aktueel* 14/15, pp. 16-20.
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