

University of Groningen
Groningen Institute of Archaeology – GIA

Annual Report 2012

Northern Cemetery, Ayios Vasilios: Early Mycenaean cemetery (photo Sofia Voutsaki).

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FOREWORD

Writing the foreword to the GIA annual report leads me to the appreciation of the active research climate at our institute. As always, new PhD students started projects in 2012, while others defended their theses. In 2012, Frits Heinrich started his project, 'Productive Landscapes. An interdisciplinary inquiry into the productivity of crop husbandry in the Roman Empire 200 BC–AD 300' (promotor Peter Attema), Tamara Dijkstra began her work on 'Civic and Cultural Identities in a Changing World. Analysing the mortuary practices of the postclassical Peloponnese' (promotor Sofia Voutsaki), while Eleni Panagiotopoulou started the project 'The transition from the Bronze Age to the Iron Age in Greece: isotopic analysis of skeletal remains from sites of Central Greece' (promotor Sofia Voutsaki). Three PhD students defended their work. Gijs Tol (*The archaeological map of Nettuno; site classification and analysis of a local settlement system (700 BC–500 AD) in a regional context*), Carmelo Colelli (*Ceramica 'impasto da Francavilla Marittima. Ceramica grigia e altre produzioni ceramiche. Circolazione di merci e modelli nella Sibaritide [e in Italia meridionale] nell'età del Ferro*) and Stefan Elevelt (*Subsistence and social stratification in Northern Ionic Calabria from the Middle Bronze Age until the Early Iron Age: the archaeozoological evidence*). Peter Attema was promotor for all three students.

In 2012, Tamara Dijkstra was also the proud winner of the GUF-100 prize in the Faculty of Arts, in recognition of her outstanding results as a undergraduate student.

As in previous years, there were a number of staffing changes: Robert Kusters, assistant in our archaeozoology lab, retired and was succeeded by Lisette de Vries. Luckily, GIA was also able to compensate for the retirement of staff members Marjan Galestin and Wietske Prummel with new staff members, Lidewijde de Jong and Canan Çakırlar. Lidewijde was appointed as a Rosalind Franklin Fellow, a University of Groningen programme aimed to attract high-potential female academics. We expect that Lidewijde and Canan will make their marks in GIA research in the coming years. On a sad note, former staff member Jurjen Bos passed away in 2012. We remember him as a warm personality who was devoted to teaching students in the field of medieval archaeology. In 2012, retired technician Hans Zwier also died. He supported generations of staff members and students and can be considered one of the icons of the former BAI.

2013 may have only just begun, but it will certainly be another dynamic year.

Daan Raemaekers
Director

1. GRONINGEN INSTITUTE OF ARCHAEOLOGY

The Groningen Institute of Archaeology (GIA) was established on 23 November 1995. Prior to this, 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 Arctic Centre.

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, the GIA is associated with ARCHON, the Dutch research institute, which comprises archaeology departments at four universities (the University of Amsterdam, VU University Amsterdam, the University of Groningen and Leiden University), and the RCE (Dutch Cultural Heritage Agency) at Amersfoort.

1.2. Profile

GIA engages in fundamental archaeological research with a strong ecological component in the Northwest European, Mediterranean and Polar 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 complex urban societies, using archaeological and present-day evidence for the reconstruction of ecosystems, resource exploitation, life styles and societies. The Institute facilitates research and fieldwork through its laboratories, drawing facilities, documentation, GIS and technical support. In addition, GIA coordinates the PhD student training programme and stimulates the dissemination of knowledge and culture to society at large.

1.3. Staff

Director	Advisory Board	Management Team
Prof. D.C.M. Raemaekers	Prof. P.A.J. Attema	Prof. P.A.J. Attema
	F. Kruse MSc	Prof. R.T.J. Cappers
	Dr P.M. van Leusen	Prof. L. Hacquebord
	Dr M.J.J.E. Loonen	Prof. D.C.M. Raemaekers
	Dr W. Prummel	Prof. S. Voutsaki
Members	PhD Students	Support Staff
Dr S. Arnoldussen	S.M. Beckerman MA	S.A. Blomsma
Prof. P.A.J. Attema	T.M. Dijkstra MA	Drs. M.L.J. Bergmans
Dr C. Çakırlar	F.B.J. Heinrich MA	S.E. Boersma
Prof. R.T.J. Cappers	F. Ippolito MA	E. Bolhuis
Dr M.C. Galestin	O. Jones MA	Drs J.B. Boschman
Prof. H.A. Groenendijk	Drs M.E. van Kruining	A.J. Bouman
Prof. L. Hacquebord	F. Kruse MSc	T.P. Jacobs
Prof. A.F.L. van Holk	Drs T. van Loon	R.J. Kusters
Dr L. de Jong	Drs W. de Neef	M.A. Los-Weijns
Prof. G.J. de Langen	Drs A. Nieuwhof	Drs G.J.M. van Oortmerssen
Dr P.M. van Leusen	G.R. Nobles MSc	R.M. Palfenier-Vegter
Dr E. van 't Lindenhout	E. Panagiotopoulou MSc	N.D. van der Pers MA
Dr M.J.J.E. Loonen	D. Postma MA	K. van der Ploeg
Dr J.A.W. Nicolay	F.B. Postma-Saan MA	F. Possel
Dr A.J. Nijboer	M. Schepers MA	S. Tiebackx
Dr J.H.M. Peeters	J.F. Seubers MA	Drs. L.S. de Vries
Dr W. Prummel	Drs T.K. Terpstra	
Prof. D.C.M. Raemaekers	C.W. Wiersma MA MPhil	
Ing. F. Steenhuisen	Drs S.L. Willemsen	Postdocs
Prof. S. Voutsaki		Dr K.L. Armstrong
		Dr B. Belelli Marchesini
Associate members		Dr G.W. Tol
Prof. J. Sevink		Dr T.C.A. de Haas

1.4. Finances

OVERVIEW OF PROJECT GRANTS 2012

Project	Source	Chair	Amount (k€)
Trechterbeker-Land van Ontdekkingen	EU-Interreg	1	93
Trechterbeker-Land van Ontdekkingen	EU-Interreg	1	39
Zodenhuis Firdgum	Friesland and others	1	355
Terpzoelenonderzoek Fryslân	Friesland and others	1	257
Water, Geschiedenis en Identiteit	Waddenacademie/Friesland	1	227
Proefsleuvenonderzoek Arkum	Friesland	1	54
ANAGHLIA	Bespo	2	40
Productive Landscapes	NWO	2	207
Northern Cemetery Ayios Vasilios	Ammodo Foundation	3	79
From historical data to a prediction	NWO	4	276
Ecological consequences	NWO	4	243
Nederlands Polair Programma	NWO	4	650
			2520
1 Prehistory and Protohistory NW Europe			
2 Classical and Mediterranean Archaeology			
3 Greek Archaeology			
4 Arctic and Antarctic Studies			

2. RESEARCH RESULTS

2.1 PREHISTORIC AND PROTOHISTORIC ARCHAEOLOGY OF NORTHWEST EUROPE

2.1.1 The development of cultural landscapes

Prehistoric cultural landscapes

Celtic field project (S. Arnoldussen)

The multi-year research programme into the nature of the Dutch Celtic fields has had various results. First, a detailed report on the 2010 excavation at Zeijen-Noordse veld has been published (open access). Second, a publication catering to an interested general audience was published for the 2011 excavation at Lunteren-Wekerom (Gem. Ede). Additionally, two locations in the southern Netherlands were targeted, with coring done and test pits dug to determine their suitability for more extensive fieldwork within the project. Provisional project results were disseminated to a professional audience at the Dutch national archaeology conference (Reuvensdagen).

Barrow-settlement interrelations at Angelslo-Emmerhout (S. Arnoldussen, E.E. Scheele)

The well-known site of Angelslo-Emmerhout (excavated in the 1960s) has only been studied and published in a piecemeal fashion. A study was undertaken of the interplay of funerary and domestic domains, and the long-term cultural landscape composition between 3500 and 500 BC, for the Angelslo-Emmerhout area. This resulted in an open access publication.

Excavation Valthe: Neolithic and Iron Age near two megalithic tombs (S. Arnoldussen, R.L. Fens and D.C.M. Raemaekers)

Unplanned soil disturbance directly to the south of Neolithic megalithic tombs D36 and D37 near Valthe prompted the excavation of c. 1 ha large area, carried out with the assistance of first-year students. A large scatter of ceramic sherds and flint artefacts contemporary to the tombs (Funnel Beaker culture) was found within 15 m of the tombs. Some large features and a ¹⁴C-dated pit date to the same period. These finds suggest that activities were carried out close to the tombs. The nature of the activities are as yet unknown: due to the lack of finds from the tombs, it is unclear whether the finds close by are to be related to the period of construction or use (or both). The presence of fragments of clay discs and flint refits might indicate settlement activities.

The Iron Age use of the area is documented by the presence of a large number of sherds and features interpreted as granaries and fences. Close to the tombs, several features are considered to be the remnants of a house plan, oriented parallel to the tombs (and possibly directly bordering the original soil capping of the stones). This house indicates that Iron Age farmers did not exclude these Neolithic monuments from their cultural landscape, but in fact incorporated them.

The archaeology of the terp-mound area

Terp research Dronrijp-Zuid (J.A.W. Nicolay)

In the early summer of 2012, the 80 m long section of a partly dug away terp site south of the village of Dronrijp was cleaned and documented (as part of the research project ‘Terpenproject Steilkantonderzoek Friesland’). This site is of special interest because it is situated on the oldest salt-marsh ridge within the former Boorne estuary, where habitation has been possible since the Middle Iron Age (after c. 500 BC). In addition to one feature dating to the 8th–10th centuries, the section cuts through habitation layers and dug-in features dating to the Late Iron Age and Roman Iron Age (c. 100 BC–250/300 AD). Most exceptional is a drinking pit for domestic animals (a so-called ‘dobbe’), bordered on one side by a contemporary house podium and on the other by a wall that protected this pit against flooding. A survey was conducted on the intact part of this terp in squares of 20 x 20 m, collecting all finds from the top soil including pottery dating from the Middle Iron Age to the medieval period (c. 500 BC–1200 AD).

Terp research Dronrijp-Oost (J.A.W. Nicolay)

Shortly after the research in Dronrijp-Zuid was completed, two angled sections east of Dronrijp were cleaned and documented as part of the Dutch-German project 'Land van Ontdekkingen/Land der Entdeckungen'. In these sections, having a total length of 120 m, the flank of a house podium was cut, dating to the Late pre-Roman Iron Age and the Roman Iron Age (c. 100 BC–250/300 AD). The top of the podium had been levelled as a result of ploughing and covered with some agricultural layers, which are probably related to the re-use of this site after a 4th-century break in habitation (also known from many other sites in the region). Three sod houses were constructed directly on top of these layers, which can be dated to the Merovingian period and which replaced each other over time. In two cases the lowest part of the actual sod walls was well preserved and visible as a pile of neatly placed sods. Probably in the Carolingian period, habitation moved to the terp flanks, a pattern well known from other terps in Friesland. Among the pottery finds, some sherds dating to the Middle Iron Age (5th century BC) were present, indicating that habitation on the salt-marsh ridge of Dronrijp and on the lower soils behind it started simultaneously.

The nature of artificial dwelling mounds (Terpen, Wierden and Wurten) (A. Nieuwhof, H. Jöns, G.J. de Langen, J.A.W. Nicolay, A. Siegmüller)

As part of the 'Land der Entdeckungen' programme, cooperation with archaeologists from the Niedersächsisches Institut für historische Küstenforschung in Wilhelmshaven (Germany) resulted in a paper on the nature of the artificial dwelling mounds called *terpen* in Friesland, *wierden* in Groningen and *Wurten* in Germany. The collaboration was fruitful in that it clearly showed the differences between research traditions and related different views on the genesis of these mounds and the surrounding landscapes. These insights can be used as a basis for further cooperation in the future.

Turf house project (D. Postma)

Work focused on establishing a definitive research setup and launching the experimental reconstruction of an early medieval farm building. For the research setup, field drawings of several GIA terp excavations were reviewed: all of the documentation contained valuable unpublished evidence on ancient building traditions worthy of further analysis. In addition to 'building materials' and 'building typology', 'spatial development of settlements' was added to the research design as a primary focal point. A key site was selected for each of these three research stages.

From 20 August to 23 November an 8th-century farm building was reconstructed in Firdgum (Fr.). A 10 x 20 m house platform and 6.5 x 17 m farm building were constructed, its walls made from salt-marsh turves. Timber was used for the roof structure. Due to poor weather conditions, completion had to be postponed until May 2013. The experiment yielded unique insights into turf construction and was carefully documented for future research. T. Sibma (MA student) produced a plan for the Yeb Hettinga Museum, ensuring museum involvement, as one of the goals set in the Turf House Project along with other regional initiatives. Several public activities were organized as part of the Dutch History Month (see 'Workshop and Exhibitions' and 'Press' sections).

PhD project: The remains of rituals in the northern Netherlands coastal area, 600 BC–AD 300 (A. Nieuwhof)

The remains of humans and dogs were examined as part of the PhD project. Human bones are often found in isolation, probably because they were collected after excarnation and used in secondary rituals that were meant to establish ancestral grounds. Tooth marks of dogs and the type of human bones that are usually retrieved (skulls, skull parts and a selection of various small bones) suggest that dogs played a part in the excarnation process. This possibly means that they were considered mediators between the dead and the living, and as such, part of the family.

Archaeozoology in the terpen area (W. Prummel, J.T. van Gent, A.G.J. Hullegie, P. Verplanke, S. Manuel, M. Post, D. Timmerman, H. Kranenburg)

The animal remains of the Firdgum terp (excavation 2011) were studied with second-year students during the archaeozoology course. The terp dates from the Early Middle Ages and the beginning of the Late Middle Ages. Cattle and sheep were kept in Firdgum in about equal numbers and supplied meat, milk and

skins; the cattle were used for traction and the sheep delivered wool. Pigs, horses, dogs, cats and domestic fowl were kept in much smaller numbers.

All fish species were marine or estuarine species. Flatfishes (flounder, plaice and dab, but also sole) and eel were the most commonly consumed. Rays and sharks were also captured, as well as garfish (*Belone belone*), thinlip mullet (*Liza ramada*) and gadid species, for example whiting (*Merlangius merlangus*), herring (*Clupea harengus*) and European smelt (*Osmerus eperlanus*). A new species for Dutch terpen research is the European whitefish (*Coregonus lavaretus*) (identification Dr D.C. Brinkhuizen).

Fowling was of some importance at Firdgum. Most bird remains were identified as bones of dabbling ducks (mallard, wigeon), geese (graylag goose), swan and various waders (golden plover, black-tailed godwit, ruff, curlew, whimbrel, dunlin, knot).

The first phalanx of a humpback whale (*Megaptera novaeangliae*) and another, but small fragment, therefore identified as a fragment of a large whale, were brought from the tidal flats or the Wadden Islands to the terp. Both bones show marks from the removal of the meat, probably for consumption. A vertebra fragment of a harbour porpoise (*Phocoena phocoena*), another whale species, probably comes from a bycatch in fishery. Two mustelids were demonstrated in Firdgum: European polecat and stoat. These species would have fed on all kinds of animals, including mice, birds and fish. They were perhaps captured by the Firdgum inhabitants for their fur.

In Firdgum several hard objects were found, which were described by the excavators as possibly coprolites, i.e. animal or human excrement. Small bone fragments may be expected in dog coprolites. Danique Timmerman dissolved parts of the 'coprolites' in an alkaline solution but found no bone fragments or parasite eggs in the solution. Her conclusion was that the objects are excrements of herbivores or consist of soil that underwent certain processes.

C and N stable isotope analyses of cattle and sheep samples from all phases of the terp of Achlum showed a clear effect of the marine environment around the site (raised $\delta^{15}\text{N}$ values) in the Iron Age through to the Early Middle Ages. All sheep $\delta^{15}\text{N}$ values were about 3‰ higher than those of cattle, suggesting the Achlum sheep grazed on pastures with higher salinity than the cattle. The $\delta^{15}\text{N}$ values of the Late Medieval sheep and cattle were much lower than those of the sheep and cattle from the older phases. This difference is the result of a decline in salinity after the building of dykes. C and N stable isotope analyses were also carried out on three cattle bones from the site of Arkum, two from the Iron Age, when a fresh water environment prevailed, and one from the later phase of the Middle Roman period, when the environment was more saline. The first two cattle bones had $\delta^{15}\text{N}$ values as low as those from aurochs and cattle bones from rivers and brooks in the Drenthe plateau, indicating the fresh water environment of Achlum in that period. The third and last cattle bone had a $\delta^{15}\text{N}$ value also found in cattle bones from terpen in salt-marsh environments. A series of similar 'coprolites' were analysed by A.G.J. Hullegie and W. Prummel. No bone fragments or parasite eggs were found. This was reason to conclude that the Achlum 'coprolites' were neither human nor animal excrement.

In contrast, small bone fragments were found by A.G.J. Hullegie in dissolved parts of 'coprolites' from the terp of Arkum. He concluded that these objects might have been dog excrement. The animal remains from Arkum (excavation 2012) were studied by A.G.J. Hullegie and W. Prummel. This site was occupied in the Late Iron Age and the Early and Middle Roman periods. It was situated in quite a different landscape than many other terp sites. Whereas others (such as Firdgum, Jelsum, Achlum) were situated in a marine environment dominated by salt marshes and tidal flats, Arkum was situated in a peat landscape until midway through the Middle Roman period.

The fresh water situation is reflected in the absence of fish remains from marine fish species. The only species found were eel (*Anguilla anguilla*) (Early Roman period), a katadromous fish species that lives in fresh and marine water, and common goby (*Pomatoschistus microps*) (beginning of the Late Middle Ages; identification D.C. Brinkhuizen), a fish species found in brackish environments. It is the first occurrence of this species in a terp site thus far.

Cattle were bred in larger numbers than sheep. This would have been an adaptation to the fresh water environment, which was more favourable to cattle than sheep husbandry. An increase in sheep husbandry occurred from the Late Iron Age to the Early Roman period. Cattle were also used for traction. There was little age data for sheep; nevertheless, the data suggest that milk was not an important product of sheep husbandry. Meat and wool would have been the main products of sheep husbandry in Arkum. Pigs and horse were kept in small numbers. The meat of both species was consumed.

Students Mirjam Post and Youri van der Hurk studied animal bones from the Roman and Early Medieval phases in the terp of Oosterbeintum (excavation 2011). As in most other Roman period terps, a skull of a polled cow was found in the Roman phase of this site. An interesting find from the Early Medieval phase at Oosterbeintum were the bones of dunlin (*Calidris alpina*). At the Early Medieval cemetery of the same site, excavated between 1989 and 1999, cremated bones of this species and another stint species were found in cremation burials.

2.1.2 Stone Age society: pattern and process

***Groningen-Meerstad* (S. Arnoldussen, J. Mendelts, R. Fens, L. Kiers, H. Woldring, H. Peeters)**

A small Mesolithic site was excavated by the GIA at Meerstad in 2009. The finds mainly consist of flint, charred hazelnut shells and a number of features that are generally interpreted as pit hearths. Analysis of the flint material demonstrates that all stages in the production of flint tools is represented at the site. There is a clear emphasis on microlithic projectile elements (e.g. backed bladelets), suggesting a functional focus on the maintenance of hunting gear. Based on the typological and technological characteristics, an age between 8600 and 8200 BP (2nd half of the Boreal) was expected. Two radiocarbon dates on hazelnut fragments and charcoal from a pit hearth seem to corroborate this date. Despite the coherent results with regard to the age of the assemblage, synchronicity between the flint scatter and pit hearths could not be confirmed on the basis of spatial data. Interestingly, palynological analysis of a peat section sampled in a nearby depression produced evidence of human interference in the vegetation between 8200 and 7500 BP. This demonstrates that the area was used by Mesolithic hunter-gatherers on a regular basis. The small camp site that has been excavated probably represents just a short-term 'event' in the broader use of the landscape.

***Hunter-gatherers in the Eastern Netherlands* (J.H.M. Peeters, M. Admiraal)**

Excavations by the archaeological section of the Municipality of Deventer at Epse-Olthof Zuid (Deventer) have revealed several distributions of flint over the past decade, as well as many Mesolithic pit hearths. This material is situated on a sand ridge (a Late Glacial alluvial terrace with a thin layer of coversand) along the left bank of a river valley. One cluster of lithics contained material with some Late Palaeolithic features (see Annual Report 2011), but it proved impossible to obtain an independent date for this assemblage. A series of pit hearths adjacent to this cluster delivered AMS dates of final Boreal and Early Atlantic age, but there is no evidence for any temporal association of the lithics and the hearths. It is, however, interesting to note that virtually all of the Mesolithic flint material from the sand ridge seems to be of Preboreal-Boreal age on the basis of typological and technological characteristics, but that the vast majority of AMS dates (more than 30 dates are available) for pit hearths lie in the first half of the Early Atlantic. This suggests long-term use of the sand ridge by Mesolithic hunter-gatherers within different behavioural/functional settings. It should be noted that among the Mesolithic flint material, a small assemblage of most probably Hamburgian (Late Palaeolithic) artefacts has been identified. This material consists of a fragment of a tanged point, some blades and a core. As far as we can determine, this material reflects the short-lived presence of Late Glacial hunters in the valley. As to the Hamburgian, the finds from Epse are among the most southern occurrences in the Netherlands.

***Swifterbant project* (D.C.M. Raemaekers, M. Schepers, R.T.J. Cappers)**

While the fieldwork at Swifterbant ended in 2010, research is now focused on the analysis of the data collected and general research themes. In 2012, the final parts of the material found at Swifterbant S25 (excavated 2009–2010) were studied. Thanks to this site, it has become increasingly clear that exploitation of the creek system did not end around 4000 calBC, but continued for several centuries. Evidence to support this interpretation is found in ceramics (Raemaekers 2011), ¹⁴C dates at S25 and S3 and micromorphological research at S2 and S4.

To understand the exploitation of former landscapes, it is of much interest to reconstruct past vegetation as part of these landscapes. A new method was developed for the reconstruction of vegetation on a low syntaxonomic level and was illustrated by the analysis of some subfossil samples from the

Neolithic-type site of Swifterbant. A thorough description of this approach was also published (Scheepers *et al.* 2012).

Excavating Megalithic tombs in the GIA archives (D.C.M. Raemaekers, with S. Jansen and T. Geuverink)

The development of new interpretations of the Dutch megalithic tombs is seriously hindered by the fact that many excavations were never fully published, if at all. The project aims to publish all tombs according to modern standards, for the moment focusing on the architectural remains. The preliminary results reveal evidence of a wide variety of tomb types and not only ‘typical’ passage graves, including several dolmens. Moreover, it has become clear that many more tombs have seen excavation than previously thought and that ‘restoration’ included partial excavation and moving and adding large numbers of stones to the tombs. It was concluded that the research potential of the architectural remains is limited.

The North Holland Single Grave Culture project (S.M. Beckerman and G.R. Nobles)

A group of Single Grave Culture (SGC) (c. 2900–2500 cal BC) settlement sites have been found in a tidal environment in the province of North Holland. A series of excavations conducted at these settlements have demonstrated the exceptional quality of the sites, especially due to the good preservation of organic materials. In 2012, two PhD students studied the remains of the large-scale settlement site of Zeewijk. The results from this study were compared to the previously studied sites of Mienakker and Keinsmerbrug to obtain a greater understanding of the people inhabiting these sites.

2.1.3 Material culture studies

Bronze Age socketed knives (S. Arnoldussen, J.J. Butler, H. Steegstra)

A study of Late Bronze Age knife types in the Netherlands undertaken by Butler, Arnoldussen and Steegstra addressed the question of whether bronze knives can be used to refine and validate the generally used – but rarely specified – supra-regional patterns known as the ‘Atlantic’ and ‘Nordic’ interaction spheres. Relying primarily on an inventory of socketed single-edged knives from northwestern Europe, it could be argued that such knives were also produced outside the *palafitte* area from which they are traditionally thought to originate. Moreover, the composition of hoards comprising such knives indicates that supra-regional contact was present and considered important enough to be embodied by the deliberate combination of specifically supra-regional items and specifically local items in object deposition.

The identity of the inhabitants of the terp region of the northern Netherlands (A. Nieuwhof)

This project was part of the ‘Land der Entdeckungen’ programme. The identity of the inhabitants of the terp region was investigated on the basis of their material culture, especially pottery. Research resulted in a general overview of the pottery from the terp of Ezinge. This study concentrated on occupation in the 4th century AD, during which period an occupation hiatus has been established for large parts of the terp region. Ezinge, however, is one of a small number of terps which remained inhabited during this period. The pottery assemblages of Ezinge and the inland settlement of Midlaren were used to investigate the cultural and social identities of the populations of these settlements. The Ezinge pottery assemblage was also used to investigate the spread of pottery styles, as well as the social networks in which pottery, potsherds and potters were exchanged.

2.1.4 Maritime archaeology

IFMAF: Continuing excavation of shipwreck OE 34 (A.F.L. van Holk, D.E.P. Velthuizen [Nieuw Land], G.W. Schreurs [RCE], L. Koehler [RCE], F. Dallmeijer [RCE])

The excavation of shipwreck OE 34 was continued in 2012 (near Lelystad, province of Flevoland). This year the fieldschool was truly international, with students from Portugal, Finland, Belgium and Alaska. It was agreed with the landowner that by the end of the campaign the shipwreck would be removed, which resulted in an unusually long period of fieldwork for the IFMAF, comprising almost eight weeks of excavation.

The study of the construction of the vessel revealed new insights into the sequence of the building process. At the position of the maststep two frames were pre-erected. The floor timbers and the futtocks were connected by a rabbet and two treenails. This particular kind of connection has never been seen before in shipwrecks from Flevoland. The vessel was built using a combination of the shell-first and frame-first shipbuilding philosophies. Since there is a development from shell-first to frame-first, it is – at first sight – remarkable that an early carvel built vessel shows elements of frame-first technology. It might be the case that this vessel shows such a combination because it is an early attempt by a shipbuilder who was not yet familiar with the hull form and needed some guidance, in the form of two pre-erected frames. As is always the case during excavations, the most remarkable finds occur on the last day. The excavation of OE 34 was no different in this regard, with some forty coins found beside the ship on the final day of excavation. Fourteen coins were minted in the town of Groningen, which means the ship had visited the town. On the basis of the coins, the foundering of the vessel could be precisely pinned down to 1572. The youngest coin was minted in 1571, while there were no coins marked by the Staten Generaal (this was done in 1573/1574). Furthermore, a perfect parallel was found in the form of a sister ship excavated in Copenhagen. This meant that an earlier idea about the sailing area of the vessel, between Amsterdam and the Texel Roads, had to be revised. The vessel was capable of sailing to the Baltic, with the cargo of iron bars and a possible part of the cargo, a sheet of copper, not contradicting this supposition.

2.1.5 Archaeological heritage management and public archaeology

EDR project ‘Land van Ontdekkingen/Land der Entdeckungen’ (*A.L. Brindley, H.A. Groenendijk, J.A.W. Nicolay, A. Nieuwhof, G.J. de Langen, D.C.M. Raemaekers*)

In 2011–2013 GIA is cooperating with the Ostfriesische Landschaft, the provinces of Groningen and Fryslân and the provincial museums of Drenthe, Groningen and Friesland in the project ‘Land van Ontdekkingen/Land der Entdeckungen’. This project encompasses GIA fieldwork projects and an exhibition on the archaeology of the Frisian coast (2013: first in Emden, then in Assen, Groningen and Leeuwarden). The exhibition is accompanied by a bilingual guide, which for the first time presents the occupation history of the northern Netherlands combined with that of the neighbouring German area.

The project has a module ‘Auf der Suche nach der Trichterbecherkultur’ paying specific attention to public outreach. Megaliths (*hunebedden*) are of great popular interest and by tradition lay archaeologists, both in northwest Germany and the northern Netherlands, support academic research on this prehistoric culture. However, generally speaking, lay archaeologists rarely have the opportunity to exchange information. Therefore as part of the project they were assembled twice, along with their professional colleagues, on the occasion of two special field events, first in Oldenburg, then in Groningen. This can be considered the first step in the creation of a stronger network of lay archaeologists on both sides of the border.

2.1.6 Other projects

Cuijk-De Nielt (*R.T.J. Cappers*)

Fruits from a buried pot from Cuijk-De Nielt (Roman period) were identified as black pepper. About 70 peppercorns were found together with silver coins. This number of peppercorns is the largest concentration of this luxury spice within the entire Roman Empire, with the exception of the large quantities that were found in the Roman harbour of Berenike. This unique discovery was published in the final report on De Nielt. A publication for an international journal is in preparation.

Early medieval land reclamation (*H.A. Groenendijk, H. Woldring, P.C. Vos [Deltares]*)

Research has been undertaken in the early medieval reclamation districts of the province of Groningen. The Westerkwartier peat landscape, covered by Lauwers sea sediments, appears to have been colonized as early as the Merovingian period and reveals relics of its parcelling structure. On the slopes of the northern Hondsrug, the location of the late-medieval monastery of Yesse appears to have been preceded by an older farming unit, dating back to the end of the Early Middle Ages/the beginning of the High Middle Ages.

Prehistoric subsistence in southeast Europe and Anatolia

Beginnings of the Neolithic in Southeast Europe: the Early Neolithic sequence and absolute dates from Džuljunica-Smărdeš (Bulgaria) (C. Çakırlar, R. Krauß [Tübingen University], N. Elenski [Regional Museum of History, Veliko Tărnovo, Bulgaria], B. Weninger [University of Cologne], L. Clare [University of Cologne], P. Zidarov [New Bulgarian University])

Southeast Europe is of particular relevance due to its status as a transit region connecting the Anatolian subcontinent with Central Europe. The Neolithic site of Džuljunica was investigated between 2005 and 2012 and ¹⁴C-dated to c. 6200 BC – earlier than Karanovo I. This site remained occupied throughout the entire Early Neolithic sequence, thus providing us with a unique insight into the cultural-historical development in this region at the dawn of agriculture and animal husbandry. Recent studies in western and central Anatolia indicate that animal husbandry evolved in diverse forms in this intermediate area between the Fertile Crescent and southeastern Europe. Çakırlar's zooarchaeological studies focused on the earliest layer of occupation at the site and confirmed the trend towards diversity across the Neolithic frontier during the second half of the seventh millennium BC. For example, evidence of a morphologically domestic pig is absent in early Džuljunica. Recent research has shown that domestic pigs are present in contemporary settlements in the circum-Aegean region, but absent in central Anatolia and Istanbul. There may be a relationship between the arrival of Neolithic life styles in the region with the end of a period for which palaeoclimate proxies attest to considerable climate fluctuation, the so-called 8200 BP climatic event.

Note: Çakırlar's work on the material from Džuljunica was supported by the Institute for Aegean Prehistory.

The Cultural History of the Anatolian Fallow Deer (C. Çakırlar, H. Miller [University of Nottingham], K. Baker [University of Durham], R. Madgwick [University of Cardiff], B. DeCupere [Royal Belgian Institute of Natural Sciences], L. Atici [University of Nevada], N. Sykes [University of Nottingham])

Despite its name, the European fallow deer (*Dama dama dama*) is not of European origin. It is native to western Anatolia, but over the last ten millennia has been transported around the world by humans. Recent research has helped to resolve the timing and circumstances of the fallow deer's diffusion from Anatolia. However, this has been at the expense of understanding the natural and cultural history of the species within its native distribution, which has received little attention. The study brings together zooarchaeological evidence (in particular osteometrics) with data from genetic and isotope analysis to examine how fallow deer-human relationships changed through time in Anatolia: How were they hunted? Were they domesticated? Preliminary results point to clusters of semi-isolated populations of fallow deer in prehistoric Anatolia. Although fallow deer consumption seems to have been directed towards both male and female individuals during the Neolithic, male individuals seem to have been more important during the Bronze Age. It can be postulated that this change in hunting practices is related to the changing social role of deer in prehistoric Anatolia.

Pig domestication and human-mediated dispersal in western Eurasia (C. Çakırlar, J. Burger, [University of Mainz], C. Ottoni [University of Leuven], and others)

Zooarchaeological evidence suggests that pigs were domesticated in southwest Asia c. 8,500 BC. They then spread across the Middle and Near East and westward into Europe alongside early agriculturalists. European pigs were either domesticated independently or appeared so as a result of crossbreeding introduced pigs and European wild boar. These pigs not only replaced those with Near Eastern signatures in Europe, they subsequently also replaced indigenous domestic pigs in the Near East. The specific details of these processes, however, remain unknown. To address questions related to early pig domestication, dispersal and turnover in the Near East, we analysed ancient mitochondrial DNA and dental geometric morphometric variation in 393 ancient pig specimens representing 48 archaeological sites (from the Pre-Pottery Neolithic to the Medieval period) from Armenia, Cyprus, Georgia, Iran, Syria and Turkey. Our results revealed the genetic signature of early domestic pigs in Eastern Turkey. We also demonstrated that these early pigs differed genetically from those in western Anatolia, introduced to Europe during the Neolithic expansion. In addition, we present a significantly more refined chronology for the introduction of European domestic pigs into Asia Minor that took place during the Bronze Age, almost 1,000 years earlier than previously detected. By the 5th century AD, European signatures completely replaced the

endemic lineages, possibly coinciding with demographic and societal changes during the Anatolian Bronze and Iron Ages.

Neolithic Subsistence at the Gateway to Europe with New Archaeozoological Evidence from Istanbul (C. Çakırlar)

The Marmara region, located at the juncture of Anatolia, the Balkans and the Aegean, is crucial to understanding how Neolithic ways of life were transferred from southwest Asia to Europe. Animal husbandry is considered to be one of the defining components of the Neolithic norm of subsistence. The Neolithic of the Marmara region, however, has been frequently identified as an aquatic forager economy, based primarily on archaeozoological evidence from the key site of Fikirtepe near Istanbul. This interpretation has been repeatedly put forward to support arguments for a Mesolithic component in the development of the Neolithic at the European-Anatolian interface. Renewed zooarchaeological research synthesizes existing and new archaeozoological datasets from the region and shows that animal husbandry was an established aspect of subsistence in the region with the emergence of village life. It also shows that morphologically domestic pigs were absent from the domestic herds of the earliest settlers of eastern Istanbul and suggests that domestic pigs may have been locally domesticated. Based on diachronic and inter-regional comparisons, the research demonstrates that aquatic foraging strategies probably evolved in an effort to optimally exploit local environmental resources. These results call for a revision of current views on the region's Neolithic and, consequently, its role in the neolithization of Europe.

Note: Research in Istanbul was funded partially by the Institute of Aegean Prehistory. Synthetic work was supported by the Royal Belgian Institute of Natural Sciences.

Stable isotopes (O and C) of *Unio elongatulus* shell increments as proxies for local palaeoenvironments in Mid Holocene northern Syria (C. Çakırlar, R. Sesen [Dicle University, Diyarbakir])

The much debated link between the collapse of urban centres in northern Syria and a rapid climate event at the end of the third millennium BC is arguably one of the best known examples of the struggle of human beings with the unpredictable nature of the Holocene. Fine-grained analytical observations on bioarchaeological materials offer excellent opportunities to overcome some of the difficulties encountered in such studies that tackle the effects of changing environmental and climatic conditions on human civilizations during the Holocene. This pilot study used archaeological fresh water clams (*Unio elongatulus*) from northern Syria as intermediary anthro-biogenic proxies to make inferences about the seasonal rhythms of local pluvial regimes and whether there were possible fluctuations at the turn of the third millennium BC. Having secreted their CaCO₃ in chemical and periodical accordance with the ambient environment and ending up at tell sites through human activity, these bivalves are suitable vessels of information about human ecology in northern Syria at the end of third millennium BC. Marked differences were observed between the isotopic (^δ18O and ^δ13C) compositions of shells from Tell Mozan, an urban site which continued to exist throughout the rapid climate event, and those from Tell Leilan, which went into hiatus at the end of the third millennium BC. These results have important implications for the potentially severe effects of micro-environmental differences on distinct human communities inhabiting the same culturally unified region.

Note: Lab work was supported by the Smithsonian Institution.

Archaeobotany in the Near East and Egypt

Fayum Project (Egypt) (R.T.J. Cappers)

A typology for non-architectural samples was developed that can be used to describe the potential subfossil plant record. This typology improves the judgmental sampling strategy. In addition, a start in developing a typology of use-wear for threshing remains was made, especially those originating from free-threshing cereals. Their huge quantities make them attractive as, among other uses, temper. Both fragmentation and use-wear indicate that additional processing was applied prior to mixing threshing remains with clay.

Progress in the analysis of the plant material used in mud bricks from Karanis was also made. Emphasis was laid on the identification of the origin of the clay (desert quarries versus exploitation of fields whose level rose by accretion due to annual Nile flooding). The frequent recovery of typical water plant diaspores (belonging to *Potamogeton*, *Alisma*, *Zannichellia* and *Najas*) support the latter option, at least for a major part of the mud bricks.

***Neolithic in Turkey and Egypt* (R.T.J. Cappers)**

A review article was written for the last volume of *The Neolithic in Turkey*. This five volume encyclopaedia summarizes the current state of archaeology of Neolithic settlements.

An article was written on the archaeobotanical evidence for the Neolithic in Egypt, being a contribution for a special volume of *Studies in Early Near Eastern Production, Subsistence, and Environment (SENEPSE)*, dedicated to the Neolithization of Northeastern Africa, edited by Noriyuki Shirai.

***Modelling cereal selection* (R.T.J. Cappers)**

A review article was written based on a key lecture presented at the 7th International Workshop on African Archaeobotany, dealing with modelling shifts in cereal cultivation in Egypt from the start of agriculture until modern times.

***Digital Plant Atlas* (R.T.J. Cappers)**

A 2nd edition of the *Digital Seed Atlas of the Netherlands* was published. This book is used worldwide, not only by archaeobotanists but also by companies who are engaged in certifying bulk samples of seeds that cross borders.

The third part of the Digital Plant Atlas (*Digital Atlas of Economic Plants in Archaeology*) was published in cooperation with the Deutsches Archäologisches Institut (Berlin). It documents the recent and subfossil plant remains from almost 200 economic plants.

The *Handbook of Plant Palaeoecology* was also published. This book deals with the study of subfossil plant material retrieved from archaeological excavations and describes the processes that underlie the formation of the archaeobotanical archive and the ultimate composition of the archaeobotanical records.

2.2 CLASSICAL AND MEDITERRANEAN ARCHAEOLOGY

2.2.1 Landscape, settlement, ritual and society in protohistoric and Roman Italy

Crustumarium Project (P.A.J. Attema, B. Belelli Marchesini, A.J. Nijboer, G.J.M. van Oortmerssen, J.F. Seubers and S.L. Willemsen. Collaboration with Soprintendenza Speciale per i Beni Archeologici di Roma [SSBAR]).

Various fieldwork projects were carried out at the ancient settlement of Crustumarium near Rome, within the framework of the NWO project 'The People and the State. Material culture, social structure and political centralization in central Italy (800–450 BC)' and under the umbrella of the International Crustumarium project coordinated by SSBAR, in which GIA participates. During summer, the main activities entailed the excavation of Iron Age tombs in the burial ground of Monte Del Bufalo, small-scale artefact surveys on the settlement plateau, geological and sedimentological studies, typological artefact studies and the conservation and restoration of funerary objects. In the autumn, an intensive artefact survey was carried out in the catchment of Crustumarium as well as new geophysical prospections of the settlement plateau. This part of the project was carried out on contract by the geophysical prospection company Eastern Atlas. During the year, various research meetings were held and reports were written on various aspects of the fieldwork, the artefact studies and the isotope research on human skeletal material. The latter research was carried out on contract by Dr W. Pantano (Archaeological Superintendency Rome) and F. De Angelis (University of Rome Tor Vergata). Objects on a number of tomb inventories exported to GIA's laboratory of Conservation and Material Studies were restored by G. van Oortmerssen, documented for publication and returned to Italy. The research group edited two books, one of which appeared in early 2013, and wrote various papers. Papers were presented by members of the group on various national and international occasions and an international workshop on 'State formation and urbanization' was held in Groningen at the end of January 2013.

Dissertation progress in the Crustumarium project

- S. L. Willemsen (Iron Age necropolis of Crustumarium) processed and studied the data from all GIA's excavation campaigns in the Monte Del Bufalo cemetery and updated the GIA database and also spent time in Rome in February/March collecting additional data from tombs excavated by the Soprintendenza Speciale per i Beni Archeologici di Roma. These tombs are of a relatively late date (end of the 7th and 6th centuries BC), and form the core of the dissertation as they provide insight into the way burial customs changed in this period. The remainder of the year was spent on literature study and writing up various chapters. Willemsen plans to finish the manuscript in June 2013.

- J.F. Seubers carried out survey work in the catchment of Crustumarium and related artefact studies for his PhD 'Settlement and Territory of Crustumarium: settlement archaeology and early state formation in central Italy (800–450 BC)' which is part of the NWO scheme. Time was spent on an inventory of all available data from previous research for analysis in GIS, while work on a literature study on state formation was started. Various conference papers were given on the methodology and results of the survey.

Progress on postdoc research in the Crustumarium project

- B. Belelli Marchesini, working within the NWO scheme on the sub-project 'The cemeteries of Crustumarium (800–450 BC): an artefact-based social analysis', made considerable progress with the collecting, documenting and analysing of data from tombs belonging to the various burial grounds that surround Crustumarium. Further work was done on the design and implementation of the funerary database, which is being included within the database structure of SITAR (Sistema Informativo Territoriale Archeologico di Roma), as well as the GIS and spatial analysis of the Monte Del Bufalo necropolis, typological research and architecture of the tombs. During the summer campaign Belelli Marchesini directed the GIA excavations in the Monte Del Bufalo necropolis. Furthermore, she established various collaborations for specialist analysis in the field of archaeometry and laser-scanning documentation and worked on valorization, preparing a major museum exhibition.

Satricum Publication Project (P.A.J. Attema, E. van 't Lindenhout, A.J. Nijboer)

Further preparations for publication of the Satricum excavations (Settlement Excavations at Borgo Le Ferriere, <Satricum> 3) concentrated on an inventory of the field drawings, the sorting out of find contexts and the selection of materials for contexts still to be drawn. Part of the published material was inventoried and stored at the Royal Netherlands Institute at Rome (KNIR) to be handed over to the Archaeological Service of Lazio, hopefully by summer 2013. It is expected that in 2013 the actual description and analysis of still unpublished contexts from the 1988–1990 excavations at Satricum will have started.

Urbanization and Architecture in Protohistoric and Republican Central Italy (E. van 't Lindenhout)

Van 't Lindenhout continued her research on the making of the urban landscape of Latium (Central Italy), focusing on domestic and ritual architecture. An overview of built-up forms and their social interpretations was presented in a paper, 'House-form and social complexity: the urbanization of Archaic Latium' at the colloquium 'Space in the Ancient World' (26 April 2012). In another paper, entitled 'Cultplaces as manifestations of power and identity in Archaic Latium', presented at a colloquium on landscape, perception and identity (4 June 2012), the focus was on the architectural layout of cult places in Latium and their monumentalization. The main findings of Van 't Lindenhout's PhD research were also condensed into an article to be published in the *Journal of Roman Archaeology* (2013).

The Pontine Region Project (P.A.J. Attema, G.W. Tol, T.C.A. de Haas, P.M. van Leusen)

Tol defended his thesis *A fragmented history: a methodological and artefactual approach to the study of ancient settlement in the territories of Satricum and Antium* on intensive rural site survey. Attema continued writing the manuscript 'Quae Arx in Pomptino esset' on the long-term settlement history of the Pontine region from the Bronze Age to the Early Medieval period, of which the first chapters were sent to the corrector. Attema and De Haas gave (and submitted) a paper on Iron Age and Archaic fortified sites in the Monti Lepini at the Fokus Fortifikation conference in Athens (6–10 December). Project members worked on several presentations and publications, including a poster presentation at the Roman Archaeology Conference in Frankfurt (De Haas), papers on Roman expansion and economic integration (De Haas and Tol, to appear in an edited volume), a publication on surveys of platform sites (De Haas, Tol and Attema, published December 2012 in *Palaeohistoria*), a paper on historical ecology and the Pontine wetlands (Attema and De Haas in collaboration with K. Walsh from York University) and a paper on the defensive system related to ancient Norba (De Haas and Attema). Furthermore, the NWO project 'Fora, Stationes and Sanctuaries: the role of minor centers in the economy of Roman Central Italy' got well under way with the appointments of De Haas and Tol as postdocs. This project is further reported on below in Section 2.2.3, 'Economy and living standards in the Roman World'.

Campoverde Project (T.J. van Loon and P.A.J. Attema)

Van Loon continued work on the artefact chapters for her dissertation 'Defining the ritual, analysing society. The social significance of material culture in pre-Roman cult places of Central Italy (c. 900–400 BC) and reading for the theoretical chapter on ritual and archaeology. She also spent time on a publication project concerning materials from the main context she is working on: 'Laghetto del Monsignore' at Campoverde near Satricum, set up by a Dutch-Italian working group. This group is led by Van Loon and supervised by Attema for GIA and F. di Mario for the Soprintendenza Archeologica per il Lazio as part of a collaborative project between these institutes.

The International Francavilla Project (P.A.J. Attema, P.M. van Leusen, J.K. Jacobsen and team)

Francavilla excavations: within this project, two self-funded dissertations were completed. C. Colelli defended his thesis on the impasto and related pottery from the GIA excavations on the Timpone della Motta (*Ceramica d'Impasto da Francavilla Marittima*) and S. Elevelt his thesis on the bone material (*Subsistence and Stratification in Northern Ionic Calabria from the Middle Bronze Age until the Early Iron Age: the Archaeozoological Evidence*). Progress on the self-funded theses by N. Perrone on the ecological evidence from the sanctuary on the Timpone della Motta, E. Weistra on the Archaic terracottas and M. Masci on the matt-painted pottery is slow.

Raganello Archaeological Project (RAP) (F. Ippolito, N. Oome)

The PhD project entitled ‘Before the Iron Age: the oldest settlements in the hinterland of the Sibaritide (Calabria, Italy)’ was directed at the analysis and cataloguing of the Bronze Age impasto pottery from Timpone della Motta (Francavilla M.ma) and the S. Angelo caves, for which pottery studies in the storerooms at Sibari in Calabria were carried out with a draughtsman, S. Boersma. Ippolito presented a poster on her work at the 2012 IIPP congress at Ostuni (Italy) and wrote a thesis chapter. After maternity leave, N. Oome returned to her self-funded PhD thesis on the Hellenistic pottery from the surveys of the RAP. Attema and Van Leusen met her in her hometown of Vibo Valentia to discuss her work plan. Work on the catalogue of the RAP surveys continues, and a summary version with maps and a publication plan were presented to the Superintendency during summer 2012.

Research at the Royal Dutch Institute at Rome (KNIR)

As of September 2012 Dr Jeremia Pelgrom was appointed staff member for Antiquity at the KNIR (secretary University of Groningen). Pelgrom is involved in two NWO-funded research projects: ‘Mapping the Via Appia’ and ‘Roman Colonial Landscapes. Non-urban settlement organization and Roman expansion in the Roman Republic (4th–1st centuries BC)’, carried out in cooperation with the universities of Nijmegen and Leiden respectively. Two co-authored publications on previous research appeared in 2012.

Radiocarbon results and the absolute chronology of Iron Age Italy (A.J. Nijboer)

In 2012 the project slowed down as it came closer to completion. A final invited paper was presented in June during the conference ‘Contextualising Early Colonisation’ in Rome.

2.2.2 Methods and approaches to archaeological detection in Mediterranean landscapes

Rural Life Project (K.L. Armstrong, P.M. van Leusen, W. De Neef, J. Sevink)

In 2012 Van Leusen was concerned with the management of and participation in the Rural Life Project. This project required coordination with partners in Mainz (Dr Jordan and members of his Geocycles team) and Leuven (Dr De Laet). In February, Belspo funded the project ‘ANAGHLIA’, and in October/November this led to a joint field campaign to collect soil spectral data for the detection of archaeological sites from the air.

The RLP conducted two field campaigns in northern Calabria in April and October/November. In addition to relatively minor finds at the Casa Bianca storage facility and site revisits to complete or correct documentation, this research concentrated on the geophysical and archaeological study of atypical protohistoric sites in the foothill zone, and on the development of geoarchaeological and remote sensing methods for detecting sites and understanding postdepositional site histories. In April, magnetometer surveys were conducted at several atypical sites, with disappointing results: for various reasons, no archaeological anomalies were detected. With the help of Sevink and his student Den Haan, a start was made with the pedolithological mapping of selected target sites and with the study of soils and geophysical parameters along landscape transects in the foothills and uplands.

This work was continued and extended in the October/November campaign (albeit limited in scope by the permissions received from the Soprintendenza). We targeted the classes of ‘rich lowland impasto sites’ (sites 47 and 50), ‘burial sites’ (site MSN) and ‘simple impasto/dolium sites’ (site 231) with a combination of detailed resurveys, geophysical, spectral, soil studies and test pits (part of De Neef’s PhD project). In addition to managing the field campaign as a whole, Van Leusen, along with colleagues from the universities of Florence and Siena, conducted a special lithics survey to investigate the biases from which this material group suffered in the earlier RAP survey. With the help of a team of geophysicists based at the British School in Rome (BSR) Dr Armstrong conducted an ‘off-site’ magnetometer survey to determine how many magnetic anomalies are not associated with a detectable surface pottery scatter; and together with Dr De Laet and Dr Jordan the team has begun to investigate soil spectral characteristics in order to develop a method for site detection via Remote Sensing. A first analysis of the primary results (data and samples) from these campaigns shows that the study was successful in answering several main research questions, but a full analysis must wait until the early months of 2013. Preliminary reports on both campaigns were submitted to the Soprintendenza. Completing checks of the finds documentation in

April, Van Leusen and Attema also submitted the Timpone della Motta finds storage database and RAP site database to the Soprintendenza in July.

J. Sevink, Van Leusen and Attema prepared and conducted pilot paleoecological studies in the Pontine plain in preparation for the submission of a proposal for a new research project 'Re-assessment of palynological and chronological data available for the Pontine Region', in which both Leiden University (Bakels) and the CIO (Van der Plicht) will collaborate. The work was presented at an international conference in Pisa and an article will appear in *Quaternary International* in early 2013.

In 2012 De Neef's research focused on the collection of field data in two survey and excavation campaigns in Calabria. The 2011 fieldwork was written up in a detailed technical report, while the 2012 technical report was also partially written. A new, more detailed PhD work plan was also produced. De Neef attended two courses in Italy to broaden her knowledge of relevant material categories (lithics and pottery) and published a report on the results of the 2011 fieldwork in *Paleo-aktueel*.

The Hidden Landscapes Project (P.M. van Leusen)

In 2012, Van Leusen was concerned with discharging obligations from the Hidden Landscapes Project. Work on Feiken's PhD thesis made good progress in the second half of the year; Van Leusen supervised and commented on several chapters, the core chapters were submitted to the main supervisor (Attema) in September, and revisions are well underway. Current planning is to submit the full thesis by February 2013. Van Leusen completed the associated work on the English- and Italian-language articles on the important 2009 excavation at Tratturo Caniò. In cooperation with Armstrong, he prepared a paper on the pilot geophysical studies conducted with Kattenberg and Eastern Atlas in 2006–2010 for the journal *Archaeological Prospection*, and he continued work on the preparation of the RAP sites-and-finds catalogue 1995–2009 with De Neef, for publication as a separate volume.

2.2.3 Economy and living standards in the Roman World

Fora, stationes and sanctuaries: the role of minor centers in the economy of Roman Central Italy (K.L. Armstrong, P.A.J. Attema, T.C.A. de Haas, P.M. van Leusen, Dr G.W. Tol)

The year 2012 was the first full year for the Minor Centres project. After preparatory work in 2011 and spring 2012 and the addition of Armstrong as a postdoc, in August the field research started testing the suitability of the soils for magnetic prospection on the three minor centres of Astura, Forum Appii and Ad Medias. Based on the results these pilot surveys can be considered successful. Archaeological remains were recorded on all three sites, although varying in nature and extent. At Forum Appii the team investigated part of what is supposedly the centre of the ancient settlement. Here, the remains of several ancient structures of unknown interpretation were recorded, as well as some modern disturbances (drainage?). At Astura the team investigated a relatively open part located within a pine forest. Despite recent heavy disturbances from military activity, three possible kilns and some faint traces of ancient buildings were uncovered. At Ad Medias possible traces of land divisions were noted.

In September and October a five-week field survey was conducted within the supposed settlement area of Forum Appii and Ad Medias and within a transect along the via Appia between these two sites. At Forum Appii the find densities were very high, resulting in sampling problems. However, the data did suggest the presence of functional zoning within the settlement area and also provided clues to the chronological development of this minor centre. Furthermore, evidence of ancient craft production was also found (millstones, tile wasters). Surveys in the area of the supposed minor centre of Ad Medias yielded some dispersed rural habitation areas. The artefacts collected suggest that two such sites were involved in the production of iron and cheese respectively. In the transect between the two minor centres a total of 11 sites were found, many of small dimensions. The chronology of these sites is confined to the Republican period, except for one that continues into the Imperial period. Apart from one isolated tomb, all identified sites appear to constitute ancient habitation locations.

These tests were successful and help to target areas for additional prospection over the coming years. Field walking surveys were undertaken in September and October, with highly intensive work on the sites of Ad Medias and Forum Appii, and extensive surveys in the surroundings of Ad Medias. The project was introduced at the Roman Archaeology Conference in Frankfurt and at workshops in Groningen, Leuven and Pisa. Finally, the first fieldwork reports and initial research for a number of publications were undertaken.

Productive Landscapes. An interdisciplinary inquiry into the productivity of crop husbandry in the Roman Empire 200 BC–AD 500 (F.B.J. Heinrich)

This project, funded in 2012 as part of the NWO Sustainable Humanities scheme, commenced in October 2012. Hence, there are no results as of yet.

2.2.4 Interaction on the margins of the Graeco-Roman world

Džarlygač Survey Project (North-West Crimea, Ukraine) (P.A.J. Attema, P. Guldager Bilde)

During summer 2012 the full publication of the Džarlygač Survey Project appeared in print with Aarhus University Press (DK), the final fieldwork for which was terminated in 2008. Attema gave various lectures on the project in the Netherlands and abroad to promote the publication.

2.3 GREEK ARCHAEOLOGY

2.3.1 Social change and cultural interaction in the prehistoric and protohistoric Aegean

Middle Helladic Argolid Project (S. Voutsaki, S. Triantaphyllou [Thessaloniki University], A. Ingvansson-Sundstrom [University of Uppsala], E. Milka [Argolid Ephorate])

The progress of the final publications of the MH Argolid Project was slow this year due to a heavy administrative workload in 2012 and the new fieldwork project in Ayios Vasilios. However, two conference papers were presented in Greece and Cyprus and at a seminar in Heidelberg. The project is becoming a model for the combined use of bioarchaeological analyses and the integration of skeletal, mortuary and settlement data. The website of the project has been redesigned and actualized.

Argos Tumuli Project (S. Voutsaki, K. Sarri [freelance pottery specialist], O. Dickinson [Emeritus, University of Durham], S. Triantaphyllou [Thessaloniki University], E. Milka [Argolid Ephorate], R. Bronkhorst [GIA, Akademie Assistent])

The final publication of the Argos Tumuli Project (INSTAP Academic Press) is in preparation. The contextual and integrated analysis of the material from the Argos 'tumuli' cemeteries has led to new insights on the mortuary practices at the site, as well as on social and political change in the Argos plain. One paper was presented at the Peloponnese Conference and created a lot of discussion.

Before Menelaus: Social change in early Mycenaean Ayios Vasilios, Laconia (S. Voutsaki, I. Moutafi [University of Sheffield], R. Bronkhorst)

A new project was initiated this year, with funding from the GIA, the Ammodo Foundation and the Institute for Aegean Prehistory. The project involves the conservation, study and analysis of the human remains recovered at the Northern Cemetery in Ayios Vasilios, Xirokambi, Sparta in the excavation campaigns 2010, 2011, 2012 (see fieldwork for more information on the excavation). The human remains were very carefully removed by the bioarchaeologist attached to the project, I. Moutafi, in order to make taphonomic observations and reconstruct episodes of use of the tomb. Her preliminary analysis of the human remains has revealed interesting variation in the mortuary practices, and especially the widespread re-use of earlier tombs followed by the 'secondary treatment' of earlier burials. Therefore, the findings in Ayios Vasilios can give us very important insights into the transformation of mortuary practices in the early Mycenaean period, a crucial phase in the development of this important regional, possibly palatial centre.

Architectural and social change in Early Helladic III to Late Helladic I on the southern Greek mainland. A household perspective (PhD research, C.W. Wiersma)

The PhD dissertation is nearing completion. All of the chapters have been revised and commented on by the supervisor and will be edited by a copy-editor by the end of the year. The final text will be submitted to the reading committee in early 2013. The thesis analysed, for the first time, all extant evidence on EH III to LH I domestic architecture and domestic assemblages in the entire southern mainland and reached important conclusions on a period characterized by cycles of social regression and social change.

Mycenaean Burial Traditions of Achaia: An anthropological and bioarchaeological approach (PhD research, O. Jones)

The aim of this PhD research, which commenced in January 2012, is to investigate mortuary practices in Mycenaean Achaia by integrating archaeological and bioarchaeological data. The study will concentrate on three sites (Petroto, Portes, Chalandritsa) which are of interest because of the different types of tombs in use and the variety of mortuary practices. However, the results of the analyses will also be compared with those from other sites (Voudeni, Kallithea, Krini, Achaia Clauss). Mycenaean Achaia is exceptional, as many Mycenaean cemeteries have been investigated in the last thirty years and the human remains have been (or are being) studied, and therefore it offers ample scope for an integrated bioarchaeological analysis.

2.3.2 Diet, mobility and society in the prehistoric and protohistoric Aegean

Diet, economy and society in the ancient world (S. Voutsaki, S. Triantaphyllou [Thessaloniki University], E. Milka [Argolid Ephorate], A. Ingvarsson-Sundstrom [University of Uppsala])

The proceedings of the conference ‘Diet, Economy and Society in the Ancient Greek World’ are at the proofreading stage. This publication is included in the research report because the conference initiated a debate about a) the institutional framework of archaeological science in Greece, especially during this period of severe financial crisis, and b) the ethical obligations of the practitioners (the very successful Round Table Discussion organized during the conference has been transcribed, summarized and included in the volume). This discussion has implications for policymaking, but has also stirred a lot of discussion on the internet.

The transition from the Bronze Age to the Iron Age in Greece: isotopic analysis of skeletal remains from sites of Central Greece (PhD research, E. Panagiotopoulou)

The aim of this PhD research, which started in January 2012, is to investigate dietary variation and patterns of mobility by means of stable isotope analysis (carbon, nitrogen, sulphur, as well as strontium). The material to be analysed (human skeletons) comes from five Early Iron Age cemeteries in Thessaly, central Greece (Pharsalus, Voulokaliva, Chloe, Halos, Agios Dimitrios) which are characterized by marked diversity in mortuary practices, tomb types and body treatment. The first year of research was spent on refining the research design and acquiring a firmer knowledge of the archaeological literature on mortuary analysis, of archaeological case study and of the basic principles of osteological analysis. During a prolonged research stay in Greece, the osteological material was prepared for study, and Panagiotopoulou assisted the physical anthropologist responsible for the study of the human remains with the examination of the skeletal material.

2.3.3 Social change and cultural interaction in the Hellenistic and Roman eastern Mediterranean

Civic and cultural identity in a changing world. Analysing the mortuary practices of the postclassical Peloponnese (PhD research, T.M. Dijkstra)

A new project was initiated by means of a DG NWO PhD position. In 2012 the project started with a first case study concerning the problem of cultural change in the Hellenistic and Roman Peloponnese. Patras was chosen as the first case study, as this originally Greek city was colonized by Augustus around 31 BC. This meant the influx of thousands of citizens of Roman origin and the replacement of the traditional elite. The mortuary evidence that was collected shows that the event can be coupled with remarkable changes in the mortuary practices in Patras: the number of cremations increased, the tombs of the newcomers, built in Roman style, were constructed in between and over those of the original population and show an interest in social display. These observations seem to suggest that, directly following colonization, Roman culture and identity were imprinted on the entire population of Patras. The study of the cemeteries of Patras will be continued to gain a more nuanced view.

Erbil Plain Archaeological Survey Project (L. de Jong, J. Ur [Harvard University])

In August 2012, the first season of the Erbil Plain Archaeological Survey (EPAS) took place in North Iraq (Kurdistan). This project aims at understanding the long-term impact of ancient empires on the rural landscape of North Iraq. Located in the Hellenistic heartland and, subsequently, in the zone of conflict between Romans and Parthians, investigation of the hinterland of Erbil provides new insights into the lives of local villagers between the 3rd century BC and the 3rd century AD. The project combines a study of historical satellite and aerial photographs with on the ground survey. In the first season, we identified 93 new archaeological sites, as well as numerous remnants of irrigation canals. The results tell us that the Erbil region was initially (3rd–2nd centuries BC) isolated, displaying little interaction with the larger cities or trade networks of the Hellenistic world. In the subsequent four hundred years, the Erbil plain gradually filled with new people. New artefacts, in glass and pottery, were introduced to the villages of North Iraq. Despite the constant warfare between armies of the Roman and Parthian Empires close to Erbil, the towns in the plain flourished. The publication of the first season was sent to Iraq (publication date

expected in 2013). An NSF grant was awarded to Harvard University, funding four more field seasons. Next year archaeology students from the University of Groningen will participate in the project. One public lecture was presented in December at the GIA day and two more are scheduled for the beginning of 2013.

Tombs and Empire – publications and lectures (L. de Jong)

Revisions were underway for a monograph on mortuary archaeology of Roman Syria (*Burial, Empire, and Identity: an analysis of funerary practices in Syria under Roman rule*) and a lecture on the same topic was presented at Texas Tech University. A chapter on funerary traditions in the Hellenistic and Roman Near East was submitted for the *Blackwell Companion to the Hellenistic and Roman Near East*, edited by T. Kaizer (Durham University). As part of the CRASIS seminars, a lecture was presented on tombs in Roman Palmyra. This lecture will be published as a chapter in 'Archaeologies of Empire and Regional Interactions in the Hellenistic and Roman Near East' (working title), edited by J. Gates-Foster (UT Texas) and Jody Michael Gordon (University of Cincinnati).

North Mesopotamia between Alexander and Djenghis Khan (L. de Jong)

A new research project was initiated this year revolving around the archaeology, history and environment of North Mesopotamia in the Classical, Byzantine and Early Islamic eras. A report on previous archaeological research and textual sources concerning North Mesopotamia between the 4th century BC and the 3rd century AD (Hellenistic-Parthian-Roman) was completed and will form part of the Erbil Plain publications. An open call has attracted several University of Groningen students and alumni, who will develop small research projects concerning coinage, funerary practices and military sites in North Mesopotamia during the Hellenistic and Roman periods. The second aspect of the research project focuses on the Islamic period. As part of this research, the final study of the Syrian Balikh Valley in the Early Islamic period was published as part of the ICAANE conference proceedings. A comparative study of patterns of urbanism in the Balikh Valley (Syria) and the Erbil Plain (Iraq) in the Abbasid period is currently underway, the results of which will be presented at the Groningen Islamic Studies seminar in 2013. A start was made with a report on previous archaeological research and textual sources concerning North Mesopotamia in the Early Islamic period.

2.3.4 Attitudes to the past in the present

Ayios Vasilios and Xirokambi: an excavation and the local inhabitants (S. Voutsaki, L. van Hofsten [freelance anthropologist, inhabitant of Xirokambi], P. Matalas [University of Crete/University of Paris])

One of the aims of the new project at Ayios Vasilios (see fieldwork) is to disseminate the results of the excavation to the public. This year we organized outreach activities (talks, educational programmes for schoolchildren, site tours for local inhabitants and diaspora Greeks [2nd–3rd generation descendants of immigrants to the US, Canada, Australia]), but also activities and fund-raising events in collaboration with local cultural associations and associations of Greek immigrants. We are also interested in the locals' attitudes to the past and specifically to ancient monuments in the area. In consultation with a Dutch anthropologist, L. van Hofsten, who lives in Xirokambi, we are collecting local legends which are connected with the ancient sites in the area and with the Byzantine church at Ayios Vasilios. Finally, we have contacted a modern historian, Dr P Matalas, who specializes in the perception of the past in Laconia and the 'Myth of Sparta', and who has collected information on the Byzantine settlement at the Ayios Vasilios site.

2.4 ARCTIC AND ANTARCTIC ARCHAEOLOGY

The Arctic is a unique landscape for studying the interaction between humans and their environment. Though the natural environment is harsh and inhospitable, a human footprint of past exploitation can still be found in many areas. Exploitation of natural resources is well preserved in both archaeological and historical archives. The Arctic has always been a dynamic environment and its inhabitants have always adapted to change. However, global warming is accelerating change in the natural environment and also opening up new areas. Global society has a renewed interest in the exploitation of its natural resources and a strong debate on the ecological, economic, social and political consequences is required. Despite these developments, the Arctic environment can still be seen as representing an early stage in the development of a cultural landscape closely connected to the natural environment and that is why it fits very well into the research programme of the GIA. Studies of biodiversity, conservation, pollution and geopolitics are part of the multidisciplinary research at the Arctic Centre.

2.4.1 Exploration and resource development in polar areas

Large-scale historical exploitation of polar areas (*H.R. de Haas, U.I. Gustafsson, F. Kruse, D. Avango and L. Hacquebord*)

The project (LASHIPA) has been a major research focus of the Arctic Centre in the past five years. Three PhD students are finishing their projects and working towards their thesis defences under the supervision of L. Hacquebord:

H.R. de Haas, 'Coal exploitation by the Dutch Spitsbergen Coal Company (NESPICO)'

F. Kruse, 'British mining, exploration and geopolitics on Spitsbergen, 1904-1953'

U.I. Gustafsson, 'The exploitation of natural resources by the early 20th-century whaling industry'

Unfortunately, the project by Y.I. Aalders on 'The exploitation of the natural resources in Green Harbour, Spitsbergen, in the industrial, whaling and hunting period' ceased before she completed her degree.

Geopolitics and the future of the polar areas (*L. Hacquebord*)

The melting of ice has opened new areas and renewed global interest in future resource development. This has re-activated the debate on ownership of new territories. Scientific research is used in this debate. This research studies the future cultural landscape in the Arctic, international relationships and the role of the Netherlands in polar research.

2.4.2 Environmental change and adaptation in the Arctic landscape

Under this theme, projects from three different research fields have been combined: ecology, pollution and anthropology. All these projects link the temperate regions with the Arctic, discussing processes such as adaptation, migration and the long-range transportation of pollutants to northern landscapes.

How are geese adapting to global change? (*M.J.J.E. Loonen, F. Schaafsma*)

In the last decade, several new strategies have evolved among geese migrating to the Arctic. We can study the timing of migration using geolocators and the timing of reproduction by direct observation of individually marked birds. The consequences of the goose behaviour and phenology are measured in terms of survival and life-time reproductive output. After a field season with moderate values for spring melt and predation, we are preparing our long-term dataset (23 years) for publication.

Bird health (*M.J.J.E. Loonen, C.A.M. Sandström [PhD student, University of Groningen, Faculty of Natural Science]*)

In this project we are studying the consequences of Arctic breeding on the risk of birds becoming ill. We have assessed these risks based on the analysis of blood samples of individually marked birds. By comparing the same species breeding in the Arctic and in the Netherlands, we have been able to show the benefits of migration for Arctic breeding birds.

Plant-animal interaction on Arctic tundra (M.J.J.E. Loonen, L. Fizez [University of Antwerp], R. Van der Wal [University of Aberdeen], M. Stech [Leiden University], H. Kruijer [Leiden University])
Grazing changes the Arctic tundra on a landscape level. Long-term exclosures (areas where grazers are excluded) have shown shifts in vegetation composition over more than a decade. Bryologists from Leiden University have found annual changes in the moss carpet. The changes in nutrient cycling as a consequence of grazing have also been studied using stable isotopes.

From North to South: Arctic tern migration (M.J.J.E. Loonen, B. Moe [NINA Tromsø])
The Arctic tern migrates annually from Arctic breeding grounds to wintering grounds along the Antarctic coast. Miniaturized data loggers are able to track the migration route. Twenty terns were equipped with these geolocators during summer 2012 and will be re-caught next summer to collect the data.

Dynamics in predation pressure on Arctic breeding birds (M.J.J.E. Loonen, J. Prop [guest researcher, Arctic Centre], H. Van Alsemgeest [student, Wageningen University], E. Fuglei [Norwegian Polar Institute])
Predation pressure in the Arctic is fluctuating. The presence of polar bears and arctic foxes has enormous consequences for the breeding success of Arctic breeding birds. Their presence is affected by snow and ice conditions but also by winter food availability. Using long-term observations, wildlife cameras and feeding experiments, the predator activity is being quantified.

Global modelling of mercury emissions (UNEP/AMAP) (F. Steenhuisen, S. Wilson [AMAP])
Although atmospheric mercury has its origin outside the Arctic, the highest and most problematic doses occur in Arctic human populations, following bio-accumulation in their food chain. This project is part of the 'UNEP Global Mercury Assessment 2013: Sources, Emissions, Releases and Environmental Transport' study. The aim of this project is to provide improved mercury emission data for 2010 and to deliver geospatially distributed emission data to four research groups running global atmospheric transport models. The spatial distribution model was developed at the Arctic Centre. The Arctic Centre and AMAP will also use the data in an effort to explain the high mercury levels in the Arctic. Data delivery to UNEP will take place in December 2012.

Transnational ties, urban networks and identity formation among Inuit migrants in Denmark and southern Canada (T.K. Terpstra [PhD student])
The work for this PhD project concentrated on processing data collected through anthropological fieldwork and starting chapters for the dissertation. In addition, two PhD courses were completed (Dissertation Design & Training for Teaching Assistants).

3. GIA ACTIVITIES

While the previous chapter presented the results of GIA research, these results are based on various activities taking place throughout the year. These activities are presented in the appendices that follow this chapter. They concern fieldwork projects (Appendix 1.1), contacts with our international colleagues (1.2-1.5) and work as editors or board members of various committees (1.6).

At the University of Groningen, PhD research is not part of a research institute, but part of a Graduate School. For PhD students in the field of archaeology, this means that their admission, assessment and training are supervised by the Graduate School for the Humanities. Appendix 2 gives an overview of the defences in 2012 and past and current PhD projects.

While valorization is of increasing importance in university research, the annual report also presents an overview of press events related to GIA research (Appendix 3). The quality of GIA research can be further underlined by the various awards given to GIA researchers. In some instances the distinction between grants and awards is difficult to define, so Table 1 is further evidence of the success of GIA researchers in attracting external funds.

Appendix 5 presents a detailed overview of all GIA publications per chair and per publication type.

While many of the activities are reflected in our annual report, some activities need special mention. Firstly, these concern activities organized at our institute in the form of lectures and meetings. GIA members organize two lecture series. These are the *Capita Selecta* (lectures by visiting scholars) and the GIA Research Seminars (lectures by GIA staff members). Both lecture series are open to staff members and students and are also advertised through the National Research School for Archaeology (ARCHON) by means of its website and Facebook group. A total of 16 lectures were given in 2012. The lecture programme was organized by Kayt Armstrong, Olivia Jones, Lidewijde de Jong and Gary Nobles.

On March 18, the GIA members discussed several new research technologies and their suitability for future GIA research.

A second activity that needs to be highlighted is the public outreach of our institute. GIA publishes several series: the bi-annual international journal *Palaeohistoria* (since 1951), the Dutch-language *Tijdschrift voor Mediterrane Archeologie* (two volumes per year since 1988), the annual *Paleo-aktueel* (since 1989) and the monograph series Groningen Archaeological Studies (since 2003). In 2012, *Paleo-aktueel* 23 and six volumes of the Groningen Archaeological Studies series (volumes 16–21) were produced. Moreover, some 200 people received the three GIA Newsletters which highlight new research projects and staff members, fieldwork results and upcoming activities.

Another long-standing tradition is the GIA day, a lecture day aimed to bring together current and past staff members and students. With attendees constantly numbering over 100, this day functions as an excellent alumni activity. The 18th GIA day took place on 14 December.

APPENDIX 1. RESEARCH ACTIVITIES

1.1 FIELDWORK

Chair of Prehistoric and Protohistoric Archaeology

Netherlands

Arkum 16 January–2 March. Excavation of terp site in peat area, pre-Roman and Roman Iron Age.

Director : J.A.W. Nicolay

Staff : S. Tiebackx, R. Kusters, J. Geuverink

Participants: M. Bakker, T. Varwijk (students), M. Meuwissen (University of Wageningen), J. Bloem, R. Visser, H. Baron, A. Draaisma, N. Casolin, H. Sikkes, R. Amsterdam, H. Koopmans (volunteers)

Cooperation: H. Huisman (RCE), P. Vos (Deltares)

Groningen-‘Zorgwijk’ 14 March–15 June. Excavation of a high-mediaeval moated site (borg Zorgwijk).

Director : S. Arnoldussen

Staff : S. Arnoldussen, D. Spiekhout

Participants: Groningen first-year students

Cooperation: E. Schrijer (Steekproef), F. Veenman (ROEZ, Groningen)

Someren 10–11 April. Pilot project to investigate Celtic fields in the southern Netherlands – case Someren.

Director : S. Arnoldussen

Staff : S. Arnoldussen

Participants: S. Arnoldussen

Cooperation: J.W. de Kort (RCE), W. Jong (RCE)

Herkenbosch 11–12 April. Pilot project to investigate Celtic fields in the southern Netherlands – case Herkenbosch.

Director : S. Arnoldussen

Staff : S. Arnoldussen

Participants: S. Arnoldussen

Cooperation: J.W. de Kort (RCE), W. Jong (RCE)

Valthe-Hunebedweg 21 May–15 June. Excavation of the direct vicinity of a Funnel Beaker Period megalithic grave.

Director : S. Arnoldussen

Staff : R.L. Fens, S. Arnoldussen, D.C.M. Raemaekers

Participants: First-year students GIA, Groningen, P. Albers

Cooperation: D.J. Leeuwerik (DLG), M. Montfoorts (comm. Odoorn), W. vd Sanden (prov. Drenthe), J. Wolf (Staatsbosbeheer)

Lelystad 29 May–18 July. Excavation of 16th-century wijdschip.

Director : A.F.L. van Holk

Staff : D.E.P. Velthuisen, G.W. Schreurs, L. Koehler, F. Dallmeijer

Participants: P. Lunshof, L. Jetten, T. van der Kloet, K. Kuiper, T. Steenwijk, S. Stiekema, M. Hendriksen, A. Zagkostas, Y. van Popta, E. Wijshake, K. Blok (GIA), B. Zandbergen, M. van der Boon, M. van der Velde, A. Bulder (Leiden University.), M. Peters, J. Bolhuis, F. Post (Saxion), V. Lempiäinen (Univ. of Helsinki), M. Pereira (Univ. of Lisbon), A. Catrysse, M. Logan (Univ. of Southern Denmark)

Cooperation: D. Velthuisen (Nieuw Land), G.W. Schreurs, L. Koehler, F. Dallmeijer (all RCE)

Dronrijp-Zuid 11 June–2 July. Excavation of terp site, pre-Roman and Roman Iron Age.

Director : J.A.W. Nicolay

Staff : S. Tiebackx, A. Hullegie

Participants: M. Bakker, T. Varwijk, P. Schrijver, S. Thasing, J. Welbedacht, E. Scheele (students), J. Scheringa (student University of Amsterdam), R. Kusters, J. van Gent, J. Bloem, R. Visser, H. Baron, M. Lutgendorff, J. Koning, J. Veltman, H. van Bessem (volunteers)

Cooperation: H. Huisman (RCE), P. Vos (Deltares)

Dronrijp-Zuid 27–29 June. Fieldwalking terp site, pre-Roman Iron Age to medieval period.

Director : J.A.W. Nicolay

Staff : J. Nicolay, S. Tiebackx

Participants: M. Bakker, T. Varwijk, S. Thasing, P. Schrijver, J. Welbedacht (students), J. van Gent, J. Bloem, R. Visser, H. Barron, J. Veltman (volunteers).

Cooperation: None

Wapserveen 20 July. Survey of a potential Hamburgian (Late Palaeolithic) site.

Director : J.H.M. Peeters

Staff : J.H.M. Peeters

Participants: J.H.M. Peeters

Cooperation: J.H.M. Peeters (GIA)

Dronrijp-Oost 17 August–19 September. Excavation of terp site, Roman Iron Age to medieval period.

Director : J.A.W. Nicolay

Staff : S. Tiebackx

Participants: N. Dekker, M. Bakker, T. Varwijk, S. Thasing, L.-A. van Sambeek, E. Scheele (students), R. Kusters, J. van Gent, J. Bloem, R. Visser, H. Barron, M. Lutgendorff, H. van Bessem, A. Visser, J. Veltman (volunteers)

Cooperation: H. Huisman (RCE), P. Vos (Deltares)

Firdgum (the Netherlands) 20 August–23 November. Turf House Project: archaeological reconstruction of an early medieval turf-walled farm building.

Director : D. Postma

Staff : G. de Langen, J. Nicolay, F. Possel, W. Prummel, E. Bolhuis, S. Tiebackx

Participants: All participants were volunteers. *GIA students*: G. Nieuwlaat, P. Schrijver, T. Sibma, N. Jager, M. Bakker, T. Varwijk, E. Edens, R. Kwiatkiewicz, L. Derksen, J. van der Laan, J. Kuyper. *Non-GIA archaeology students*: M. Bekkema (VU Amsterdam, geo-archaeology), W. Stellingwerf (Saxion). *Secondary school trainees*: W. de Boer, M. Pranger. *Professional archaeologists*: M. de Jong (Libau), A. Maurer (EARTH Integrated Archaeology), M. van Kruining (formerly Univ. of Groningen, Arctic Centre), B. Postma-Saan, J. Seubers (both GIA). *Amateur archaeologists/historians*: L. Everts (Afûk), R. ten Tonkelaar (formerly Archeon), H. Baron, R. Visser (both Fryske Akademie). *Other volunteers*: F. Bloemhof, J. Bootsma, J. de Groot, W. de Jongh, E. Dijkstra, T. Draijer, L. Feenstra, T. Flamand, A. Hibma, A. Huisman, A. Janssen, B. Kuiken, E. Last, H. Postma, J. Postma, R. Postma, A. Rammers, E. Roffel, H. Saan, D. Scheen, N. Stallinga, E. Stellingwerf, J. van Bruxvoort, H. van der Laan, A. van der Laan, W. van der Laan, J. Vonk, A. Wester, A. Zijlstra.

Cooperation: *Yeb Hettinga Museum*: J. Vonk, C. Hettinga, D. Bosma. *Omrop Fryslân*: P. Tjeerdsma, S. Bok, T. Overal, J. Bensliman, D. Hofstede, D. Plantinga, F. Kampstra. *Wirotext Kraanverhuur*: H. Witte. *Fame Architectuur & Stedenbouw*: H. Vonk, L. Jonkman, Coen Koenders. *Ingenieursbureau Goudsticker-De Vries*: B. Grimberg, L. Bijl. *Fries Museum*: N. IJssennagger, E. Kramer. *It Fryske Gea*: A. Wester, J.J. Jongsma. *Staatsbosbeheer*: D. (Durk) Postma. *Koninklijke Saan*: J. Saan, P. Saan, M. van Klaarbergen, M. Hoppen (ARRE) *Remaining History*: S. Pelsmaeker

Berlikum 24–28 September. Fieldwalking terp site, Roman Iron Age to medieval period.

Director : J.A.W. Nicolay

Staff : S. Tiebackx

Participants: M. Bakker, S. Thasing (students), H. Baron, M. Lutgendorff, J. Veltman, J. Bloem (volunteers)

Cooperation: None

Onnen-Onneres 22–23 October. Test pit in search of the lost megalith G4.

Director : H.A. Groenendijk

Staff : None

Participants: T. ten Anscher (RAAP, Drachten), J.N. Lanting (GIA)

Cooperation: K. de Vries (Medusa Explorations bv)

Other countries

Veliko Turnovo, Bulgaria 10–20 September. Zooarchaeological study of earliest Early Neolithic of Dzhuljunica.

Director : C. Çakırlar

Staff : None

Participants: None

Cooperation: V. Nedko, P. Zidarov

Tell Fadous, Lebanon 10–23 March. Archaeozoology of an Early Bronze Age tell on the Lebanese coast.

Director : H. Genz

Staff : C. Çakırlar

Cooperation: American University of Beirut

Hatay, Turkey 5 July–10 August. On-field archaeozoological study of Alalakh and Kinet Höyük.

Director : C. Çakırlar

Cooperation: M.H. Gates (Bilkent University), A.K. Yener (Koc University), N. Demirel (Istanbul University)

Chair of Classical and Mediterranean Archaeology

Italy: Pontine region

Pontinia, Lazio, Italy 13–18 May. Preparatory visit to fieldwork area.

Directors : T.C.A. de Haas and G.W. Tol

Staff : K. Armstrong, C. Anastasia (local liaison)

Cooperation: P. Sperlonga (Comune di Pontinia), A. Cocchieri (Museo dell'Agro Pontino)

Pontinia, Lazio, Italy 19–29 August. Geophysical prospections (tests) at sites of Astura, Ad Medias and Forum Appii.

Directors : T.C.A. de Haas and G.W. Tol

Staff : K. Armstrong, S. Tiebackx, C. Anastasia (local liaison)

Participants: M. Berry (University of Bradford)

Cooperation: Poligono Militare di Nettuno (Nettuno), Scuola Superiore di Polizia (Nettuno)

Pontinia, Lazio, Italy 23 September–25 October. Intensive field surveys at Forum Appii and Ad Medias and extensive surveys around ad Medias.

Director : T.C.A. de Haas and G.W. Tol

Staff : C. Anastasia (local liaison)

Participants: K. Couchez (University of Ghent), S. Deacon (University College London), J. Hilbrands (University of Groningen), E. Ings (Bristol University), T. Kauling (University of Groningen), M. Nijboer (University of Groningen), H. de Haas (University of Groningen), K. van der Veer (Copenhagen), F. Verhagen (University of Groningen), J. Waanders (University of Groningen), E. Witmer (University of Groningen), L. Weekers (University of Ghent)
Cooperation: P. Sperlonga (Comune di Pontinia), A. Cocchieri (Museo dell'Agro Pontino)

Italy: Crustumerium

Rome 20 February–18 March. Processing Crustumerium survey material at the Dutch Institute in Rome.
Director : P.A.J. Attema
Staff : J.F. Seubers
Participants : G.W. Tol, S.L. Willemsen
Cooperation: Soprintendenza Speciale per i Beni Archeologici di Roma

Crustumerium 1 July–5 August. Excavation tombs (7th century BC), material studies (ceramics from surveys), survey and auguring programme.
Directors : Prof. P.A.J. Attema and Dr A.J. Nijboer
Staff : Prof. P.A.J. Attema, Dr A.J. Nijboer, Dr B. Belelli-Marchesini (excavation), Dr M. van Leusen (survey), G.J.M. van Oortmerssen (conservation/restoration), S. Boersma (drawing)
Participants: Jord Hilbrands, Yftinus van Popta, Bernd Danhof, Remco Bronkhorst, Matthijs Catsman (student VU), René Brandhoff, Julia Steding, Jimmy Hegge, Lianne Wilmink, Jan Ferco van der Weg, Linda Smit, Sonja Filatova, Anne-Jan Wijnstok, Youri van den Hurk, Lewke Kirchner, Annick Brinkman, Anne van den Heuvel, Nikolaas Noorda, Iris Koopmans
Cooperation: M. Den Haan (Fysisch geograaf UvA), Dr W. Pantano (Physical Anthropologist, Rome), Astrid Koops-Besijn (Fysische antropologie, Groningen), Soprintendenza Speciale per i Beni Archeologici di Roma

Crustumerium (Rome, Italy) 25 September–10 October. GIA Crustumerium survey 2012.

Director : P.A.J. Attema
Staff : P.A.J. Attema, J.F. Seubers, S.L. Willemsen
Participants: S. Droogsma, T. Kauling, J. Hilbrands, Y. van Popta, R. Bronkhorst

Cooperation: Eastern Atlas GmbH & Co KG, and Soprintendenza Speciale per i Beni Archeologici di Roma

Crustumerium (Rome) 22–29 October. Geophysical prospections of the settlement plateau of Crustumerium.

Director : P.A.J. Attema
Staff : P.A.J. Attema
Participants: B. Ullrich (Eastern Atlas), R. Kniess (Eastern Atlas), H. Boehm (Eastern Atlas)
Cooperation: Eastern Atlas GmbH & Co KG and Soprintendenza Speciale i Beni Archeologici di Roma

Italy: Calabria

Raganello-basin 2–14 April. Geophysical surveys of Bronze Age sites.

Director : P.M. van Leusen
Staff : K.L. Armstrong, W. de Neef, J. Sevink
Participants: J. Wubs (student), A. de Rijck, D. Veraart, T. van Damme (students, University of Ghent), M. den Haan (student, University of Amsterdam)

Sibari (Calabria, Italy) 20–30 May. Materials campaign.

Director: F. Ippolito
Staff : F. Ippolito, S. Boersma

Raganello-basin 14 October–16 November. Noninvasive and invasive study of Bronze Age sites.

Director : P.M. van Leusen

Staff : W. de Neef, K. L. Armstrong, J. Sevink, M. den Haan

Participants: J. Wubs, M. Boven (students), M. Galloo, A. van den Dorpel, T. Trienen, K. Couchez (students, University of Ghent), M. van Kruining

Cooperation: V. de Laet (Catholic University of Leuven), D. Jordan, Y. Jung Choi, T. Mahr, S. Globig (University of Mainz), F. Romagnoli, F. Trenti, G. Pizziolo (University of Firenze/Siena)

Sibari (Calabria, Italy) 18–30 October. Materials campaign.

Director: F. Ippolito

Staff : F. Ippolito, S. Boersma

Chair of Greek Archaeology

Greece

Ayios Vasilios, Xirokambi, Sparta 2–19 July. Excavation of early Mycenaean cemetery (Northern Cemetery) at Ayios Vasilios.

Director : S. Voutsaki

Staff : I. Moutafi (Univ. of Sheffield), L. Polymenakos (Geophysics Consultancy Geotomi)

Participants: A. Balitsari (MA student, Univ. of Athens), T. Tsempera (MSc, University of Durham)

Cooperation: 5th Ephorate of Prehistoric and Classical Antiquities, Sparta Archaeological Society at Athens

Iraq

Kurdistan, Iraq 30 July–20 August. Survey project in Erbil Plain.

Director : J. Ur (Harvard University)

Staff : Associate directors: J. Giraud (IFPO Iraq), L. de Jong, J. Osborne (Johns Hopkins University)

Participants: M. Price (Harvard University), Khalil Barzanji and Gareb Bawamurad (KRG Antiquities Service)

Chair of Arctic and Antarctic Studies

Norway

Ny-Ålesund, Spitsbergen 12 June–20 August. Barnacle Goose Ecology.

Director : M.J.J.E. Loonen

Participants: H. van Alsemgeest (student, Wageningen University), S. Lubbe (volunteer), C. van der Kooi (student, University of Groningen), W.E.E. Loonen (volunteer), M. van Rijssel (volunteer), Qi Zhao (State University of Beijing, China)

Cooperation: G.W. Gabrielsen (Norwegian Polar Institute), S. Coulson (UNIS)

1.2 LECTURES AND POSTER PRESENTATIONS

Armstrong, K.A.

- 31 January, Groningen (the Netherlands): GIA Research Seminar: 'Archaeological Geophysical Prospection in Peatland Environments'.
- 29 August–2 September, Helsinki (Finland): EAA Conference, 'The Rural Life in Protohistoric Italy Project (2010–2015): Early Results'.
- 2–3 December, Leiden (the Netherlands): International Survey Workshop, 'Geophysical Research in the Raganello Watershed'.
- 9 December, Groningen (the Netherlands): GIA day, 'Geophysical Research in the Raganello Watershed'.
- 26–29 March, Southampton (United Kingdom): CAA 2012, 'Rural Life in Protohistoric Italy: Using integrated spatial data to explore protohistoric settlement in the Sibaritide'.

Arnoldussen, S.

- 6 June, Aarhus (Denmark): Cultural Mobility in Bronze Age Europe Project – research meeting Aarhus, 'Outward acquiring, inward building: scale of knowledge, style and object-transmission in the Dutch Bronze Age'.
- 30 August, Helsinki: European Association of Archaeologists (EAA) conference, 'Owing your PhD to a freight railway: Dutch cultural landscape analysis and developer-led archaeology'.
- 13 November, Borger (the Netherlands): AWN Introductie cursus archeologie, 'Het verhaal van de prehistorie (1)'.
- 16 November, Ede (the Netherlands): Reuwendagen, 'Actueel onderzoek naar Celtic fields in Nederland'.
- 22 November, Assen (the Netherlands): AWN Introductie cursus archeologie, 'Het verhaal van de prehistorie (2)'.

Attema, P.A.J.

- 20 January, Amsterdam (the Netherlands): Symposium Nederlandse Archeologie in het Middlandse Zeegebied en het Nabije Oosten, 'The Crustumerium Project'.
- 14 February, Siena: Book presentation, *Hidden Landscapes of Mediterranean Europe*, ed. by P.M. van Leusen, G. Pizziolo and L. Sarti, Comments (by video link).
- 19 March, Haarlem (the Netherlands): Lezingenavond archeologisch museum Haarlem, 'Scherven aan de Zwarte Zee'.
- 9 March, Amersfoort (the Netherlands): Archon Day, 'The People and the State. Material culture, social structure and political centralization in central Italy (800–450 BC). NWO-funded research into the protohistoric settlement and community of Crustumerium near Rome'.
- 27 October, Pisa (Italy): International Mediterranean Survey Workshop, 'The Dzarylgach Survey Project (NW Crimea, Ukraine): from Survey to Publication'.
- 7 December, Athens (Greece): Fokus Fortifikation, Conference on the Research of Ancient Fortifications, 6–9 December 2012 at the Acropolis Museum in Athens, 'The Pontine Region under the early Republic, a Contested Landscape'. With T.C.A. de Haas.

Çakırlar, C.

- 22 March, Istanbul (Turkey): Recent archaeological investigations in the Amuq Valley of the Hatay Symposium, 'Resilience and sustainability in the Hatay: A zooarchaeological perspective'.
- 24 March, Leiden (the Netherlands): 6th Dutch symposium of the Near East, 'Emergence and evolution of herding in west Anatolia'.
- 26 March, Groningen (the Netherlands): Invited lecture, 'The Secondary Products Revolution and the Second Neolithic Revolution: Origin vs. Scale'.
- 30 May, Istanbul (Turkey): National Geographic Society, Committee of Research and Exploration Visit to Turkey, 'How did farming reach Europe: Results of faunal analysis at Yenikapi and associated sites' (Keynote lecture).
- 21 June, Cambridge (UK): Integrating zooarchaeology and stable isotope analysis, 'Reading Between the Lines: Incrementally deployed molluscan isotopes and archaeological problems as exemplified by a pilot study of Mid Holocene *Unio tigridis* from Tell Leilan and Tell Mozan in Syria'.

6 October, Istanbul (Turkey): World Archaeozoology Today, An International Symposium in Memoriam of Angela von den Driesch, 'Archaeozoology for Turkey: A game plan now!'

Cappers, R.T.J.

29 March, Amsterdam (the Netherlands): Lecture series, 'Reconstruction of former agricultural practices' (Keynote lecture).

20 June, Leiden (the Netherlands): 7th International Conference of the Dakhleh Oasis Project, 'Modelling the selection of wheat in ancient Egypt'.

3 July, Vienna (Austria): 7th International Workshop for African Archaeobotany, 'Modelling shifts in cereal cultivation in Egypt from the start of agriculture until modern times' (Keynote lecture).

Groenendijk, H.A.

11 February, Groningen: Groninger Museum, Annual meeting Vereniging van Terpenonderzoek, 'Wierdenbeleid in de provincie Groningen'.

12 March, Onnen (the Netherlands): Annual meeting Historische Vereniging Old Go, '850 Jaar Haren?'

16 March, Groningen: University of Groningen Course, Landscape History (T. Spek), 'Het landschap Westerwolde'.

22 March, Leens (the Netherlands): Annual meeting Stichting Vrienden van de borg Verhildersum, 'Van wie is de archeologie? Een rondgang door NW-Groningen'.

27 March, Groningen: GIA Seminars, 'De letter en de geest van Malta. Maatschappelijke belangengroepen verheffen hun stem'.

Haas, T.C.A. de

20 February, Leiden (the Netherlands): Guest lecture in MA course on archaeology and Roman economy, 'Investigating economic growth through archaeological data'.

9 February, Groningen (the Netherlands): Cultures of Networks in the Ancient Mediterranean, CRASIS Studiedag, 'Studying change in local and regional economic networks in central Italy'. Note: Co-authored with Gijs Tol.

2 March, Groningen (the Netherlands): Book presentation, Between Satricum and Antium, 'De "spin-off" van het Nettuno-project'.

29 March, Groningen (the Netherlands): Gastlezing Stichting Oude Groninger Kerken, 'Tempels, heiligdommen en religie in vroeg-Romeins Italië' (Keynote lecture).

29 March–1 April, Frankfurt (Germany): Roman Archaeology Conference (RAC), 'Fields, farms and colonists: intensive field survey and early Roman colonization'. Note: Poster.

29 March–1 April, Frankfurt (Germany): Roman Archaeology Conference (RAC), 'Fora, stationes and sanctuaries: the role of minor centers in the economy of Roman Central Italy'. Note: Poster, co-authored with Gijs Tol, Kayt Armstrong, Peter Attema and Martijn van Leusen.

16 June, Leuven (Belgium): Mediterranean Survey Workshop, 'Fora, stationes and sanctuaries: a new GIA-based research project'. Note: Co-authored with Gijs Tol.

26–27 October, Pisa (Italy): Mediterranean Survey Workshop, 'Fora, stationes and sanctuaries: first results of the Minor Centers project'. Note: Co-authored with Gijs Tol.

6–9 December, Athens (Greece): Fokus Fortifikation, Conference on the Research of Fortifications in Antiquity, 'The Pontine region under the early Republic: a contested landscape'. Note: Co-authored with Peter Attema.

Hacquebord, L.

16 January, Groningen (the Netherlands): SIB Lecture, 'Geopolitics in North- and South Polar regions'.

30 January, Groningen (the Netherlands): HOVO. Lecture, 'Climate Change in the Arctic'.

26 March, Le Thillot (France): Lecture, 'Geopolitics in the Arctic'.

27 March, Winsum (the Netherlands): Herensocieteit, Lecture, 'Geopolitics in the Arctic'.

2 April, Groningen (the Netherlands): Imaka. Roald Amundsen a man of extremities.

22 May, The Hague (the Netherlands): 6th Harsh Weather Summit Conference, Keynote lecture, 'Climate Development in Polar Areas during the last 1000 years'.

23 May, Apeldoorn (the Netherlands): Koninklijke Vereniging voor Koude, Keynote lecture, 'Climate Change in the coldest areas on Earth'.

5 July, The Hague (the Netherlands): Clingendael. Offshore operations and the environment (Keynote lecture).

10 July Groningen (the Netherlands): Summerschool IO/IB. 'The Arctic as energy producing area', (Keynote lecture).

5–22 September, several lectures on board the Rembrandt van Rijn during the University of Groningen Alumni voyage to Greenland.

4–6 October Bergen (Norway): 'Polar Industrial Heritage Sites; Sources of Economic Information' (Keynote lecture).

2 November, Amsterdam (the Netherlands): Scheepvaartmuseum, 'Caught in the Ice: An Ecological History of Old Dutch Whaling' (Keynote lecture).

14 November, Amsterdam (the Netherlands): ICOMOS Netherlands. Dutch Cultural Heritage in the Arctic. Keynote lecture in cooperation with Dr Ricardo Roura

28 November, The Hague (the Netherlands): Ministry of Foreign Affairs. Arctic Discussion Day. 'Stormy Developments in the Arctic' (Keynote lecture).

Heinrich, F.B.J.

16 May, All Souls College, Oxford: Oxford Roman Economy Project, 'Quantifying the agricultural economy of Roman Karanis'. Note: Lecture presented as MSc student at the University of Oxford, on research done at Groningen, which will be further developed in my PhD.

Holk, A.F.L. van

15 December 2011, Amersfoort (the Netherlands): NOA talk, 'International Fieldschool for Maritime Archaeology Flevoland'.

23–24 March, Walraversijde (Belgium): Colloquium, 'De Zuiderzee: verkeersplein, voedselbron en strijdtoneel'.

10 October, Amsterdam-Lelystad (the Netherlands): ISBSA 13 (Symposium), 'The Zuiderzee: highway, fishing ground and power landscape'.

Jong, L. de

5 April, Texas Tech University, Lubbock (USA): AIA lecture series, 'Death in the Province: Mortuary Practices and Roman Imperialism in Syria and Lebanon'.

19 November, Groningen (the Netherlands): CRASIS lecture, 'Romans, Parthians, and Palmyrenes: A View from the Tombs'.

14 December, Groningen (the Netherlands): Annual meeting GIA, 'Op zoek naar Gaugamela: Hellenistische landschappen in Noord Irak'.

Langen, G.J. de

20 March, University of Groningen, Groningen (the Netherlands): 'Vensters op Frisia. Over nut en noodzaak van het universitaire terpenonderzoek'. Inaugural lecture.

6 April, Buitenpost (the Netherlands): Kruithof/IJstijdenmuseum, 'Over het belang van 10^{de}-eeuwse kogelpotscherven in Achtkarspelen'.

9 June, Hempens (the Netherlands): 'Nieuw aardewerk op de terp aan de Suderbuorren te Hempens'.

20–24 August, Leeuwarden & Terschelling (the Netherlands): 25th session of the Permanent European Conference for the Study of the Rural Landscape, Conference Reflection on Landscape Change: the European Perspective. 'A former salt marsh behind dikes. Introduction to the study and protection of rural cultural landscapes in Friesland, the Netherlands' (keynote lecture) and co-leader of an excursion through Groningen and Friesland.

18 September, Orange Hall, Leeuwarden (the Netherlands): Round table meeting Territory and Urban Settlement along Water. Comparative Studies on Friesland and Other Areas in History, 'Structured by water or shaped by the land? On the origin and shape of medieval villages and towns in Friesland, the Netherlands (An introduction)'.

21–23 November, Leeuwarden (the Netherlands): Conference 'An integrated approach to emerging challenges in a World Heritage site'. 13th International Scientific Wadden Sea Symposium (ISWSS), 'On the value and future of the Frisian historical landscape' and leader of an excursion through Friesland.

3–4 December, Tokyo (Japan): Symposium, Space, Culture and Regeneration of Cities in History, ‘On the Origin and Shape of Medieval Villages and Towns in Friesland, the Netherlands: The Settlement Structure of Leeuwarden 450-1435 AD’.

Leusen, P.M. van

14–18 February, Pisa (Italy): AIQUA conference, Poster – ‘The Holocene of the Agro Pontino Graben: recent advances in its palaeoecology, tephrostratigraphy and archaeology’. Note: With J. Sevink.
6–9 June, Berlin (Germany): Landscape Archaeology Conference, Poster – ‘Mapping the Surface – Detecting the Subsurface’. Note: With de Neef and Armstrong.
26–27 October, Pisa (Italy): International Survey Workshop, ‘Rural Life in Protohistoric Italy: how to study it’.
29 November, Groningen: 2nd Joint Meeting of CAA-NL/DE, ‘Dealing with uncertainty in legacy site data: the strange case of the Monti Lepini survey’.

Lindenhout, E. van ’t

26 April, Groningen (the Netherlands): Colloquium, Space in the Ancient World – between History and Archaeology, ‘House-form and Social Complexity: the urbanization of Archaic Latium (Central Italy)’. Note: Colloquium held at the PhD defence of Chris Dickenson.
4 June, Groningen (the Netherlands): Colloquium, Landscape, Perception and Identity, ‘Cultplaces as manifestations of power and identity in Archaic Latium (central Italy)’. Note: Colloquium held at the occasion of the PhD defence of Christina Williamson.

Loon, T. van

14–17 March, Istanbul (Turkey): Winterschool U4: East meets West, ‘The banqueting ritual in Central Italy in the 8th-6th centuries BC’. Note: Lecture was prepared together with Sarah Willemsen.
27–29 April, Brown University, Providence (USA): Religion in Pieces, An Interdisciplinary Conference sponsored by the Society for Ancient Mediterranean Religions and the Joukowsky Institute for Archaeology and the Ancient World, ‘Interpreting Votive Deposits: The Cult Place at Laghetto del Monsignore’.

Loonen, M.J.J.E.

17 March, Leiden (the Netherlands): Pool tot Pool symposium, ‘Pinguins’.
31 March, Zwolle (the Netherlands): Netherlands Ornithologist Union symposium, ‘Waarom trekken ganzen naar het noorden?’
8 March, Texel (the Netherlands) Netherlands institute for sea research (NIOZ): Invited colloquium, ‘Geese as key species in Arctic ecosystems’ (Keynote lecture).
20 April, Steinkjer (Norway): Goose Specialist Group Annual Meeting, ‘Geese adapting to change’.
15 November, Groningen (the Netherlands): Arctic Research symposium, ‘Geese adapting to change’.

Neef, W. de

25 May, Groningen (the Netherlands): Interchange day, Graduate School of the Humanities, Faculty of Arts (Groningen University), ‘On and below the surface. Relating surface and sub-surface remains in small protohistoric sites’.
2 October, Trebisacce (Italy): Excavation at Broglio di Trebisacce (La Sapienza, University of Rome), ‘Relating surface and sub-surface remains in small protohistoric sites’.

Nicolay, J.A.W.

2 September, Durham (UK): 63rd International Sachsensymposium, ‘Power in the periphery. Early medieval kingdoms along the North Sea coast’.

Nieuwhof, A.

24 January, Ezinge (the Netherlands): Meeting of staff and volunteers of Museum Wierdenland, ‘Het Odyssee-project en de nieuwe tentoonstelling in het Museum Wierdenland’.
15 May, Ezinge (the Netherlands): Public lecture, ‘Ezinge in scherven. Het onderzoek naar het aardewerk uit de opgraving’.

- 22 August, Ezinge (the Netherlands): PECSRL conference 2012, Excursion, 'The Reitdieplandscape and the excavation in Ezinge'.
- 5 September, Durham (UK): 63rd Internationales Sachsensymposium, 'Potters and potsherds from afar: some observations on long-distance contacts'.
- 23 October, Groningen: ARCHON workshop, Bones, bodies, persons, 'Bodies and body parts from the pre-Roman and Roman Iron Age in the terp of Ezinge'.
- 6 October, Groningen (the Netherlands): Annual Workshop on Wetland Archaeology, 'Mens en hond: een nieuwe interpretatie van een aantal vondsten uit het terpengebied'.

Nijboer, A.J.

- 21–23 June, Rome (Italy): Conference, Contextualising 'early Colonisation': Archaeology, Sources, Chronology and Interpretative Models between Italy and the Mediterranean, 'Why is there such a cluttering of archaeological data and events around 770-760 BC?'. Note: Invited speaker.
- 12 July, Verucchio (Italy): Verucchio lectures, 'Crustumerium (Rome): An Analysis of Settlement and Burial Grounds'. Note: Invited speaker.
- 6–8 September, Herxheim (Germany): Tagung: Klinge, Messer, Schwert & Co. Neues aus der Schneidenwelt, 'Aufs Messers Schneide: "Stahlproduktion" im 7. Jhdt. v. Chr. in Italien?'. Note: Lecture presented by G. Abbingh for both of us.

Panagiotopoulou, E.

- 27–29 August, Lille (France): Conference paper at 19th European Meeting of the Paleopathology Association. Oral presentation of the anthropological study and the isotopic results of a Geometric population from Central Greece.

Peeters, J.H.M.

- 28 February, Groningen (the Netherlands): GIA research seminar, 'Looking at another world: new perspectives on hunter-gatherer dwelling in NW Europe after the Last Glacial Maximum'.
- 28 March, Southampton (UK): Computer Applications in Archaeology, '3D spatial analysis of sites without features'. Note: Paper presented with Dr S. Merlo (Botswana).
- 28 August, Helsinki (Finland): Annual meeting of the EAA, 'Recent work on the archaeology of submerged prehistoric sites in the Dutch North Sea'. Note: Paper presented with L. Amkreutz, M. Hijma, P. Vos, H. Weerts, B. Smit, M. Sier.

Postma, D.

- 13 September, Firdgum (the Netherlands): Field excursion of the 'Afdeling Bestuurszaken' of the Province of Friesland, 'The Turf House Project'. Note: Including a tour of the turf house under construction.

Prummel, W.

- 15 March, Amersfoort (the Netherlands): NOaA-lezingen (Nationale Onderzoeksagenda Archeologie/Dutch Research agenda Archaeology) : theme Archaeozoology, 'Vijfjarenplan archeozoölogie. Wat zijn de grootste leemten in onze kennis, waar is de meeste winst te behalen?' (Keynote lecture).
- 14 June, Ezinge (the Netherlands): Lecture given at the Wierdenlandmuseum within the framework of the exhibition 'Ezinge in Scherven en Botten' curated by Annet Nieuwhof, 'De dieren van de wierde Ezinge'.
- 5 October, Istanbul (Turkey): Biennial meeting of the International Committee (IC) of the International Council for Archaeozoology (ICAZ), 'Stable isotopes $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ in animal bones and plants from the Northern Netherlands'.
- 27 October, Firdgum (the Netherlands): 'Maand van de geschiedenis 2012' theme 'Arm & Rijk' (Poor & Rich) at the Yeb Hettingamuseum Firdgum, 'Het vroegere gebruik van dieren in het terpengebied: was men arm of rijk?'

Raemaekers, D.C.M.

- 27 April, Wilhelmshaven (Germany): Workshop on Helgoland flint, 'Between materiality and liminality. On the meaning of Red Helgoland Flint for TRB communities'.

- 19 October, Halle (Germany): Conference, Salzmuende – Regel oder ausnahme?, ‘A continental backwater? A review of the Dutch archaeological dataset of the 4th millennium BC’.
- 30 October, Groningen (the Netherlands): GIA Research Seminar, ‘Prof. Van Giffen and the secret of the Dutch Hunebedden: An excavation of the GIA archives’. Note: With S. Jansen.
- 17 November, Ede (the Netherlands): Reuvensdagen conference, ‘Steentijd bij Swifterbant Prospectie op verschillende schaalniveaus’. Note: With H. Huisman (Rijksdienst voor het Cultureel Erfgoed), I. Woltinge (GIA), S.J. Dresscher (GIA), D. Ngan-Tillard (Delft University) and D. Velthuizen (Nieuwlanderfgoed).
- 15 December, Greifswald (Germany): Workshop, Contact and Transition, ‘New interpretations of old finds. Evidence of post-4000 cal BC exploitation of the Swifterbant area’.

Schepers, M.

- 11 May, Brussels (Belgium): Belgisch-Nederlandse Ecologendag, ‘Vegetatiediversiteit en menselijke invloed in het Noord-Nederlandse terpen- en wierdenlandschap’.
- 20 September, Esterwegen (Germany): Veencursus van het Nederlands Veengenootschap, ‘Veen wordt uit planten geboren’.
- 5 November, Groningen (the Netherlands): Wetland workshop, ‘Cultivation in wetland areas’.
- 6 November, Groningen (the Netherlands): Wetland workshop, ‘Van veekraal naar zeekraal’.
- 23 November, Wijnaldum (the Netherlands): Lezing historische kring, ‘Land zonder bomen’.

Seubers, J.F.

- 25 May, Groningen (the Netherlands): Interchange, Graduate School research presentation, ‘Introduction to Crustumerium’.
- 26 October, Pisa (Italy): International Mediterranean Survey Workshop, ‘Testing the Archaic Boom, Preliminary results of the GIA Crustumerium Survey’.
- 14 December, Groningen (the Netherlands): GIA Onderzoeksdag, ‘Het Archaische territorium van Crustumerium’.

Terpstra, T.K.

- 18 January, Leeuwarden (the Netherlands): Presentation for the Scandinavische Vereniging Friesland, ‘Migratie, Integratie en Beeldvorming van Groenlanders in Denemarken’.
- 23 February, Groningen (the Netherlands): Conference Native North America: Indigenous Self-Representation in Canada, the U.S., and Mexico, ‘Images of Inuit in the Canadian South: (Self-)Representation, Urbanization and Identity’.
- 20 March, Groningen (the Netherlands): Minor Canadian Studies (guest lecture), ‘Inuit and Migration’.
- 16 May, Groningen (the Netherlands): Scandinavian Literature Course (guest lecture), ‘Faroese and Greenlandic Literature: The Periphery of Scandinavia’.
- 26 October, Washington, DC (US): 18th Inuit Studies Conference, ‘Maintaining Inuktitut and Kalaallisut in southern Canada and Denmark: the Role of Inuit Language for Inuit Identity outside the Arctic’.
- 7 December, Groningen (the Netherlands): Minor Arctic Studies (guest lecture), ‘Arctic Indigenous Peoples’.
- 11 December, Groningen (the Netherlands): Minor Arctic Studies (guest lecture), ‘Arctic Indigenous Peoples’.

Tol, G.W.

- 9 February, Groningen (the Netherlands): Cultures of Networks (Annual CRASIS Workshop), ‘Studying change in local and regional economic networks in Central Italy’.
- 2 March, Groningen (the Netherlands): Lectures on the occasion of the presentation of the book *Between Satricum and Antium: settlement dynamics in a coastal landscape in Latium Vetus*, ‘Een wegstation op de Peutinger kaart. Opgravingen te Astura (Lazio, Centraal-Italië)’.
- 16 June, Leuven (Belgium): Mediterranean Survey Workshop, ‘Fora, stationes and sanctuaries: a new GIA-based research project’.
- 26 October, Pisa (Italy): Mediterranean Survey Workshop, ‘Fora, stationes and sanctuaries: first results of the Minor Centers project’.

Voutsaki, S.

- 9 February, Groningen (the Netherlands): CRASIS Annual Conference, 'Networks and agents. The Aegean in the Middle Bronze Age, 2000-1600 BC'.
- 10–13 April, Nicosia (Cyprus): Conference, Embodied identities in the prehistoric eastern Mediterranean. Convergence of theory and practice, 'Bodies, persons and images at the onset of the Mycenaean era'.
- 26 June, Heidelberg (Germany): Research Seminar, Department of Prehistoric Archaeology, University of Heidelberg, 'Agency theory and social change in the Middle Helladic mainland'.
- 22–23 October, Groningen (the Netherlands): ARCHON Workshop: Bones, bodies and persons. Towards a better integration of archaeological theory and bioarchaeology, 'Bodily practices and the redefinition of the self: a case-study and a discussion'.
- 7–10 November, Tripolis (Greece): Conference on Archaeology in the Peloponnese, 'Are the "tumuli of Argos" tumuli?'
- 7–10 November, Tripolis (Greece): Conference on Archaeology in the Peloponnese, 'The Northern Cemetery at Ayios Vasilios and the transformation of mortuary practices in the early Mycenaean period'.

Wiersma, C.W.

- 7 January, Philadelphia (US): 2012 AIA Annual Meeting, 'An analysis of Early Helladic III – Late Helladic I house architecture and assemblages'.
- 1 September, Helsinki (Finland): 18th Annual Meeting European Association of Archaeologists, 'Social change and inequality in Bronze Age Greece. A household perspective'.

Willemsen, S.L.

- 17 March, Istanbul (Turkey): East Meets West, U4 Winterschool, 'The banqueting ritual in Central Italy in the 8th–6th centuries BC'.

1.3 WORKING VISITS AND EVENTS, INCLUDING CONFERENCES, WORKSHOPS, MEETINGS

Armstrong, K.

11–15 March, Mainz (Germany): processing 2011 soil samples.

Arnoldussen, S.

17 November, Ede (the Netherlands): Reuvsdagen. Note: Panel member of panel discussion at presentation of newest palaeogeographic map of the Dutch delta.

Attema, P.A.J.

28 January–11 February, Rome (Italy): Study leave to work on manuscript of monograph on the Pontine Region.

29 March, Rome (Italy): Lazio e Sabina conference.

18 April, Groningen (the Netherlands): GIA toolkit meeting.

26 April, Groningen (the Netherlands): Colloquium on Space in the Ancient World – between history and archaeology, organized by C.P. Dickenson.

25 May, Groningen (the Netherlands): Workshop ‘Interchange’ organized by the Graduate School of the Groningen Faculty of Arts.

4 June, Groningen (the Netherlands): Colloquium on Landscape, Perception, Identity, organized by C. Williamson. Note: Chair.

30 June–1 July, Sybaris (Italy): Meeting with Soprintendente of Calabria (S. Bonomi) and Inspector of the Sibaritide (S. Luppino).

22–23 October, Groningen (the Netherlands): Archon Workshop. Note: Bones, Bodies, Persons.

26–27 October, Pisa (Italy): International Mediterranean Survey Workshop. Note: Chairperson.

2–11 November, Rome (Italy): Export and import of tomb inventories of Crustumerium and inventory of Satricum artefacts for transfer to Royal Netherlands Institute at Rome, meetings with team members of Crustumerium project.

14 December, Groningen (the Netherlands): Onderzoeksdag GIA. Note: Chairperson afternoon session.

5 December, Rome (Italy): Meeting with Soprintendente of Lazio, Dr Calandra and Inspector N. Cassieri for the NWO Minor Centers Project.

6–9 December, Athens (Greece): Fokus Fortifikation, Conference on the Research of Ancient Fortifications. Note: Organized by the International research network Fokus Fortifikation (DFG) with the Danish Institute in Athens and the German Archaeological Institute in Berlin and Athens.

Çakırlar, C.

24 October, Amersfoort (the Netherlands): Zooarchaeology in the Netherlands. Note: With Lisette de Vries.

2 November, Leiden (the Netherlands): Zooarchaeology in the Netherlands with Kolfshoten and de Jagt. Note: Together with Lisette de Vries.

Cappers, R.T.J.

25 May, Berlin (Germany): Book presentation.

25–29 June, Campobasso (Italy): Inventory of cultivation of ancient crops. Note: Contact with ARSIAM.

5–16 November, Fayum (Egypt): Archaeobotanical research Fayum Project.

Dijkstra, T.M.

9–10 January, Groningen (the Netherlands): CRASIS Annual Meeting ‘Networks in the Ancient Mediterranean’.

9 March, Amersfoort (the Netherlands): ARCHON annual meeting.

26 April, Groningen (the Netherlands): Space in the Ancient World, between history and archaeology.

13–23 May, Peloponnese (Greece): Research visit to archaeological sites and museums (Patras etc.).

4 June, Groningen (the Netherlands): Landscape, Perception and Identity.

22 October, Groningen (the Netherlands): ARCHON Workshop: Bones, bodies and persons. Towards a better integration of archaeological theory and bioarchaeology.

30 October–6 November, Athens (Greece): Research visit to the NIA.

- 7–11 November, Tripoli (Greece): Current Archaeology in the Peloponnese.
11–15 November, Patras (Greece): Research visit to Patras (Ephoria, museum and sites).
14 December, Groningen (the Netherlands): Annual meeting GIA (GIA day).

Groenendijk, H.A.

- 1 January – 31 December, Groningen-Aurich (D): Interreg-project ‘Land der Entdeckungen/Land van ontdekkingen (2010-2014)’. Note: Workshops, contribution to museum activities, contribution to community archaeology, fieldwork.

Haas, T.C.A. de

- 12 January, Leiden (the Netherlands): Working visit. Note: PhD ceremony for J. Pelgrom.
24–25 March, Southampton (UK): The Connected Past: people, networks and complexity in archaeology and history.
27 March, Rome (Italy): Lazio e Sabina, 9 incontro di studi.
27 March, Rome (Italy): Working visit. Note: Meeting with M. Teichmann (Deutsches Archäologisches Institut) on data exchange.
29 March–1 April, Frankfurt (Germany): Roman Archaeology Conference.
26 April, Groningen (the Netherlands): Symposium, Space in the Ancient World – between history and archaeology.
25 May, Groningen (the Netherlands): PhD Interchange Day. Note: Acted as referee for J. Seubers.
15–16 June, Leuven (Belgium): Mediterranean Survey Workshop.
26–27 October, Pisa (Italy): Mediterranean Survey Workshop.
5 November, Amsterdam (the Netherlands): Working visit. Note: Appointment with D. Waarsenburg at KNAW.
14 December, Groningen (the Netherlands): Annual Meeting GIA.
6 December, Rome (Italy): Working visit with soprintendenza dei beni archeologici del Lazio. Note: Appointment with inspector N. Cassieri and soprintendente E. Calandra to present fieldwork report and discuss plans for next year.
6–9 December, Athens (Greece): Fokus Fortification: Conference on the Research of Fortifications in Antiquity.

Hacquebord, L.

- 11–12 January, Brussels (Belgium): Meeting about the establishment of the EU Arctic Information Centre.
2 February, Groningen (the Netherlands): Meeting about participation in Promenade Schiermonnikoog.
21 February, Groningen (the Netherlands): Meeting about participation in Promenade Schiermonnikoog.
25–26 March, Le Thillot, Vievry (France): Meeting of the experts of Grandespace.
3 April, The Hague (the Netherlands): Meeting of representative of the Ministries. Ministry of Foreign Affairs.
19–22 April, Montreal (Canada): Arctic Science Summit Week. Meeting of the Council of IASC, Human & Social Sciences Working group. Representative of NWO and the Netherlands.
23 April, Amsterdam (the Netherlands): University of Amsterdam, National Geographic gathering.
14 May, The Hague (the Netherlands): Shell stakeholders meeting about drilling in the Arctic.
16 May, Groningen (the Netherlands): Info evening for the Alumni voyage to Greenland.
14 June, Schiermonnikoog (the Netherlands): Visit to the Promenade, Visitors Centre Schiermonnikoog.
6 July, Vienna (Austria): Visit to the Heeresgeschichtes Museum, Austrian Franz Josef Land Expedition.
9 July, Klagenfurt (Austria): Visit to the Karnten Landes Museum, Austrian Franz Josef Land Expedition.
27 September, Groningen (the Netherlands): Conference call Board of the Human & Social Sciences Working Group IASC.
24 October, Leiden (the Netherlands): Finale Academische Jaarprijs.
12–13 December, Stockholm (Sweden): Royal Technological University. Meeting about the progress of LASHIPA.
17 December, The Hague (the Netherlands): Royal Dutch Shell stakeholders meeting with discussion about drilling in the Arctic.

Holk, A.F.L.

27 September, Zeist (the Netherlands): SIKB congress Ondergrond en omgeving.
7–12 October, Amsterdam-Lelystad (the Netherlands): ISBSA 13.

Ippolito, F.

9–13 October, Ostuni (Puglia, Italy): Conference Istituto Italiano Preistoria e Protostoria.

Jones, O.A.

8–11 November, Tripoli (Greece): Archaeology of the Peloponnese Conference.
12–14 November, Patras (Greece): Preliminary Study of Research Material. Note: Brief study of the skeletal material I will be using for my research. Also, talked to original excavators, made arrangements for a return trip in the spring and saw one of the case study cemetery sites.

Jong, L. de

4 May, Chapel Hill (USA): AAH (annual meeting ancient historians).
22 October, Groningen (the Netherlands): ARCHON Workshop: Bones, bodies and persons. Towards a better integration of archaeological theory and bioarchaeology.

Langen, G.J. de

19 January, Amersfoort (the Netherlands): Dutch Cultural Heritage Agency, Meeting/Workshop Oerol and Waddenacademie concerning Landscape, Science & Art

Leusen, P.M. van

5–6 February, Leuven (Belgium): Anaghlia project review meeting.
15–16 June, Leuven (Belgium): International survey workshop.
9–13 October, Ostuni (Puglia, Italy): IIPP Conference Puglia.

Lindenhout, E. van 't

9 February, Groningen (the Netherlands): Cultures of Networks in the Ancient Mediterranean. Note: First Annual Meeting of CRASIS.
26 April, Groningen (the Netherlands): Colloquium, Space in the Ancient World – between History and Archaeology.
4 June, Groningen (the Netherlands): Landscape, perception and identity.
5 July, Groningen (the Netherlands): Afscheidssymposium Prof. J.E. Bosch-Boesjes.
14 December, Groningen (the Netherlands): Annual meeting GIA.

Loonen, M.J.J.E.

20 March–21 February, Stockholm (Sweden): Meeting of the international Ny-Alesund Science Managers.
17 April–22 March, Steinkjer (Norway): IWRB Goose Specialist Group.
1–6 November, Longyearbyen (Norway): SIOS workshop.
13–14 December, Copenhagen (Denmark): SIOS meeting on investments for monitoring on Spitsbergen.

Neef, W. de

6–9 June, Berlin (Germany): Landscape Archaeology Congress. Note: Poster presented 'Macro to Micro. Multi-Scalar Approaches to the interpretation of protohistoric surface finds'.
15–16 June, Leuven (Belgium): Mediterranean Fieldwork Survey Workshop.
11–12 August, Mainz (Germany): Working visit with Dr David Jordan (Archaeological Prospection Research group). Note: Fieldwork preparation.
27–29 August, Trento (Italy): Workshop 'Techno-Functional Analysis of Prehistoric Lithic Finds. Theory, Methodology, Experiments'.
9 September–5 October, Trebisacce (Italy): Working visit to excavation and pottery laboratory of Bronze Age excavation at Broglio di Trebisacce (La Sapienza, University of Rome). Note: Worked with ceramics specialists to gain more knowledge about protohistoric pottery.
10–13 October, Ostuni (Italy): Conference Istituto Italiano della Pre- e Protostoria (IIPP).
20–21 November, Rome (Italy): Working visit with Prof. A. Vanzetti (La Sapienza, University of Rome) and *d.ssa* M. Agrostelli (Pigorini Museum). Note: Visit to Pigorini Museum: introduction to Neolithic ceramics, *d.ssa* Agrostelli showed me the find assemblages of the Favella and Saracena excavations.

14 December, Groningen (the Netherlands): GIA day.

Nicolay, J.A.W.

1–5 September, Durham (UK): 63rd International Sachsensymposium.

14 December, Groningen (the Netherlands): Annual meeting GIA.

Nieuwhof, A.

12 January, Emden (Germany): Meeting of authors in preparation of catalogue for exhibition Emden 2013.

25 June, Drents Museum Assen (the Netherlands): Meeting Land-van- Ontdekkingen programme.

1–6 September, Durham (UK): 63rd Internationales Sachsensymposion.

7 September, Firdgum (the Netherlands): Official start Zodenhuis project.

11 September, Noordelijk Archeologisch Depot Nuis (the Netherlands): Meeting on the Frisian archaeological information system FAMKE.

22–23 October, Groningen: ARCHON workshop, Bones, bodies, persons.

5 November–6 October, Groningen (the Netherlands): Annual Workshop on Wetland archaeology.

Nobles, G.R.

26–30 March, Southampton (England): Computer Applications and Quantitative Methods in Archaeology – International Meeting.

8–9 June, Santander (Spain): Debating Spatial Archaeology.

Panagiotopoulou, E.

9–10 February, Groningen (the Netherlands): CRASIS Workshop: Cultures of Networks in the Ancient Mediterranean.

9 March, Amersfoort (the Netherlands): Archon Day.

9–26 March, Greece: Conference. Note: 4th Archaeological Meeting of Thessaly and Central Greece, 2009–2011. From Prehistory to the contemporary period. Meeting with the archaeologists-excavators. Collection of Greek archaeological bibliography.

23–24 June, Luton (UK): Summer School in Physical Anthropology. Workshop on Osteoarchaeology.

9 July–11 January 2013, Greece: Working visit. Note: Larisa (09–13.07.12): Conservation of Protogeometric osteological assemblage from Pharsalus, Thessaly, Greece, Volos (17–27.07.12):

Conservation of Protogeometric osteological assemblage from Voulokaliva, Thessaly, Greece

Volos (17–21.12.12): Osteological study and sampling the Voulokaliva assemblage

Athens: Osteological study and sampling the Pharsalus assemblage. Sampling the Protogeometric

Halos assemblage. Osteological sampling performed for isotopic analysis.

27–29 August, Lille (France): 19th European Meeting of the Paleopathology Association.

Peeters, J.H.M.

26–29 March, Southampton (UK): Computer Applications in Archaeology.

24–25 April, Amersfoort (the Netherlands): SPLASHCOS meeting.

22–25 May, Amersfoort (the Netherlands): UISPP Symposium on the Late Palaeolithic.

28 June, Birmingham (UK): SPLASHCOS North Sea meeting.

5–6 November, Groningen (the Netherlands): Workshop Wetland Archaeology.

14 December, Groningen (the Netherlands): Annual meeting GIA.

Postma, D.

3 January, Ezinge (the Netherlands): Exhibition opening ‘Ezinge in scherven en botten’, Museum Wierdenland.

12 January, Ezinge (the Netherlands): University of Groningen, Introduction for new PhD students.

19 January, Groningen (the Netherlands): Project management course, organized by the Graduate School for the Humanities.

20 January, Arkum (the Netherlands): Fieldwork at terp site excavation.

27 January, Amersfoort (the Netherlands): Archis2 training, RCE Amersfoort.

- 31 January, Groningen (the Netherlands): GIA Research Seminar, lecture by Dr K.L. Armstrong, 'Archaeological geophysics in wetland environments: a proposed toolkit'.
- 1 February, Groningen (the Netherlands): Preparation session for 'Cross-section in the Humanities' workshop, organized by the Graduate School for the Humanities.
- 7 February, Groningen (the Netherlands): Workshop RefWorks, University of Groningen Library.
- 7 February, Groningen (the Netherlands): GIA Capita Selecta, lecture by Mr. B. Ullrich, 'Multi-method geophysical research at Lossow Hillfort (Brandenburg, DE)'.
- 22 February, Groningen (the Netherlands): First session of 'Cross-section in the Humanities' workshop, organized by the Graduate School for the Humanities.
- 24 February, Amsterdam (the Netherlands): Conference 'Vroege Middeleeuwen', theme trade and exchange.
- 28 February, Groningen (the Netherlands): GIA Research Seminar, lecture by Dr J.H.M. Peeters, 'Looking at another world: new perspectives on hunter-gatherer dwelling in NW Europe after the last glacial maximum'.
- 20 March, Groningen (the Netherlands): Oration Prof. G.J. de Langen, 'Vensters op Frisia. Over nut en noodzaak van het universitaire terpenonderzoek'.
- 27 March, Groningen (the Netherlands): GIA Research Seminar, lecture by Prof. H.A. Groenendijk, 'Maatschappelijke belangengroepen verheffen hun stem'.
- 9 March, Amersfoort (the Netherlands): ARCHON Day, starting conference of ARCHON Research School of Archaeology, held at RCE Amersfoort.
- 11 April, Groningen (the Netherlands): Second session of 'Cross-section in the Humanities' workshop, organized by the Graduate School for the Humanities.
- 23–27 April, Groningen (the Netherlands): Access course, CIT Zernikeborg.
- 29 May, Groningen (the Netherlands): GIA Research Seminar, lectures by J. Hilbrants, BA, 'Linking surface material to sub-surface archaeological findings: case-studies from the Pontine Region, 6th-1st century BC' and Y. Popta, BA, 'Scheepsinventarissen en geologie: nieuw onderzoek naar het dateren van scheepswrakken in Flevoland'.
- 4 June, Grou (the Netherlands): Meeting with Omrop Fryslân.
- 13–17 June, Iceland: Working visit to Reykjavík and the Skagafjörður region, to study original Icelandic turf buildings and 3D documentation of archaeological sites. Note: In association with H. Sigurðsson, B. Zoëga (both Skagafjörður Heritage Craft School), S. Sigurðardóttir (Skagafjörður Heritage Museum), R. Traustadóttir (Hólar University College). Filmed by Omrop Fryslân for a documentary on the Turf House Project, with kind permission of Reykjavík City Museum.
- 23 June, Firdgum (the Netherlands): Meeting with Stichting Yeb Hettinga Skoalle.
- 9–11 July, Scotland: Working visit to the Scottish Highlands and the Isle of Lewis (Outer Hebrides), to study original Scottish longhouses. Note: In association with B. Walker (formerly Historic Scotland/University of Dundee). Filmed by Omrop Fryslân for a documentary on the Turf House Project, with kind permission of Historic Scotland, National Trust for Scotland and Garrannan Blackhouse Village.
- 20 July, Noarderleech, Hallum (Friesland Buitendijks, Netherlands): Field excursion of the Terpen Research Group.
- 23 July, Firdgum and Leeuwarden (the Netherlands): Meetings with Yeb Hettinga Museum and Fries Museum respectively.
- 13, 22, 24 August, Noarderleech, Hallum (Friesland Buitendijks, Netherlands): Visit to where turves were being cut for the Turf House Project.
- 3 September, Franeker (the Netherlands): Preparation meeting for 'Terpen- en Wierdenlandschap in Ontwikkeling' project.
- 20 September, Dronrijp (the Netherlands): Visit to Dronrijp-Oost terp excavation.
- 24 September, Firdgum and Hallum (the Netherlands): Preparation meetings and field excursions for 'Terpen- en Wierdenlandschap in Ontwikkeling' project.
- 1 October, Wijnaldum (the Netherlands): Preparation meeting and field excursion for 'Terpen- en Wierdenlandschap in Ontwikkeling' project.
- 12 October, Dronrijp and Noarderleech, Hallum (the Netherlands): Visit to Dronrijp-Oost terp excavation and location where turves were cut for the Turf House Project.
- 13 October, Firdgum (the Netherlands): Meeting with Stichting Yeb Hettinga Skoalle.
- 23 November, Leeuwarden (the Netherlands): 13th International Scientific Wadden Sea Symposium, organized by the Wadden Academy. Note: Attended last day only.

- 14 December, Groningen (the Netherlands): Annual meeting GIA.
15 December, Firdgum (the Netherlands): Meeting with Stichting Yeb Hettinga Skoalle.

Prummel, W.

- 24 January, Leiden (the Netherlands): Naturalis Biodiversity Center. Note: Working visit with Johan T. van Gent to Steven van der Mije for the identification of whale bones from Frisian and Groningen terpen.
6 January, Leeuwarden (the Netherlands): Natuurmuseum Fryslân. Note: Working visit with Johan T. van Gent to Peter Koomen and Chris Walen for the identification of whale bones from Frisian and Groningen terpen.
15 March, Amersfoort (the Netherlands): NOaA-lezingen (Nationale Onderzoeksagenda Archeologie/Dutch Research agenda Archaeology), theme Archaeozoology.
11 May, Brussels (Belgium): Nederlands-Vlaamse ecologendag (annual meeting of Dutch Flemish ecological archaeologists).

Raemaekers, D.C.M.

- 12 January, Emden (Germany): Project meeting 'Land der Ontdekkingen'.
25 January, Amsterdam (the Netherlands): Member dissertation committee Th. ten Anscher.
3 February, Ezinge (the Netherlands): Opening Ezinge exhibition.
29 February, Lelystad (the Netherlands): Meeting on new provincial heritage policy.
26–28 April, Wilhelmshaven (Germany): Workshop on Helgoland flint.
4 April, Amersfoort (the Netherlands): Meeting with H. Huisman (Rijksdienst voor het Cultureel Erfgoed) on Swifterbant.
26 July, Lavenstedt (Germany): Visit to excavation by Niedersachsiches Institut fur historische Küstenerforschung (Wilhelmshaven) with H.A. Groenendijk (GIA and province of Groningen), W.A.B. van der Sandern (province of Drenthe) and students Jorrin Kuiper.
21 August, Aurich (Wilhelmshaven): Meeting with R. Barenfanger (Ostfriesisches Landschaft) on catalogue 'Land der Ontdekkingen'.
10 September, Amsterdam: Meeting ARCHON board.
27–28 September, Schleswig (Germany): Meeting with Dr S. Hartz (Landesmuseum).
17–20 October, Halle (Germany): Conference 'Salzmuende – Regel oder Ausnahme?'.
22 October, Onnen (the Netherlands): Visit to RAAP excavation.
17 November, Ede (the Netherlands): Reuvsdagen conference.
27 November, Amersfoort (the Netherlands): Meeting between ARCHON members and Rijksdienst voor het Cultureel Erfgoed on new research programme 'Oogst voor Malta'.
10 December, Amsterdam (the Netherlands): Meeting ARCHON board.
12 December, Amersfoort (the Netherlands): Expert meeting Well-Aaijen.
13–15 December, Greifswald (Germany): Workshop 'Contact and Transition'.

Schepers, M.

- 11 May, Brussels (Belgium): Belgisch-Nederlandse Ecologendag.
25–26 October, Ghent (Belgium): Palynologendagen.

Seubers, J.F.

- 15–16 June, Leuven (Belgium): International Mediterranean Survey Workshop.

Steenhuisen, F.

- 22–25 January, Oslo (Norway): UNEP/AMAP Mercury emission expert meeting. Note: First UNEP/AMAP expert meeting on global mercury emissions.
14–15 February, Amsterdam (the Netherlands): AMAP Ocean Acidification Assessment. Note: The Arctic Centre in cooperation with the VU University Amsterdam hosted a meeting of the AMAP Ocean Acidification Assessment group. The aim of the meeting was to review the report and to identify gaps. The report is due to be delivered to the Arctic Council Ministerial meeting in May 2013.
30 April–5 May, ØSterås (Norway): Working visit Statens Strålevern. Note: Fallout modelling Norway/Arctic (1945–1985).

- 28–31 May, Stockholm (Sweden): UNEP/AMAP Mercury emission expert meeting. Note: Second UNEP/AMAP Mercury emission expert meeting.
- 2–6 July, Østerås (Norway): Working visit Statens Strålevern. Note: Fallout modelling for Norway/Arctic region (1945–1985) – Project specific GIS course.
- 2–5 October, Stockholm (Sweden): AMAP Working Group Meeting (WG26).
- 10–14 December, Østerås (Norway): Working visit Statens Strålevern. Note: UNSCEAR Fukushima working group, Modelling radionuclide deposition (fallout) and dose rate to biota for the UNSCEAR report ‘Preparing a scientific report to the General Assembly on “Exposures due to the nuclear accident following the Great East-Japan earthquake and tsunami”’ (<http://www.unscear.org/unscear/en/fukushima.html>).

Terpstra, T.K.

- 14–15 February, Gällivare (Sweden): Meeting of the Sustainable Development Working Group of the Arctic Council.
- 23–24 February, Groningen (the Netherlands): Conference, Native North America: Indigenous Self-Representation in Canada, the U.S., and Mexico.
- 27–29 August, Amsterdam (the Netherlands): IMISCOE Conference: Mobility as the new paradigmatic perspective in the social sciences?
- 17–19 September, Reykjavik (Iceland): Meeting of the Sustainable Development Working Group of the Arctic Council.
- 24–28 October, Washington, DC (US): 18th Inuit Studies Conference.
- 10–11 November, Roskilde (Denmark): Workshop on the Arctic Human Development Report II.

Tol, G.W.

- 9–10 February, Groningen (the Netherlands): Cultures of Networks (Annual CRASIS Workshop).
- 24–25 March, Southampton (England): The Connected Past: People, Networks and Complexity in Archaeology and History.
- 27–29 March, Rome (Italy): Lazio e Sabina (Annual Workshop of the Archaeological Service of Lazio).
- 30–31 March, Frankfurt (Germany): Roman Archaeology Conference.
- 15–16 June, Leuven (Belgium): Mediterranean Survey Workshop.
- 26–27 October, Pisa (Italy): Mediterranean Survey Workshop.
- 14 December, Groningen (the Netherlands): Annual meeting GIA.

Voutsaki, S.

- 6–15 January, Sparta, Nafplion, Athens (Greece): Sparta: Planning of Ayios Vasilios excavation; Nafplion: Argos Tumuli meeting; Athens: research in the British School Library.
- 23 January, Amersfoort (the Netherlands): Meeting ARCHON Educational Programme Committee.
- 9–10 February, Groningen (the Netherlands): CRASIS Annual Conference.
- 15 February, The Hague (the Netherlands): Meeting NWO VIDI Committee.
- 20 February, Amersfoort (the Netherlands): Meeting ARCHON Educational Programme Committee.
- 7–8 March, The Hague (the Netherlands): Meeting NWO VIDI Committee.
- 10–13 April, Nicosia (Cyprus): Conference ‘Embodied identities in the prehistoric eastern Mediterranean. Convergence of theory and practice’.
- 14–16 April, Athens (Greece): Meeting Ayios Vasilios Project.
- 4 May, Leiden (the Netherlands): Meeting Editorial Board BABesch.
- 20 June, Amersfoort (the Netherlands): Meeting ARCHON Educational Programme Committee.
- 26 June, Heidelberg (Germany): Research Seminar.
- 22–23 October, Groningen (the Netherlands): ARCHON Workshop: Bones, bodies and persons. Towards a better integration of archaeological theory and bioarchaeology.
- 7–10 November, Tripolis (Greece): Conference on Archaeology in the Peloponnese.
- 20 November, Leiden (the Netherlands): Meeting Editorial Board BABesch, attending Byvanck Lecture.
- 14 December, Groningen (the Netherlands): Annual meeting GIA.

Wiersma, C.W.

- 5–8 January, Philadelphia (US): 112th American Institute of Archaeology Annual Meeting.
- 31 January, Groningen (the Netherlands): GIA seminar.
- 9 February, Groningen (the Netherlands): CRASIS Seminar.

- 9 March, Amersfoort (the Netherlands): ARCHON Event.
- 27 March, Groningen (the Netherlands): GIA seminar.
- 17 April, Groningen (the Netherlands): LVN Lezing.
- 18 April, Groningen (the Netherlands): GIA Toolkit discussion.
- 25 April, Groningen (the Netherlands): Capita Selecta lezing.
- 21–22 May, Groningen (the Netherlands): Grant Week.
- 29 August–1 September, Helsinki (Finland): 18th Annual Meeting European Association of Archaeologists.
- 3 December, Groningen (the Netherlands): Career Event.
- 13 December, Groningen (the Netherlands): Forum Archaeology and Career.

Willemsen, S.L.

- 20 February–14 March, Rome (Italy): Consultation of literature in Italian libraries and meetings with Italian colleagues.
- 14–17 March, Istanbul (Turkey): East Meets West, U4 Winterschool.
- 22–23 October, Groningen (the Netherlands): Bones, Bodies, Persons. ARCHON Workshop.

1.4 WORKSHOPS AND EXHIBITIONS

3 February–31 December, Ezinge, Museum Wierdenland (the Netherlands): Exhibition ‘Ezinge in scherven en botten; de archeologische vondsten van Van Giffen onder de loupe’, organized by A. Nieuwhof, M. Blom.

26–29 March, Round table at CAA 2012 Southampton (UK), ‘Problems, methods and solutions in archaeological prospection’, organized by K.L. Armstrong.

22 May–25 November, Amersfoort (the Netherlands): UISPP Commission XXXII: PIONEERS AT THE END OF THE LAST ICE AGE. RECENT STUDIES ON LATE PALAEOLITHIC HUNTER-GATHERERS IN NORTHERN AND CENTRAL EUROPE, organized by E. Rensink (RCE), J.H.M. Peeters (University of Groningen), A. Verpoorte (Leiden University).

8 June, Birmingham (UK): Splashcos North Sea Project, organized by J.H.M. Peeters (University of Groningen), V. Gaffney (University of Birmingham).

22 August, Groningen (the Netherlands): Introductory talk for new students at GIA, organized by E. van 't Lindenhout.

20 August–9 November: Turf House Project (GIA, Yeb Hettinga Museum)

27 September, Zeist (the Netherlands): SIKB annual congress, Ondergrond en omgeving, organized by E. Wieringa, A.F.L. van Holk. Note: Session chair Maritime Archaeology.

4–8 October, Istanbul (Turkey): World Archaeozoology Today, organized by C. Çakırlar. Note: [Http://cssh.ku.edu.tr/arha/world-archaeozoology-today](http://cssh.ku.edu.tr/arha/world-archaeozoology-today) sponsored by Koc University School of Social Sciences and Center of Anatolian Civilizations, University of Groningen, Netherlands Institute in Turkey, German Archaeological Institute and French Anatolian Studies Institute.

8–12 October, Amsterdam-Lelystad (the Netherlands): ISBSA 13, organized by B. van Tilburg, M. Manders, J. Gawronsky, J. Schokkenbroek, T. Terhorst, A.F.L. van Holk.

9 October, Firdgum (the Netherlands): Tour of the turf house reconstruction, organized by D. Postma. Note: Part of TNO field excursion organized by Deltares.

13 October, Dronrijp-Firdgum (the Netherlands): Combined open day at terp excavation Dronrijp-Oost and turf house reconstruction in Firdgum, organized by J.A.W. Nicolay (Dronrijp), D. Postma (Firdgum). Note: In association with the Yeb Hettinga Museum (Firdgum). Activity as part of the Turf House Project and Dutch History Month.

13–27 October, Firdgum (the Netherlands): Public activities organized around the Turf House Project, brought together as part of the Dutch History Month, theme Poor & Rich, organized by D. Postma (coordinator). Note: In association with Yeb Hettinga Museum and Fries Museum. Activities promoted through the History Month website:

- Ongoing: Exhibition of historical farm implements (Yeb Hettinga Museum)
- Ongoing: Exhibition of local archaeological finds (Yeb Hettinga Museum)

16 October, Groningen (the Netherlands): Literary Polar Night 2012 (literary evening), organized by T.K. Terpstra, A.J.M. Scheepstra, J.B. Boschman, Staff Department of Scandinavian Languages and Cultures.

20 October, Firdgum (the Netherlands): Lecture on 2011 terp excavation in Firdgum, by M. Bakker, BA (GIA), organized by M. Bakker, D. Postma. Note: In association with the Yeb Hettinga Museum (Firdgum). Activity part of the Turf House Project and Dutch History Month.

22 October, Amersfoort (the Netherlands): Leidraad scheepsarcheologie, organized by E. Wieringa (SIKB).

22–23 October, Groningen (the Netherlands): ARCHON Workshop ‘Bones, bodies, persons. Towards a better integration of archaeological theory and bioarchaeology’, organized by S. Voutsaki and H. Fokkens (Leiden University).

27 October, Firdgum (the Netherlands): Lecture on animal remains in the terp region, by Dr W. Prummel (GIA), organized by W. Prummel, D. Postma. Note: In association with the Yeb Hettinga Museum (Firdgum). Activity part of the Turf House Project and Dutch History Month.

27 October, Firdgum (the Netherlands): Archaeological finds identification afternoon for local residents and amateur archaeologists., organized by D. Postma, W. Prummel, M. Bakker, T. Varwijk, E. Edens, R. Kwiatkiewicz, L. Derksen. Note: In association with E. Kramer (formerly Fries Museum) and the Yeb Hettinga Museum (Firdgum). Activity part of the Turf House Project and Dutch History Month.

5–6 November, Groningen (the Netherlands): MA workshop ‘Wetland Archaeology’, organized by J.H.M. Peeters with keynote lecture by Prof. S. Rippon (University of Exeter).

13 November, Almelo (the Netherlands): A&O dag presentatie kenniscarroussel: IJsselkogge, organized by Nationaal restauratiefonds.

13–14 November, Groningen (the Netherlands): Meeting of the international Ny-Alesund Science Managers organized by M.J.J.E. Loonen, A.J.M. Scheepstra.

23 November, Firdgum (the Netherlands): Tour of the turf house reconstruction, organized by D. Postma. Note: Part of the 13th International Scientific Wadden Sea Symposium field excursion.

27 November, Amersfoort (the Netherlands): Bespreking waarderend onderzoek IJsselkogge, organized by P. Jesse (Rijkswaterstaat), A. Houwer (Rijkswaterstaat), G. Bergsma (Rijkswaterstaat).

27 November, Amersfoort (the Netherlands): Leidraad scheepsarcheologie, organized by E. Wieringa (SIKB).

29 November, Groningen: Gestrand. Een vinvis in Groningen, organized by R. ter Sluis, H.R. de Haas, M.J.J.E. Loonen. Note: Opening M.J.J.E. Loonen.

30 November–1 December, Groningen (the Netherlands): Computer Applications and Quantative Methods in Archaeology Netherlands-Flanders – Germany Joint Chapter Meeting, organized by G.R. Nobles, M. Leusen, K. Armstrong.

13 December, Groningen (the Netherlands): Loopbaanmiddag ‘afstuderen in de archeologie en dan?’, organized by P.A.J. Attema.

14 December, Groningen: 18e GIA onderzoeksdag, organized by J. Nicolay, P.M. van Leusen.

15 December, Firdgum (the Netherlands): End of year gathering of Yeb Hettinga Museum volunteers, including those from the Turf House Project, organized by D. Postma. Note: Coordinated by Yeb Hettinga Museum (Firdgum).

1.5 VISITING SCHOLARS

Dr C. Bouchaud (University of Paris): Preparation NWO application.

Prof. M. da Conceição Lopes (Universidade de Coimbra, Portugal): Preparing master class in archaeobotany.

Mr N. Cox (British Antarctic Survey, Cambridge, UK): Arctic research symposium. Lecture: 'Polar travel, the development of clothing and equipment'.

Dr J. Eerkens (University of California): Preliminary visit in preparation of Dr Eerkens sabbatical in 2013.

Prof. G. Fondahl (University of Northern British Columbia, Canada): Staff discussion about sustainable development and Arctic human development. Lecture 18 December: 'Arctic Futures: It's About Climate Change – But Also Much More'. Note: Supported by the Canadian embassy in The Hague.

K. Frederiksen (Oqaasileriffik [The Greenland Language Secretariat], Nuuk, Greenland): Presentation on the language situation in Greenland. Note: Visit and presentation were organized by staff of the Arctic Centre and the Department of Scandinavian Languages and Cultures. K. Frederiksen also participated in the Literary Polar Night, 16 October.

*Prof. M. Heun (Norwegian University of Life Sciences): Re-evaluating domestication traits on rachis fragments. Note: Two visits: 31 January and 20–24 August.

Prof. D. Hik (University of Alberta, IASC president): Discussion with staff and public lecture. Note: Supported by the Canadian Embassy in The Hague.

Prof. S. Holdaway (The University of Auckland, New Zealand): Evaluating results of the Fayum Project.

Dr Bilge Hurmuzlu (Isparta University, Turkey): Erasmus staff mobility visit. Initial discussions to set up a research network on Hellenistic–Roman necropolises in the eastern Mediterranean.

Prof. L. Karali (Prehistoric and Environmental Archaeology, Laboratory of Environmental Archaeology at the University of Athens, Greece): Environmental Archaeology at Athens University (Greece). Note: April, 24–27, 2012.

M. Lovschal (PhD Student) (Aarhus University): Discussion of Celtic field projects and PhD work Lovschal.

Dr B. Mater (Drents Museum/Museum Wierdenland, the Netherlands): Consultation on promoting terp archaeology.

Dr M. Miedema (VU University Amsterdam, the Netherlands): Transference of research data.

Dr P. Northover (Oxford University): Return of stolen bronze age sword.

K. Nowak MA (Ostfriesische Landschaft, Aurich, Germany): Visit to plan an exhibition on terp archaeology in Emden 2013.

Dr M. Oglethorpe (Historic Scotland): Staff discussion LASHIPA. Note: Also public lecture: 'Coal and Ice on Spitsbergen: British mining in the Arctic'.

Dr W.A. Out (Institution Milà and Fontanals, Barcelona, Spain): Discussing Sampling.

Dr Ayça Özcan (Isparta University, Turkey): Erasmus staff mobility visit.

Prof. M. Pacciarelli (University of Naples, Italy): Member of PhD committee.

Prof. M. Pasquinucci (University of Pisa, Italy): Member of PhD committee.

Prof. J. Poblome (University of Leuven): Member of PhD committee.

Dr Jouke Prop (Guest researcher Arctic Centre): Biological monitoring Spitsbergen and BIRDHEALTH.

Prof. S. Rippon (University of Exeter): Workshop Wetland Archaeology.

Dr J. Schneeweiss, L. van Hoof (Georg-August-Universität Göttingen, Germany): Visit with students to Ezinge exhibition.

Prof. G. Schoerner (University of Vienna, Austria): Member of PhD committee.

B. Ullrich (Eastern Atlas): Evaluation of geophysical prospections at Crustumerium.

Prof. W. van Neer (University of Leuven, Belgium): Member of PhD committee.

Dr A. Vanzetti (La Sapienza, University of Rome): Member of PhD committee.

Prof. W.Z. Wendrich (UCLA, US): Publication of results Fayum Project.

Prof. C. Wiencke (Alfred Wegener Institute, Bremerhafen, Germany): Arctic research symposium. Lecture: 'Biology of benthic Arctic marine macroalgae'.

1.6 EDITORSHIPS AND REPRESENTATIONS ON BOARDS AND COMMITTEES

Arnoldussen, S.

Member of the Editorial Board *Journal of Archaeology in the Low Countries* (www.jalc.nl)
Member of the Editorial Board *Paleo-aktueel*

Attema, P.A.J.

Member of the Editorial Board *Groningen Archaeological Studies (GAS)*
Head of the Department of Archaeology
Director of Studies for the Research Master's in Art History and Archaeology
Chairman of the GIA Advisory Board
Coordinator Cluster Classical and Mediterranean Archaeology of GIA
Member of the GIA Management Team
Member of the Editorial Board *Paleoahistoria*
Member of the Advisory Board *Journal of Mediterranean Archaeology (TMA)*
Member of the Editorial Board of Amsterdam Archaeological Studies of Amsterdam University Press

Çakırlar, C.

Elected member of the International Council of Archaeozoology International Committee
Member of the Steering Committee, Dama International research group. Note: Administered and funded by Nottingham University

Cappers, R.T.J.

Member of the Editorial Board *Electronic Journal of Indian Medicine*
Member of the Editorial Board *Groningen Archaeological Studies*
Member of the Groningen Roman Economy Group
Member of the Management Team of the Groningen Institute of Archaeology
Member of the Stichting Berenike
Member of the Curatorium of the Netherlands Institute for the Near East
Member of the Scientific Committee of the Netherlands School of Archaeological Research (ARCHON) (Graduate School)

Dijkstra, T.M.

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*

Prof. Henny A. Groenendijk

Member of the Editorial Board *Historisch Jaarboek Groningen*
Member of the Archäologische Kommission Niedersachsen (D)

Haas, T.C.A. de

Member of the Educational Advisory Board Archaeology GIA
Member of the Board of the Stichting Vrienden KNIR

Hacquebord, L.

Executive Secretary Willem Barentsz Foundation Groningen
Member of the Science Standing Committee on Social System of IASC
Council member and delegate for the Netherlands in IASC
Leader of the IPY-LASHIPA project. Note: www.lashipa.nl
Core member of the National Committee International Polar Year 2007–2008
Member of the GIA Management Team
Member of the International Polar Heritage Committee ICOMOS
Member of the Editorial Board, Groningen Archaeological Studies series (GAS)
Member of the Editorial Committee Circumpolar Studies
Member of the Board of the Centre for Canadian Studies
Director Willem Barentsz Polar Institute
Member of the National Polar Committee

Heinrich, F.B.J.

University of Groningen GSH PhD Council, GIA Representative. Note: PhD member of advisory board of the GIA

Editor *Tijdschrift voor Mediterrane Archeologie*

Holk, A.F.L. van

Member of the Glavimans Stichting

Member of the scientific committee 'Doeler Cog' (België)

Member of the committee preparing the International Symposium on Boat and Ship Archaeology in 2012, 2015, 2018, 2021

Jong, L. de

Reviewer NWO Veni assessment

Reviewer *World Archaeology*

Member of the Groningen Islamic Studies Network

Member of American Schools of Oriental Research, ASOR Damascus Committee

Member of Archaeological Institute of America, AIA

Member of Network Impact of Empire

Member of Network on Ancient and Modern Imperialisms

Member of Women's Classical Caucus

Senior member of national research school OIKOS

Member of national research school ARCHON

Member of CRASIS (Centre for Interdisciplinary Studies in Graeco-Roman Antiquity)

Langen, G.J. de

Member of the Editorial Board of the *Nieuwe Encyclopedie van Fryslân*

Leusen, P.M. van

Chair of the Educational Advisory Board Archaeology

Member of the GIA Advisory Board

Member of the Faculty Advisory Board on ICT

Lindenhout, E. van 't

Guest editor *Tijdschrift voor Madeterrane Archeologie*, 23–46: 'Architectuur als Bron in de Archeologie'

Member of the Facultaire stuurgroep Honourscollege, University of Groningen

Referee of the Honours Review (lid van de Raad van Referenten van het Honours Review)

Member of the jury of the GIA Masterscriptie-prijs

Loon, T. van

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*. Note: Editor-in-Chief until June 2012

Loonen, M.J.J.E.

Netherlands representative Ny-Ålesund Science Managers committee (NySMAC)

Netherlands representative for Conservation of Arctic Flora and Fauna (CAFF)

Member of the Willem Barentsz Polar Institute

Member of EU-FP7 project SIOS

Member of the Scientific Advisory Committee of SOVON bird research

Station leader Netherlands Arctic station

Webmaster Netherlands Ornithological Union (www.nou.nu)

Webmaster international journal ARDEA (www.ardeajournal.nl)

Member of the Scientific Advisory Board Vogelbescherming Nederland

Nicolay, J.A.W.

Member of the jury for the annual W.A. van Es prize

Nieuwhof, A.

Secretary of the Vereniging voor Terpenonderzoek

Editor of *Jaarverslagen van de Vereniging voor Terpenonderzoek*

Nijboer, A.J.

Member of the FEWI (Facultaire Expertisegroep Wetenschappelijke Informatie)

Until September/October 2012, Secretary of the Exam Committee BA and MA Archaeology

From September/October 2012: Member of the Exam Committee for the BA and MA KCM (Art, Culture and Media), KA (Art History and Architecture) and Archaeology of the University of Groningen (ExCom KCA)

Member Diocesane Commissie voor Kerkinrichting en Kerkelijk Kunstbezit (DCKKK)

Coordinator of the GIA Library

Peeters, J.H.M.

Chief Editor *Archeologie* journal

Member of the Management Committee of SPLASHCOS (EU Cost Action TD0209)

Editorial advisor *Netherlands Journal of Geosciences*

Guest Editor *Netherlands Journal of Geosciences*. Note: Special Issue 'North Sea submerged Landscapes and Prehistory'

Member of the Editorial Board *Palaeohistoria*

Member of the GIA advisory board

Member of the Faculty of Arts review board for NWO-GW applications

Member of the PhD admittance board of the Graduate School for the Humanities

Postma, D.

Member of the organizing committee for GIA Research Seminar and Capita Selecta lectures

Prummel, W.

Member of the scientific committee of the National Reference Collection Bibliography Groningen

Member of the ICAZ International Committee (IC). Note: ICAZ: International Council for Archaeozoology

Member of the Editorial Board Groningen Archaeological Studies series (GAS)

Member of the Editorial Board *Palaeohistoria*

Committee member Biologisch-Archeologisch Platform (BAP) (<http://www.bioarch.nl/>)

Treasurer of the Vereniging voor Terpenonderzoek

Member of the Editorial Board of *Letterenmagazine Artes* (until April 2012)

Raemaekers, D.C.M.

Director of GIA

Secretary of the Department of Archaeology

Member of the Archaeology Exam Committee (until October)

Member of the Board of the Research Master's in Art History and Archaeology

Secretary Exam Committee Research Master's in Art History and Archaeology (until October)

Chair of the Board of the National Research School ARCHON

Member of the Advisory Board ARCHIS (Dutch Heritage Agency)

Member of the Advisory Board ADC Projecten

Member of the Advisory Board Groningen Archaeological Studies (GAS)

Editor GIA digital series Grondsporen

Member of the Editorial Board of Offa

Member of faculty committee on research valorization

Rapporteur of Czech Science Foundation

Seubers, J.F.

Editor-in-chief of *TMA – Tijdschrift voor Mediterrane Archeologie*

Editor of *Caeculus* 7

Terpstra, T.K.

Member of the Research Group Circumpolar Cultures
Representative for the Netherlands in the Sustainable Development Working Group of the Arctic Council
Member of the Centre for Canadian Studies, University of Groningen

Voutsaki, S.

Management Team, Archaeology
Member of Afdelingsbestuur, Archaeology
Member of Afdelingsbestuur, GLTC
Erasmus Coordinator, Archaeology
Member of the Graduate School of the Humanities Teaching Programme Committee
Member of the Board of CRASIS (Centre for Interdisciplinary Studies in Graeco-Roman Antiquity)
Member of the VIDI Selection Committee, NWO
Member of the Faculty of Arts Praemium Erasmianum Committee
Member of the Board of Stichting 'Archaeological Dialogues'
Member of the Advisory Board of *Journal Archaeological Dialogues*
Member of the Editorial Board of *BABesch*
Member of the Advisory Board of *Pharos*, the Journal of the Netherlands Institute at Athens
Member of the Editorial Board Groningen Archaeological Studies series
Member of the Editorial Board of *Palaeohistoria*
Member of ARCHON Teaching Programme Committee
Member of the Educational Programme Committee, Graduate School for the Humanities
Chairperson, Educational Programme Committee, REMA
Member of the Research Seminar Committee

Wiersma, C.W.

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*
Member of the PhD council of the GSH. Note: (Until October 2012)
Member of the Educational Committee (OC) of the GSH. Note: (until October 2012)
Member of the GIA Advice Council. Note: (Until October 2012)

Willemsen, S.L.

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*

APPENDIX 2. PHD PROJECTS

2.1 PHD DEFENCES 2012

22 March, Gijs Tol

The archaeological map of Nettuno; site classification and analysis of a local settlement system (700 BC–500 AD) in a regional context.

Promotor Peter Attema.

7 June, Carmelo Colelli

Ceramica d'impasto da Francavilla Marittima. Ceramica grigia e altre produzioni ceramiche. Circolazione di merci e modelli nella Sibaritide (e in Italia meridionale) nell'età del Ferro

Promotor Peter Attema.

22 November, Stefan Elevelt

Subsistence and social stratification in Northern Ionic Calabria from the Middle Bronze Age until the Early Iron Age: the archaeozoological evidence.

Promotor Peter Attema. Co-promotor Wietske Prummel.

2.2 CURRENT PHD PROJECTS

Chair of Prehistory and Protohistory of Northwest Europe

Beckerman, S.M. (University of Groningen, 2009–2014)

Ceramic analysis of Late Neolithic settlements in the province of Noord-Holland (the Netherlands) and interregional comparison

Promotor: Prof. D.C.M. Raemaekers. Co-promotor: Dr S. Arnoldussen

Devriendt, I.I.J.A.L.M. (University of Groningen, 2004–2008)

Flint and other stone material from Swifterbant

Promotor: Prof. D.C.M. Raemaekers. Co-promotor: Dr J.H.M. Peeters

Drenth, E. (self-funded)

The Beaker Cultures in Northwest Europe

Promotor: Prof. D.C.M. Raemaekers.

Krol, T.N. (self-funded)

Anglo-Saxon pottery of the Northern Netherlands in a regional and cultural context

Promotor: Prof. G.J. de Langen. Co-promotor: Drs. A. Nieuwhof.

Matthews, S.G. (University of Groningen, 2007–2011)

Techniques and Society: A use-wear analysis of the metalwork from the Middle Bronze Age of Northwestern Europe

Promotor: Prof. D.C.M. Raemaekers. Co-promotors: Dr S. Hamilton (University College London), Dr S. Arnoldussen

Niekus, M.J.L.Th. (University of Groningen, 2002–2006)

Stone Age Occupation of the northern Netherlands, Time, Space, Location and Subsistence

Promotor: Prof. D.C.M. Raemaekers.

Nieuwhof, A. (University of Groningen, 2006–2009)

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

Promotors: Prof. D.C.M. Raemaekers, Prof. J. Bazelmans (Free University Amsterdam). Co-promotor: Dr. E. Taayke (Nuis).

Nobles, G.R. (NWO, 2009–2013)

Spatial analysis of Late Neolithic settlements in the province of Noord-Holland (the Netherlands) and interregional comparison

Promotor: Prof. D.C.M. Raemaekers. Co-promotor: Dr J.H.M. Peeters.

Overmeer, A.B.M. (Nieuwlandergoed Leystad, 2004–2008)

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

Promotors: Prof. A.F.L. van Holk and Prof. D.C.M. Raemaekers.

Postma, D. (University of Groningen, 2011–2016)

Lost building traditions: turf construction and early medieval architecture in the southern North Sea area

Promotors: Prof. G.J. de Langen and prof. D.C.M. Raemaekers

Postma-Saan, F.B. (Nieuwlandergoed Lelystad, 2011–2016)

De Zuiderzee als verkeersplein: de natuurlijke en culturele context van de turfvaart over zee 1600-1900

Promotors: Prof. A.F.L. van Holk and Prof. D.C.M. Raemaekers.

Schepers, M. (University of Groningen, 2009–2013)

Coastal culture: a methodological palaeobotanical study on land use and landscape development in two distinct coastal areas

Promotor: Prof. D.C.M. Raemaekers. Co-promotor: Prof. R.T.J. Cappers.

Thilderqvist, J.G.M. (University of Groningen, 2005–2009)

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

Promotor: Prof. D.C.M. Raemaekers. Co-promotor: Dr W. Prummel.

Woltinge, I. (NWO/Municipality of Almere/Province of Friesland, 2006–2011)

What lies beneath? The value of buried Stone Age landscapes

Promotor: Prof. D.C.M. Raemaekers.

Chair of Classical and Mediterranean archaeology

Colelli, C. (self-funded)

A study of the impasto pottery from the Timpone della Motta di Francavilla Marittima (Calabria, Italy)

Promotor: Prof. P.A.J. Attema.

Elevelt, S. (self-funded)

Subsistence en sociale stratificatie in de Sibaritide in de periode Midden-Bronstijd–Vroege IJzertijd

Promotor: Prof. P.A.J. Attema

Feiken, H. (NWO, 2005–2010)

Geo-archaeological approaches to the hidden landscapes of Italy

Promotor: Prof. P.A.J. Attema. Co-promotor: Dr P.M. van Leusen.

Heinrich, F.B.J. (NWO, 2012–2016)

Productive Landscapes. An interdisciplinary inquiry into the productivity of crop husbandry in the Roman Empire 200 BC–AD 300.

Promotor: Prof. P.A.J. Attema. Co-promotor Prof. R.T.J. Cappers and Dr. W.M. Jongman

Ippolito, F. (University of Groningen, 2010–2014)

Settlement dynamics in the hinterland of the Sibaritide (Calabria, Italy)

Promotor: Prof. P.A.J. Attema.

Klein Goldewijk, G.M. (NWO, 2007–2011)

Standard of living in the Roman Empire

Promotor: Prof. P.A.J. Attema. Co-promotors: Dr W.M. Jongman, Dr J.P.A.M. Jacobs

Loon, T. van (NWO, 2010–2015)

Defining the ritual, analyzing society. The social significance of material culture in pre-Roman cult places of central Italy (c. 900–400 BC)

Promotor: Prof. P.A.J. Attema.

Masci, M.F. (self-funded)

The production of Oinotrian geometric pottery in southern Italy (Calabria, Basilicata and Campania) during the Iron Age: a comparative study on technological aspects

Promotor: Prof. P.A.J. Attema. Co-promotor: Dr A.J. Nijboer.

Neef, W. de (NWO, 2010–2015)

Rural life in Protohistoric Italy: relating sub-surface remains to archaeological survey data

Promotor: Prof. P.A.J. Attema. Co-promotor: Dr. P.M. van Leusen.

Oome, N. (self-funded)

Hellenistisch aardewerk en Hellenistische sites in de Sibaritide

Promotor: Prof. P.A.J. Attema.

Satijn, O. (University of Groningen, 2002–2006)

A socio-economic and political landscape archaeology of transition: southern Lazio from the Late Roman period to incastellamento

Promotor: Prof. P.A.J. Attema.

Seubers J.F. (NWO, 2011–2015)

The Settlement of Crustumium and its hinterland (800–450 BC)

Promotor: Prof. P.A.J. Attema.

Tol, G.W. (self-funded)

The archaeological map of Nettuno; site classification and analysis of a local settlement system (700 BC–500 AD) in a regional context

Promotor: Prof. P.A.J. Attema.

Weistra, E. (self-funded)

Archaic terracotta votive offerings from the Athenaion in Francavilla Marittima (Calabria, Italy)

Promotores: Prof. P.A.J. Attema.

Willemsen, S.L. (University of Groningen, 2008–2013)

The Iron Age necropolis of the Latin site Crustumium

Promotor: Prof. P.A.J. Attema. Co-promotor: Dr A.J. Nijboer.

Greek Archaeology

Dijkstra, T.M. (NWO, 2012–2016)

Civic and Cultural Identities in a Changing World. Analysing the mortuary practices of the postclassical Peloponnese

Promotores: Prof. S. Voutsaki and Prof. O.M. van Nijf.

Jones, O.A. (University of Groningen, 2012–2016)

Mycenaean mortuary traditions of Achaea. An anthropological and bioarchaeological approach.

Promotor: Prof. S. Voutsaki.

Milka, E. (NWO, 2003–2007)

Mortuary differentiation and social structure in the Middle Helladic Argolid

Promotor: Prof S. Voutsaki.

Panagiotopoulou, E. (University of Groningen, 2012–2016)

The transition from the Bronze Age to the Iron Age in Greece: isotopic analysis of skeletal remains from sites of Central Greece

Promotor: Prof. S. Voutsaki.

Wiersma, C.W. (self-funded 2008–2010; University of Groningen, 2010–2012)

Transitional periods in Bronze Age mainland Greece. A household perspective of the development of social differentiation of EH3 until LH1

Promotor: Prof S. Voutsaki.

Arctic and Antarctic Studies

Aalders, Y.I. (NWO, 2007–2011)

Exploitation of natural resources and cross cultural contacts of Russian fur hunters and European whalers on Spitsbergen in the 18th century

Promotor: Prof. L. Hacquebord.

Comis, S. (self-funded)

Het textiel van Spitsbergen

Promotor: Prof. L. Hacquebord

Gustafsson, U.I. (NWO, 2007–2011)

The exploitation of natural resources by the early 20th century whaling industry; its impact on the environment and the geo-political situation in the Polar Regions

Promotor: Prof. L. Hacquebord. Co-promotor: Dr D. Avango.

Haas, H.R. de (NWO, 2007–2011)

The coal exploitation of the Dutch Spitsbergen Coal Company (NESPICO) Green Harbour in its national and international context

Promotor: Prof. L. Hacquebord. Co-promotor: J.W. Veluwenkamp.

Kruining, M.E. van (University of Groningen, 2009–2013)

Surviving change by migration or adaptation

Promotor: Prof. L. Hacquebord.

Kruse, F. (University of Groningen, 2008–2012)

British exploration, mining and diplomacy on Spitsbergen, 1898–1952

Promotor: Prof. L. Hacquebord. Co-promotor: Dr D. Avango.

Terpstra, T.K. (University of Groningen, 2009–2013)

Transnational ties, urban networks and identity formation among Inuit migrants in Southern Canada and Denmark

Promotor: Prof. L. Hacquebord.

2.3 FUNDED PHD PROJECTS 2006–2012

Name	Financed	2007	2008	2009	2010	2011	2012
Aalders, Y.I.	NWO	1-8 B				1-8 E	
Abbink, B.P.	NWO	31-12 E		26-11 D			
Beckerman, S.M.	DPB			1-11 B			
Devriendt, I.I.J.A.L.M.	RUG		1-9 E				
Dijkstra, T.M.	NWO						1-1 B
Feiken, H.	NWO				31-3 E		
Gustafsson, U.I.	NWO	1-3 B				1-8 E	
Haas, H.R. de	NWO	1-4 B				16-9 E	
Haas, T.C.A. de	RUG				28-2 E	1-12 D	
Hao Qi	CS			1-9 B		1-6 S	
Heinrich, F.B.J.	NWO						1-10 B
Ippolito, F.	RUG					1-1 B	
Jones, O.A.	RUG						1-9 B
Klein Goldewijk, G.M.	NWOt	28-9 B				28-9 E	
Kruining, M.E. van	DPB			01-12 B			1-7 S
Kruse, F.	UE		1-6 B				1-6 E
Loon, T. van	NWOt				1-9 B		
Matthews, S.G.	UE	1-9 B				1-9 E	
Milka, E.	NWO	31-10 E					
Neef, W. de	NWO				01-10B		
Niekus, M.J.L.Th.	RUG	28-2 E					
Nieuwhof, A.	RUG			31-3 E			
Nobles, G.R.	NWO			1-11 B			
Panagiotopoulou, E.	RUG						16-1 B
Postma-Saan, F.B.	NLE					1-4 B	
Postma, D.	RUG					1-9 B	
Ratliff, M.L.	UE	1-10 B			31-12 S		
Roura, R.M.	UE			28-2 E		28-4 D	
Schepers, M.	DPB			1-9 B			
Seubers, J.F.	NWO					1-2 B	
Smit, B.I.	NWO	31-12 E			20-5 D		
Terpstra, T.K.	RUG			1-1 B			
Thilderqvist, J.G.M.	UE			31-8 E			
Wiersma, C.W.	RUG				1-11 B		1-11 E
Willemsen, S.L.	DPB		1-9 B				
Woltinge, I.	NWO					1-1 E	

RUG = Employed PhD student

DPB = Dutch PhD Bursary

UE = Ubbo Emmius bursary

NWO = Dutch Research Council

NWOt = Dutch Research Council *toptalent* scholarship

NLE = Nieuwland Erfgoed (Lelystad)

CS = Chinese Scholarship

B = Begin contract

E = End contract

S = Stopped

D = Defence

APPENDIX 3. PUBLICITY

Arnoldussen, S

30 May: *Volkskrant*, Foutje legt nederzetting van 5000 jaar bloot.

Note:

<http://www.volkskrant.nl/vk/nl/2686/Binnenland/article/detail/3263245/2012/05/30/Foutje-legt-nederzetting-van-5000-jaar-bloot.dhtml>.

30 May: *Nu.nl*, [foutje-legt-nederzetting-van-5000-jaar-bloot.html](http://www.nu.nl/binnenland/2822864/foutje-legt-nederzetting-van-5000-jaar-bloot.html). Note:

<http://www.nu.nl/binnenland/2822864/foutje-legt-nederzetting-van-5000-jaar-bloot.html>.

30 May: *NOS 8 uur journaal*, 'tot nu toe ongeveer 600 vondsten gedaan'. Note:

<http://nos.nl/video/378351-tot-nu-toe-ongeveer-600-vondsten-gedaan.html>.

31 May: *NRC*, Hunebedbouwers leefden naast doden. Note:

<http://archieff.nrc.nl/index.php/2012/Mei/31/Binnenland/nhnl01008/Hunebedbouwers+leefden+naast+doden/check=Y>.

Haas, T.C.A. de

29 March: *Groninger Gezinsbode*, 'Tempels, heiligdommen en religie in vroeg-Romeins Italië'. Note: Aankondiging lezing.

1 August: *Il Chinino (local magazine, Pontinia)*, 'Il mito infranto della landa desolata'. Note:

Interview/article about field research.

Holk, A.F.L. van

1 April: *Ons Amsterdam*, Rapiëren tegen de geuzen.

22 May: *Omroep Flevoland*, Nieuwe opgravingen naar scheepswrak, interview.

30 May: *Flevopost*, Zoektocht naar het verleden herstart.

12 June: *Flevopost*, Scheepswrak onthult geheimen.

20 June: *Flevopost*, Wrak leert ons geschiedenis begrijpen, interview.

21 June: *Dagblad van het Noorden*, Groningers pluizen wrak uit, interview.

6 June: *Flevopost*, Opgraving vrachtschip hervat.

16 July: *Omroep Flevoland*, 16e eeuwse scheepswrak naar grof vuil, interview.

16 July: *NOS journaal*, Laatste delen scheepswrak gelicht bij Lelystad, interview.

16 July: *NOS radio*, Laatste stukken scheepswrak gelicht bij Lelystad, interview.

3 July: *NRC*, Bewapend met drank en rapieren, interview.

9 July: *NRC-Next*, Zwaarden aan boord tegen de watergeuzen, interview.

9 July: *RTV Noord*, Opgraving OE 34, interview.

8 August: *Krant van Flevoland*, Delen scheepswrak Vogelweg kunstwerk, interview.

1 October: *Spiegel der Zeilvaart, nr 8, 36e jrg 2012*, Ruim 460 jaar oud wijdschip roept veel vragen op, interview.

10 October: *NRC*, Het wrak is ons verleden, interview.

13 December: *Omroep Flevoland*, Zilveren schat uit scheepswrak gepresenteerd, interview.

13 December: *NRC*, Muntschat met 14 Groninger flabben, interview.

14 December: *Radio Noord*, interview nav muntvondst.

14 December: *RTV Noord*, studio interview nav muntvondst.

Langen, G.J. de

30 January: *Friesch Dagblad*, Lessen over onze voorvaders op Friese sleutelsite.

20 March: *Leeuwarder Courant*, Opgravingen in oude terpen blijven nodig.

21 March: *Friesch Dagblad*, Terpenonderzoek: nuttig, nodig en nooit af.

21 March: *Leeuwarder Courant*, Middeleeuwen krijgen te weinig aandacht.

1 April: *Kijk op het Noorden (April)*, Bijzonder hoogleraar terpen- en wierdenarcheologie Gilles de Langen: 'Wat we hier in handen hebben, is absoluut uniek'.

13 April: *Nieuwsblad van Noord-Oost-Friesland*, Vertellers heropen tuin en museum.

20 April: *Leeuwarder Courant*, Waddenacademie actief op Oerolfestival.

11 June: *Leeuwarder Courant*, Druiden wijden amfitheater Hempens in.

20 August: *Leeuwarder Courant*, Nieuw Terponderzoek in Greidhoeke.

- 21 August: *Friesch Dagblad*, Onderzoek afgegraven terp.
23 August: *Leeuwarder Courant*, Wetenschappers op dijk Marrum.
31 August: *Friesch Dagblad*, Tweede opgraving Stapert van onschatbare waarde.

Loonen, M.J.J.E.

- 23 May: *Unifocus video magazine RuG*, Bibbers voor de Academische jaarprijs.
27 July: *Svalbardposten*, Hvit hvitkjingjess.
28 July: *Hart van Nederland TV*, interview about ice extent arctic ocean.
5 July: *International Innovation*, On borrowed wings. Note: Glossy from European Union.
10 August: *Svalbardposten*, Nye gamle graver. Note:
[Http://www.maartenloonen.nl/pers/p20120810.htm](http://www.maartenloonen.nl/pers/p20120810.htm).
27 August: *Radio 1 journaal*, interview about ice extent arctic ocean.
28 August: *RTV Noord radio*, interview about ice extent arctic ocean.
20 September: *NOS achtuur journaal TV*, polar bear encounters (with J. Prop).
7 September: *Wetenschapsprogramma Labyrint VPRO/NTR, website*, Pitch Labyrint Publieksprijs.
11 October: *Universiteitskrant*, Academische Jaarprijs.
18 October: *Dagblad van het Noorden*, Academische Jaarprijs.
24 October: *Nederlands Dagblad*, Academische Jaarprijs.

Nicolay, J.A.W.

- 12 January: *Leeuwarder Courant*, 'Onderzoek oude terp Arkum'.
21 January: *Leeuwarder Courant*, 'De natte voeten van oude Friezen'.
24 January: *Omrop Fryslan (radio/TV)*, interview.
25 January: *Sneeker Nieuwsblad*, 'Open dag archeologische vondst huisterpje Arkum'.
27 January: *GPTV Friesland*, interview.
2 March: *Leeuwarder Courant*, 'Twee Romeinse huizen in Arkum'.
3 March: *Friesch Dagblad*, 'Gave vazen uit Arkum'.
3 March: *Friesch Dagblad*, 'Archeologen leggen akker, sloten en huisterp bloot'.
14 June: *Omrop Fryslan (radio/TV)*, interview.
18 June: *Leeuwarder Courant*, 'Openhaardas in oude kwelderwal'.
27 June: *Friesch Dagblad*, 'Het nette groeimodel voor de terp geldt niet voor Fryslân'.
27 June: *Leeuwarder Courant*, 'Dronryp had reuzendobbe bij terp'.
10 October: *Bildtse Post*, 'Eeuwenoud paardenskelet gevonden bij Dronryp'.
13 October: *Omrop Fryslan (TV)*, interview. Note: About discovery complete horse skeleton from Roman Iron Age.
17 October: *Franeke Courant*, 'Publiek duikt in het verleden'.
8 October: *Leeuwarder Courant*, 'Compleet paardenskelet in waterput uit Romeinse tijd'.
8 October: *Omrop Fryslan (radio/TV)*, interview. Note: About discovery of complete horse skeleton from Roman Iron Age.
9 October: *Friesch Dagblad*, 'Paardenskelet ontdekt in terp bij Dronryp'.
9 October: *Friesch Dagblad*, 'Wat doet dat paardenskelet in een waterput bij Dronryp?'.

Nieuwhof, A.

- 1 February: *Dagblad van het Noorden*, interview.
2 February: *Radio Noord, programme De Centrale*, interview.
5 February: *TV Noord, Noord vandaag*, interview.

Peeters, J.H.M.

- 21 September: *De Volkskrant*, opinion on a paper published by Cohen et al. in *Quaternary International*.

Postma, D.

- 5 December 2011: *Leeuwarder Courant*, newspaper announcement 'Gehoord en gezien-Blubber'.
1 December 2011: *De Spieker*, lecture report 'Zodenhuisen. Archeologisch onderzoek naar een verloren bouwtraditie uit het kustgebied van Noord-Nederland'. Note: *De Spieker* 32, December, p. 14 (report by Jan Kees de Geus).
1 January: *Twitter accounts '@zodenhuis' and '@turf_house'*, messages on the progress of the Turf House Project.

- 1 January: *Facebook accounts 'zodenhuis Firdgum' and 'Turf House Project'*, messages on the progress of the Turf House Project.
- 1 January: *Tumblr blog websites 'Zodenhuisproject' (zodenhuis.nl) and 'Turf House Project' (en.zodenhuis.nl)*, Website and blog of the Turf House Project. Note: Some messages were reposted (with German translations by E. Scheele) on the website of the 'Land der Entdeckungen' project (www.land-der-entdeckungen.eu).
- 1 February: *Leeuwarder Courant*, review of *Paleo-aktueel* 22 'Bijeengelezen, vondsten uit steentijd op Vlieland'.
- 25 February: *Leeuwarder Courant*, newspaper article 'Land zonder bomen'.
- 1 March: *De Spieker*, announcement 'Ingezonden mededeling – Zodenhuizen'. Note: *De Spieker* 33, March 2012, p. 19.
- 7 July: *Leeuwarder Courant*, newspaper article 'Bouw van zodenhuis begint in augustus'.
- 20 July: *Omrop Fryslân (television) programme 'Hjoed'*, news item on Turf House Project.
- 21 July: *Radio Eenhoorn*, interview on Turf House Project.
- 17 August: *Omrop Fryslân (radio)*, interview on Turf House Project.
- 21 August: *Leeuwarder Courant*, newspaper article 'Archeoloog promoveert op zodenhuis Firdgum', continued 'Vergeten techniek herleeft: terpen bouwen in Firdgum'.
- 23 August: *Friesch Dagblad*, newspaper article 'Contouren van het zodenhuis worden zichtbaar'.
- 24 August: *Radio Eenhoorn*, interview on Turf House Project.
- 31 August: *Cobouw (dagblad voor de bouwsector)*, newspaper article 'Wonen onder groene zoden'.
- 1 September: *De Spieker*, excursion announcement 'De terpen en oude dijken van Westergo in N.W. Friesland, 3 November 2012 – busexcursie naar o.m. Firdgum'.
- 7 September: *Radio Eenhoorn*, interview on Turf House Project.
- 7 September: *Information sign 'Zodenhuisproject'*, 2 x 6 m poster of organizations involved, set up at the construction site of the Turf House Project. Note: Left on display during entire construction period.
- 1 October: *Maand van de Geschiedenis*krant, article in national activity agenda for the Dutch History Month 'Middeleeuws zodenhuis'. Note: Posters and folders were printed in the History Month style to inform the public about the activities organized as part of the Turf House Project during History Month.
- 1 October: *Yeb Hettinga Museum*, folder printed by the Yeb Hettinga Museum 'Zodenboerderij'.
- 1 October: *Noorderbreedte*, magazine article 'Onder de zoden'.
- 2 October: *Leeuwarder Courant*, newspaper announcement 'Gehoord en gezien – Zodenhuis'.
- 2 October: *Omrop Fryslân (television) programme 'Tsjek' (Frisian school television)*, news item on Turf House Project.
- 3 October: *Harlinger Courant Extra*, newspaper article 'Bouw zodenboerderij Firdgum komt van de grond'.
- 8 October: *ARCHWEB*, Listserv mailing 'Open dag Dronrijp en Firdgum'.
- 8 October: *Historiek(.net)*, online news article 'Firdgum krijgt weer een zodenhuis'.
- 9 October: *Friesch Dagblad*, newspaper article 'Wat doet dat paardenskelet in een waterput bij Dronryp?'.
- 9 October: *De Erfgoedstem(.nl)*, online news article 'Firdgum krijgt weer een zodenhuis'.
- 10 October: *UM-Krant*, poster printed in local newspaper 'Zodenhuisproject, gratis activiteiten in het terpengebied'. Note: The UM-Krant is a weekly information booklet distributed in Sexbierum, Pietersbierum, Oosterbierum, Wijnaldum and Tzummarum.
- 10 October: *Harlinger Courant Extra*, newspaper article 'Bijzondere vondsten bij terpopgraving'.
- 13 October: *Omrop Fryslân (television) programme 'Hjoed'*, news item on terp excavation Dronrijp-Oost and Turf House Project.
- 17 October: *Franeker Courant*, newspaper article 'Publiek duikt in het verleden'.
- 27 October: *Leeuwarder Courant*, newspaper announcement 'Gehoord en gezien – Archeologie'.
- 30 October: *Leeuwarder Courant*, newspaper article 'Kuieren over dikke muren van zodenhuis'.
- 10 November: *Omrop Fryslân (television) programme 'Hea!'*, newsitem on Turf House Project.
- 17 November: *Leeuwarder Courant*, newspaper article 'De doorbraak van het groene dak'.
- 30 November: *Cobouw (dagblad voor de bouwsector)*, newspaper article 'Vroegmiddeleeuws stalgebouw van Friese klei'.

Prummel, W.

5 June: *TV Noord*, Interview of TV Noord with Wietske Prummel on the occasion of her retirement. Note: [Http://www.rtvnoord.nl/artikel/artikel.asp?p=110625](http://www.rtvnoord.nl/artikel/artikel.asp?p=110625).

Terpstra, T.K.

22 June: *Huginn ok Muninn (Student magazine Scandinavian Languages and Cultures)*, magazine article 'NATUURLijk Arctische en Antarctische Studies'. Note: Number 15.

15 October: *OOG (radio) programme 'Glasnost'*, interview en aankondiging Literaire Poolnacht 2012.

16 October: *OOG (radio) programme 'De Dagdoorbraak'*, interview en aankondiging Literaire Poolnacht 2012.

Tol, G.W.

1 August: *Il Chinino*, interview.

7 October: *La Provincia*, interview.

27 October: *Il Caffè*, interview.

Voutsaki, S.

29 May: *NRC*, interview (S. Voutsaki), 'Woonde hier de koning van Sparta?'

13 June: *Dagblad van het Noorden*, interview.

Willemsen, S.L.

26 November: *Quest Historie*, Op bezoek bij de Romeinen.

APPENDIX 4. AWARDS

Çakirlar, C.

15 February: Institute for Aegean Prehistory, *Postdoctoral Research Grant*, USD 6,000

7 March: Marine Conservation Institute, *Mia J. Tegner Memorial Grant in Marine Historical Ecology*, USD 9,480

Dijkstra, T.M.

6 July: Groninger Universiteitsfonds, *GUF-100 prijs Letteren*, EUR 2,500

Loonen, M.J.J.E.

24 October: Academische Jaarprijs, *Labyrint Publieksprijs*, TV documentary

Postma, D.

23 November: 13th International Scientific Wadden Sea Symposium, *Waddenacademieprijs, best academic Master's thesis relating to the Wadden Sea*, EUR 5,000

Voutsaki, S.

16 December: Ammodo Foundation, *Ammodo Foundation Award*, EUR 78,886

APPENDIX. 5. PUBLICATIONS

5.1 Refereed articles

Prehistoric and Protohistoric Archaeology

- Çakırlar, C., 2012, 'The evolution of animal husbandry in Neolithic central-west Anatolia: the zooarchaeological record from Ulucak Höyük (c. 7040–5660 cal. BC, Izmir, Turkey)'. *Anatolian Studies* **62**(1), 1–33.
- Çakırlar, C., 2012, 'Neolithic Dairy Technology at the European-Anatolian Frontier: Implications of Archaeozoological Evidence from Ulucak Höyük, İzmir, Turkey, ca. 7000-5700 cal. BC'. *Anthropozoologica* **47**(2), 77–98.
- Bazelmans, J., D. Meier, A. Nieuwhof, T. Spek, and P. Vos, 2012, 'Understanding the cultural historical value of the Wadden Sea region. The co-evolution of environment and society in the Wadden Sea area in the Holocene up until early modern times (11,700 BC-1800 AD): An outline'. *Ocean & Coastal Management* **68**, 114–126.
- Groenendijk, H. A., J. v. d. Plicht, and H.-J. Streurman, 2012, 'Steentil, an early stone bridge in the monastic landscape of Groningen, the Netherlands'. *Journal of Archaeology in the Low Countries* **4**(1), 159–166.
- Phillipps, R., S. Holdaway, W. Z. Wendrich, and R. T. J. Cappers, 2012, 'Mid-Holocene occupation of Egypt and global climatic change'. *Quaternary International* **251**, 64–76.
- Schepers, M., J. F. Scheepens, R. T. J. Cappers, O. F. R. Van Tongeren, D. C. M. Raemaekers, and R. M. Bekker, 2012, 'An objective method based on assemblages of subfossil plant macro-remains to reconstruct past natural vegetation: a case study at Swifterbant, The Netherlands'. *Vegetation History and Archaeobotany* pp. 1–10. online first.
- Verweij, J. P. F., W. B. Waldus, and A. F. L. v. Holk, 2012, 'Continuity and change in Dutch shipbuilding in the Early Modern Period'. *Journal of Archaeology in the Low Countries* **vol. 4**(no. 1), 63–90.

Classical and Mediterranean Archaeology

- Attema, P. A. J. and G.-J. Burgers, 2012, 'A comparative view of the Hellenistic and Roman landscape in three Italian regions'. In: P. A. J. Attema and G. Schörner (eds.): *Comparative Issues in the Archaeology of the Roman Rural Landscape: Site Classification between Survey, Excavation and Historical Categories*, Vol. 88 of *JRA Supplementary Series*. Portsmouth, Rhode Island: Journal of Roman Archaeology, Chapt. 8, pp. 107–116.
- Nijboer, A. J., 2011, 'Teleology and Colonisation in Antiquity and Recent Times'. *Ancient West & East* **10**, 281–307.
- Nijboer, A. J. and S. L. Willemsen, 2012, 'Three Ladies from Crustumerium, ca. 675-650 BC'. *BABesch* **87**, 29–44.

Arctic and Antarctic Studies

- Jonker, R.M., Q. Zhang, P. van Hooft, M.J.J.E. Loonen, H.P. van der Jeugd, R.P.M.A. Crooijmans, M.A. M. Groenen, H.H.T. Prins, and R.H.S. Kraus, 2012, 'The development of a genome wide SNP set for the Barnacle Goose *Branta leucopsis*'. *Plos One* **7**(7), e38412.
- Sandström, C.A.M., A.G.J. Buma, B.J. Hoye, J. Prop, H. van der Jeugd, B. Voslamber, J. Madsen, and M.J.J.E. Loonen, 2013, 'Latitudinal variability in the seroprevalence of antibodies against *Toxoplasma gondii* in non-migrant and Arctic migratory geese'. *Veterinary Parasitology* **194**: 9–15.
- Weijers, S., I.G. Alsos, P. Bronken Eidesen, R. Broekman, M.J.J.E. Loonen, and J. Rozema, 2012, 'No divergence in *Cassiope tetragona*: persistence of growth response along a latitudinal temperature gradient and under multi-year experimental warming'. *Annals of Botany* **110**, 653–665.

5.2 Non-refereed articles

Prehistoric and Protohistoric Archaeology

- Çakırlar, C., 2012, 'A plea for sustainable education and practice in archaeozoology in Turkey'. *ICAZ Newsletter* **13**(2), 1.

- Çakırlar, C., 2012, 'Arkeozoolojinin Büyük Kaybı: Arkeozoolojinin 'Annesi'nin' Pergamon'dan Göbekli Tepe'ye Uzman Yaşamı Emertius Prof. Angela von den Driesch 1934-2012'. *Arkeoloji ve Sanat* **140**, 2–5.
- Beckerman, S.M., 2011/2012, 'Dutch beaker chronology re-examined'. *Palaeohistoria* **53/54**, 25–64.
- Butler, J.J., S. Arnoldussen, and H. Steegstra, 2012, 'Single-edged socketed Urnfield knives in the Netherlands and Western Europe'. *Palaeohistoria* **53/54**, 65–107.
- Dijkstra, J. and H.A. Groenendijk, 2012, 'Archeologie en Archiefzorg: een twee-eiige tweeling'. *Archievenblad* **116**(6), 11–16.
- Cappers, R.T.J., F. Fantone, R. Neef, and J.G. Van Doorn, 2012, 'Archaeobotanical evidence of the fungus Covered smut (*Ustilago hordei*) in Jordan and Egypt'. *Analecta Praehistorica Leidensia* **43/44**, 159–164.
- Raemaekers, D.C.M., Y.I. Aalders, S.M. Beckerman, D.C. Brinkhuizen, I. Devriendt, H. Huisman, M. De Jong, H.M. Molthof, M.J.L.T. Niekus, W. Prummel, and M. Van der Wal, 2012, 'Wetsingermaar (municipality of Winsum, province of Groningen). An early TRB settlement site?'. *Palaeohistoria* **53/54**, 1–24.
- Langen, G.J. de, 2012. Vensters op Frisia. Over nut en noodzaak van het universitaire terpenonderzoek. *Jaarverslagen Vereniging voor Terpenonderzoek* 95, 9–46.

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- Belelli Marchesini, B. and R. Cascino, 2011–2012. 'Veio. Comunità'. *Atlante dei siti di produzione ceramica* (a cura di G.Olcese), Roma, 215–217.
- Feiken, H., G.W. Tol, and P.M. van Leusen, 2012, 'Reconstructing a Bronze Age hidden landscape: geoarchaeological research at Tratturo Canio (Italy, 2009)'. *Palaeohistoria* **53/54**, 109–159.
- Tol, G.W., T. van Loon, P.A.J. Attema, and A.J. Nijboer, 2012, 'Late Iron Age sites on the coast between Nettuno and Torre Astura (Pontine Region, Lazio, Italy)'. *Palaeohistoria* (53/54), 161–193.
- de Haas, T.C.A., P.A.J. Attema, and G.W. Tol, 2012, 'Polygonal masonry platform sites in the Lepine Mountains (Pontine Region, Lazio, Italy)'. *Palaeohistoria* **53/54**, 195–282.

5.3 Books

Prehistoric and Protohistoric Archaeology

- Cappers, R.T.J. and R. Neef, 2012, *Handbook of Plant Palaeoecology*, Vol. 19 of Groningen Archaeological Studies. Eelde: Barkhuis Publishing.
- Cappers, R.T. J., R.M. Bekker, and J.E.A. Jans, 2012, *Digitale zadenatlas van Nederland*, Vol. 4 of Groningen Archaeological Studies. Eelde: Barkhuis Publishing, 2nd edition.
- Neef, R., R.T.J. Cappers, and R.M. Bekker, 2012, *Digital Atlas of Economic Plants in Archaeology*, Vol. 17 of Groningen Archaeological Studies. Eelde: Barkhuis Publishing.

5.4 Book Chapters

Prehistoric and Protohistoric Archaeology

- Arnoldussen, S. and E.E. Scheele, 2012, 'The ancestors nearby. The domestic and funerary landscape of Angelslo-Emmerhout'. In: H.M. v. d. Velde, N.L. Jaspers, E. Drenth, and H.B.G. Scholte Lubberink (eds.): *Van graven in de prehistorie en dingen die voorbij gaan. Studies aangeboden aan Eric Lohof ter gelegenheid van zijn pensionering in de archeologie*. Leiden: Sidestone, pp. 153–185.
- Arnoldussen, S., 2012, 'Life history approaches and wetland habitation: a later prehistoric case-study from the Dutch delta'. In: F. Menotti and A. O'Sullivan (eds.): *The Oxford Handbook of Wetland Archaeology*, Oxford Handbooks. Oxford: Oxford University Press, Chapt. 43, pp. 723–738.
- Beckerman, S.M., 2012, 'The ceramics'. In: B.I. Smit, O. Brinkkemper, J.P. Kleijne, R.C.G.M. Lauwerier, and E.M. Theunissen (eds.): *A kaleidoscope of gathering at Keinsmerbrug (the Netherlands). Late Neolithic behavioural variability in a dynamic landscape.*, Vol. 43 of NAR. Amersfoort: Cultural Heritage Agency of the Netherlands, pp. 35–56.

- Nieuwhof, A., 2012, 'Of dogs and man. Finds from the terp region of the northern Netherlands in the pre-Roman and Roman Iron Age'. In: D.C.M. Raemaekers, E. Esser, R.C.G.M. Lauwerier, and J.T. Zeiler (eds.): *A bouquet of archaeozoological studies. Essays in honour of Wietske Prummel*, Groningen Archaeological Studies Volume 21. Groningen: Barkhuis & University of Groningen Library, pp. 111–120.
- Nobles, G.R., 2012, 'Features'. In: B.I. Smit, O. Brinkkemper, J.P. Kleijne, R.C.G.M. Lauwerier, and E. M. Theunissen (eds.): *Late Neolithic Behavioural Variability in a Dynamic Landscape: A Kaleidoscope of Gathering at Keinsmerbrug (the Netherlands)*, No. 43 in Nederlandse Archeologische Rapporten. Amersfoort: Cultural Heritage Agency of the Netherlands, 1st edition, Chapt. 3, pp. 23–34.
- Nobles, G.R., 2012, 'Spatial Analysis'. In: B.I. Smit, O. Brinkkemper, J.P. Kleijne, R.C.G.M. Lauwerier, and E.M. Theunissen (eds.): *Late Neolithic Behavioural Variability in a Dynamic Landscape: A Kaleidoscope of Gathering at Keinsmerbrug (the Netherlands)*, No. 43 in Nederlandse Archeologische Rapporten. Amersfoort: Cultural Heritage Agency of the Netherlands, 1st edition, Chapt. 10, pp. 149–210.
- Raemaekers, D.C.M., 2012, 'Van het huis van de doden naar het huis van de levenden: op zoek naar trechterbekernederzettingen in Drenthe'. In: H.M. Van der velde, N.L. Jaspers, E. Drenth, and H.B. G. Scholte Lubberink (eds.): *Van graven in de prehistorie en dingen die voorbijgaan. Studies aangeboden aan Eric Lohof bij zijn pensionering in de archeologie*. Leiden: Sidestone Press, 1st edition, pp. 75–86.
- Smit, B.I., S.M. Beckerman, D.C. Brinkhuizen, V. Garcia-Diaz, L. Kubiak-Martens, G.R. Nobles, T.F.M. Oudemans, J.T. Zeiler, O. Brinkkemper, J.P. Kleijne, R.C.G.M. Lauwerier, E.M. Theunissen, A.L. Van Gijn, and D.C.M. Raemaekers, 2012, 'Synthesis-Keinsmerbrug: a kaleidoscope of gathering'. In: B.I. Smit, O. Brinkkemper, J.P. Kleijne, R.C.G.M. Lauwerier, and E.M. Theunissen (eds.): *A Kaleidoscope of Gathering at Keinsmerbrug (the Netherlands). Late Neolithic Behavioural Variability in a Dynamic Landscape*, Vol. 43 of *Nederlandse Archeologische Rapporten*. Amersfoort: Rijksdienst voor het Cultureel Erfgoed, pp. 211–222.
- Theunissen, E.M., J.H.M. Peeters, and B.I. Smit, 2012, 'Introduction'. In: B. I. Smit, O. Brinkkemper, J. P. Kleijne, R.C.G.M. Lauwerier, and E. M. Theunissen (eds.): *A kaleidoscope of gathering at Keinsmerbrug (the Netherlands). Late Neolithic behavioural variability in a dynamic landscape*, No. 43 in Nederlandse Archeologische Rapporten. Amersfoort: Rijksdienst voor het Cultureel Erfgoed, Chapt. 1, pp. 11–14.
- Woldring, H., M. Schepers, J. Mendelts, and R. Fens, 2012, 'Camping and foraging in Boreal hazel woodland – The environmental impact of Mesolithic hunter-gatherers near Groningen, the Netherlands'. In: M.J.L.T. Niekus, R.N.E. Barton, M. Street, and T. Terberger (eds.): *A mind set on flint*, Groningen Archaeological Studies. Groningen: Barkhuis, 1st edition, Chapt. 24, pp. 381–392.

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