

**UNIVERSITY OF GRONINGEN
GRONINGEN INSTITUTE OF ARCHAEOLOGY – GIA**

ANNUAL REPORT 2013



COVER PHOTO: GIA alumnus Tom Trienen and ReMa student Jelmer Wubs collecting magnetic gradiometry data at a Late Bronze Age site in Calabria, Italy (photographed by Wieke de Neef).

CONTENTS

FOREWORD	5
1. Groningen Institute of Archaeology	6
1.1. Institutional Embedding	6
1.2. Mission	6
1.3. Staff	7
1.4. Finances	8
2. RESEARCH RESULTS	9
2.1. PREHISTORIC AND PROTOHISTORIC ARCHAEOLOGY OF NORTHWEST EUROPE	9
2.1.1. The development of cultural landscapes	9
2.1.2. Stone Age society: pattern and process	11
2.1.3. Maritime archaeology	14
2.1.4. Archaeological heritage management and public archaeology	14
2.2. CLASSICAL AND MEDITERRANEAN ARCHAEOLOGY	16
2.2.1. Landscape, settlement, ritual and society in protohistoric and Roman Italy	16
2.2.2. Methods and approaches of archaeological detection in Mediterranean landscapes	19
2.2.3. Economy and living standards in the Roman World	20
2.3. GREEK ARCHAEOLOGY	22
2.3.1. Social change and cultural interaction in the prehistoric and protohistoric Aegean	22
2.3.2. Diet, mobility and society in the prehistoric and protohistoric Aegean	23
2.3.3. Social change and cultural interaction in the Hellenistic and Roman Eastern Mediterranean	24
2.3.4. Attitudes to the past in the present	26
2.4. ARCTIC AND ANTARCTIC ARCHAEOLOGY	28
2.4.1. Exploration and resource development in polar areas	28
2.4.2. Environmental change and adaptation in the Arctic landscape	29
2.4.3 Hunter-Gatherer Archaeology and Ethnoarchaeology of the Circumpolar North	31
2.5. BIOARCHAEOLOGY	32
3. GIA ACTIVITIES	35
Appendix 1. RESEARCH ACTIVITIES	36
1.1 Fieldwork	36
1.2 Lectures and poster presentations	44

1.3 Working visits and events	58
1.4 Workshops and exhibitions	70
1.5 Visiting scholars	72
1.6 Editorships and representation on boards and committees	75
Appendix 2. PHD PROJECTS	81
2.1. PhD defences	81
2.2. Current PhD projects	82
2.3. PhD projects 2006–2012	87
Appendix 3. PUBLICITY	89
3.1 Press Activities	89
Appendix 4. AWARDS	93
Appendix 5. PUBLICATIONS	94
5.1. Refereed articles	94
5.2. Non-refereed articles	96
5.3. Books	97
5.4. Book chapters	98
5.5. PhD theses	100
5.6. Conference papers	101
5.7. Professional publications	101
5.8. Publications aimed at the general public	105
5.9. Other research output	105

FOREWORD

The foreword of the GIA annual report is a forum little defined. It allows the GIA Director to highlight some activities of the last year, implying that other activities are less suited to be mentioned here. Over the years, a structure developed in which new PhD's, finished PhD's and changes in personnel are standard elements.

In 2013, two new PhD's started their research, both related to terp-mound archaeology. Theun Varwijk's project 'Settlement development of Frisian Terp sites from the Early Iron Age to the Late Middle Ages' and Marco Bakker's project 'The Frisian peat reclamation of the Late Iron Age and Roman Iron Age' are both projects partially financed by the University of Groningen. Major parts of their projects have been financed by the province of Friesland and the municipalities of Southwest Friesland and Littenseradiel (Varwijk) and the University Campus Friesland (Bakker). It is expected that this type of financial construction will help the GIA increase the number of PhD positions. Both PhD's have Gilles de Langen as their first promotor. In 2013, the GIA started up the *Kenniscentrum voor de archeologie van het Noord-Nederlandse terpen- en wierdenlandschap* to make its research in this field more visible and attract more externally financed research.

Four PhD students defended their work this year. Johan Thilderqvist (*Ritual bones or common waste? A study of bone deposits in northwestern Europe*), Corien Wiersma (*Building the Bronze Age. Architectural and Social Change on the Greek Mainland during Early Helladic III, Middle Helladic and Late Helladic I*), Izabel Devriendt (*Stone and flint artefacts from the Stone Age sites of Swifterbant*), and Frigga Kruse (*Frozen Assets; British mining, exploration, and geopolitics on Spitsbergen, 1904-53*).

The Secretary's Office was completely re-staffed in 2013 with the appointment of Maaïke Peters and Annette Hansen. Barbara Borgers was appointed as a post-doctoral fellow in the Minor Centers Project.

In 2013, the GIA produced a self-study report on the research activities and progress of the GIA in the period between 2010-2012, a so-called midterm review following the external visitation regarding the period between 2004-2009 and precluding the 2010-2015 external visitation. Our midterm review was evaluated by the Faculty of Arts. It was concluded that GIA can look back upon its most successful period in its existence, in terms of both input (grants) and output (finished PhD's and publications). The GIA community will need to do its best to continue to meet these high standards in the year ahead.

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 institute for training programmes for Research Master and PhD students. ARCHON is supported by the 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. Mission

Essential to research at the GIA is the notion that archaeology is the only discipline that is able to study the long-term cultural development of human societies and the interaction of these societies with their natural and cultural environment. To this end, archaeology operates within an explicit multidisciplinary environment collaborating with or incorporating disciplines from the fields of natural sciences, social sciences and the humanities. Based on this research network, archaeological research is not only able to provide insight into long-term human cultural development and resilience, but also to contribute to present-day societal debates on, for example, sustainability or the effects of climatic change.

The GIA's mission is to conduct high-profile archaeological research and disseminate the results of this research to the international scientific community and society at large. The GIA strives to contribute to research agendas within the humanities by incorporating research perspectives from natural and social sciences using sound methodologies and a theoretical framework. As such, it adds to the regional, national and international appreciation and standing of the University of Groningen as a leading research university.

1.3. Staff

<p>Director Prof. D.C.M. Raemaekers</p>	<p>Advisory Board Prof. dr. P.A.J. Attema F.B.J. Heinrich, M.A., MSc Dr. P.M. van Leusen Dr. M.J.J.E. Loonen M.A. Los-Weijns</p>	<p>Management Team Prof. dr. P.A.J. Attema Prof.dr. R.T.J. Cappers Prof. dr. P. D. Jordan Prof. dr. D.C.M. Raemaekers Prof. dr. S. Voutsaki</p>
<p>Members Dr. S. Arnoldussen Prof. dr. P.A.J. Attema Dr. C. Çakırlar Prof. dr. R.T.J. Cappers Prof. dr. H.A. Groenendijk Prof. dr. L. Hacquebord Prof. dr. A.F.L. van Holk Dr. L. de Jong Prof. dr. P.D. Jordan Prof. dr. G.J. de Langen Dr. P.M. van Leusen Dr. E. van 't Lindenhout Dr. M.J.J.E. Loonen Dr. J.A.W. Nicolay Dr. A.J. Nijboer Dr. J.H.M. Peeters Prof. dr. D.C.M. Raemaekers Ing. F. Steenhuisen Prof. dr. S. Voutsaki</p>	<p>PhD Students M. Bakker, M.A. S.M. Beckerman M.A. T.M. Dijkstra M.A. H.R. de Haas F.B.J. Heinrich M.A. F. Ippolito M.A. O. Jones M.A. F. Kruse, M.A. Drs. T. van Loon Drs. W. de Neef G.R. Nobles MSc E. Panagiotopoulou MSc D. Postma MA M. Schepers MA J.F. Seubers MA Drs. T.K. Terpstra T.W. Varwijk, M.A. C.W. Wiersma, M.A., MPhil Drs S.L. Willemsen</p>	<p>Support Staff Drs. M.L.J. Bergmans S.A. Blomsma S.E. Boersma E. Bolhuis R. Hofman J.M.C. Delpierre F. Geubel A.M. Hansen, MSc M.A. Los-Weijns Drs. G.J.M. van Oortmerssen R.M. Palfenier-Vegter Drs. M.G. Peters K. van der Ploeg F. Possel F.T. Sandmann-Cornelis S. Tiebackx Drs. L.S. de Vries</p>
<p>Associate members Dr. R.M. Bekker Dr. B. Hürmüzli Dr. J.K. Jacobsen Prof. dr. J. van der Plicht Prof. dr. J. Sevink</p>		<p>Postdocs Dr. K.L. Armstrong Dr. Barbara Borgers Dr. B. Belelli Marchesini Dr. G.W. Tol Dr. T.C.A. de Haas</p>

1.4. Finances

OVERVIEW OF PROJECT GRANTS 2013

Project	Source	Chair	Amount (k€)
Verwachtingskaart bedijkte rivieren	Deltares	1	43
Opgraving Wartena	Prov. Friesland	1	16
Wetensch. Synthese Hanzelijn	Prorail	1	84
Wilde Plantenmengsels	NVWA Wageningen	1	24
Buitendijks Erfgoed oostelijke Waddenzee	Friestl./Gron./RCE	1	94
Arch. Veenterpenonderzoek Onlanden	Prov. Drenthe	1	398
Strategic Environmental Impact	EU	2	27
Cursus Zadendeterminatie	Naktuinbouw	1	19
Word supporter van de Noordse stern	Crowdfundingactie	2	23
			728
1 Prehistory and Protohistory NW Europe			
2 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 research: the Southern Netherlands (S. Arnoldussen; J.-W. de Kort (RCE))

Spring 2013 was used to determine the best suitable locations for Celtic field research in the Southern Netherlands in summer 2014. As a part of the long-term project into the nature of Dutch Celtic fields, it is also important to study a Celtic field from an area that has not seen Saale glaciation, as a contrast to the previous excavations at Zeijen (Drenthe) and Wekerom (Gelderland). To this end, a pilot campaign of corings and small test-pits was executed within the scheduled monument of Someren – De Hoenderboom (an alleged Urnfield site). Within the monument, Celtic field ridges proved to be well preserved (it has been a nature reserve for some time) with remaining heights of 50-60 cm. In the small and hand-dug test-pits, ard-marks, and postholes, small pottery fragments were found. These small test-pits will be extended and studied in more detail during the excavation in 2014.

The archaeology of the terp-mound area

Geomagnetic survey of two dug-away terps (T.W. Varwijk; K. Mückenberger (Niedersächsischen Institut für Historische Küstenforschung))

In the spring of 2013, the remainders of two dug-away terps (De Leege Terp near Kimswerd, and Saksenoord west of Lollum) were researched with geomagnetic surveys. This cooperation project resulted in two pictures with disturbances visible in the (natural) soil underneath the former dwelling mounds. Several ditch patterns could be reconstructed in this manner.

Terp research Warten (M. Bakker)

A large ditch was created by an commercial firm in the region north of Warten by order of the municipality of Boarnsterhim. This modern ditch would cut into a large number of ancient ditches that were buried beneath the current landscape. During the archaeological surveillance these ditches were photographed and the location GPS measured. Pottery remains, found in some ditches, were taken for further study. Additionally from the same ditches and accompanying soil layers, samples were taken for botanical research.

Terp research Saksenoord (T.W. Varwijk)

In the late summer of 2013 during the course of seven weeks, the remainder of a dug-away terp (the so-called 'terpzool'), known as Groot-Saxenoord close to Lollum (Friesland), was researched (as part of the '*Terpenproject Terpzolenonderzoek Fryslân 2012-2016*', which is in turn related to a PhD-project researching the spatial development of settlements in the Frisian terp region). In total, 3500 m² of the former dwelling mound was excavated and over a thousand features were documented. Habitation began probably as early as the 6th century BC alongside a gully. Later features seem to be oriented in the same direction as this gully. Large parts of the surroundings were dug away to build and expand the terp in the Pre-Roman Iron Age and the Roman Iron Age. A section showed that afterwards the area was flooded and uninhabitable (also know from other sites in the region). At the end of the Migration Period the terp was inhabited again until modern times.

VENI project 'Kings of the North Sea' (J.A.W. Nicolay)

In 2013, the writing of the publication was finished; the impressive and full-colour, 500-page monograph will be published in 2014.

Lost building traditions: turf construction and early medieval building traditions in the southern North Sea area (D. Postma)

For the first half of 2013, work focussed on the continuation of the Turf House Project in Firdgum, Friesland. The reconstruction of this early medieval turf-walled building was completed and opened to the public in June. Subsequently, a start was made on a book about the reconstruction, containing chapters on the origins and typological development of these so-called Leens type buildings, as well as a report on the building itself. As writing progressed, the experiment proved to have generated useful insights such that earlier ideas on the sustainability of early medieval building traditions could be worked out further, including thoughts on later architectural developments which caused this prehistoric type of sustainability to finally dissolve in the High Middle Ages. The turf house reconstruction partially collapsed in November as a consequence of leakage of the roof. Plans were made for its repair in 2014.

Archaeobotany in the terp-mound area (M. Schepers)

Schepers collected the results from 40 terp sites where macro-botanical analyses were carried out over the past forty years in one big dataset of 332 samples and 307 wild plant taxa. By applying a range of techniques to this dataset, Schepers was able to present a much more detailed picture of the former terp landscape vegetation, in which diversity and human influence are the key elements.

Traditionally, either one single plant community (*Juncetum gerardi*) is used by archaeologist to describe the vegetation around the terps, or the variety in vegetation

types to have been present is restricted to the classical hydrosere zonation from the low marsh (glasswort zone) to the high marsh. Not only does this insufficiently describe the vegetation surrounding the terps, it is also undervalues the diversity as described in the present-day salt marsh area. In particular, *Plantaginetea* grasslands must have especially made up substantial parts of the landscape, on the salt marsh ridges and in so-called 'summerpolders'. The latter must have been present in the past, suggesting that the previously identified small dykes did not only protect crop fields, but also grasslands, including hay land.

Schepers also concludes that most terps must have been virtually treeless, with the exception of an incidental elder (*Sambucus nigra*) at the edge of the drinking ponds on the terps, so-called 'dobbes'. These dobbes themselves contained fresh to mildly brackish water, thus being very similar to the present dobbes on the Frisian salt marsh.

Finally, Schepers states that conducting small-scale agricultural experiments in the salt marsh area will not only be of interest to archaeologists, but might also stimulate biodiversity in the area, thus probably resulting in non-analogue arable weed communities. From an ecological point of view, this is worth considering.

2.1.2 Stone Age society: pattern and process

The North Holland Single Grave Culture project (S.M. Beckerman; G.R. Nobles) In the province of North Holland, a group of settlement sites have been found of which the majority is related to the of Single Grave, or Corded Ware, Culture (SGC) (c. 2900–2500 cal. BC). This culture is found in large parts of Europe stretching from Russia to The Netherlands and from south Scandinavia to Switzerland. Settlements have only sparsely been found and most research has, both in The Netherlands and internationally, always been devoted to the graves. This research project therefore focusses on the well-preserved remains of the settlement sites found in the province of North Holland and aims to enhance our understanding of the inhabitants if this tidal area and their daily life and culture.

The PhD project by Beckerman focusses on the analysis of ceramics as means to gain a better understanding of the chronology, technology, subsistence, economy, social organisation, religion and ideology of the inhabitants of this region and the Single Grave, or Corded Ware, Culture. Three of these settlement sites were analysed as part of a wider NWO Odyssee project 'Unlocking North Holland's Late Neolithic Treasure Chest: Single Grave Culture behavioral variability in a tidal environment'. In 2012, a monograph was published on the results from the site of Keinsmerburg, and in 2013 the results from the analysis of the material of Mienakker were published. The research of the last site, Zeewijk, was finished in 2013; the results will be published in the coming year. As part of this PhD project in 2013, the ceramics from the settlement sites of

Aartswoud, Slootdorp-Bouwlust, Sijbekarspel De Veken and Zandwerven were analysed as well.

The PhD project by Nobles provided completely new insights into the Late Neolithic site of Mienakker, North Holland. The settlement yielded information regarding the location of activity areas, both within a domestic structure (a house) and outside. The spatial analysis of the finds support the presence of this newly defined structure, its form unique to the period. The discovery of the remains of a skin-lined canoe presents, most likely, the first archaeological evidence for a vessel of its type in Northwestern Europe contrary to the more common dug-out canoes. It was identified that such a vessel would be essential for deep sea fishing, of which there is ample evidence from the zooarchaeological remains. Another unexpected discovery was a trapezoidal structure containing a human burial. This structure is interpreted as a ritual monument, evidence of monumentality has not been found in the wetlands before. A scaled reconstruction of the monumental structure was created as well as a life like full body reconstruction of the buried man. These are for a permanent exhibition to be placed in the Huis van Hilde museum/depot in North Holland.

Hunter-gatherers in the Eastern Netherlands (J.H.M. Peeters; P. Hoebe; D. Stoop (Saxion, Deventer))

Continued excavations by Saxion students at Epse-Olthof North (Deventer) revealed a further concentration of Mesolithic flint on a coversand ridge along a paleochannel. However, a number of artefacts turned out to belong to the Late Palaeolithic Hamburgian. Some indications for Hamburgian presence was found earlier on the same sand ridge (see Annual Report 2012). The new cluster of Hamburgian finds is better preserved. Inspection of earlier excavated zones adjacent to the area excavated by Saxion revealed further Hamburgian lithics. The assemblage composition (mainly blade production waste and few tools, notably scrapers) and presence of refits suggest the finds to be the result of a short-term camp. Most notably is the presence of red Helgoland flint, originating from a primary source at some 250 km distance. Refits and small knapping debris show that this raw material has been knapped on the spot. As far as we can see now, most of the core must have been reduced elsewhere. At present, this is the earliest known use of this raw material in Northwestern Europe. As to the locale itself, Epse-Olthof can now be confirmed as a site situated at the southernmost fringes of the Hamburgian 'world'.

The Swifterbant project (R.T.J. Cappers, I. Devriendt, D.C.M. Raemaekers, M. Schepers)

In 2013, Devriendt defended her PhD on the flint and other stone material from the various sites in the Swifterbant region. Her research is a major impetus for understanding the functional variation between the sites. It becomes increasingly clear that S3 is the major settlement site, whereas all other sites provided a smaller spectrum of activities. It is noteworthy that there is, for example, a limited presence of quern

stones from river dune site S21-S24, suggesting that food processing was of lesser importance here than at other sites.

Raemaekers published an article of the function of the Swifterbant S3 ceramics, combining ceramic analysis with the analysis of SEM images (L. Kubiak-Martens, BIAx) and DTMS outcomes (T. Oudemans, Kenaz). They conclude that the assemblage comprises two subgroups of ceramics in terms of use: remains of emmer wheat are restricted to pots tempered with stone grit.

The 2012 annual report already mentioned the publication of a new method to identify past natural vegetation. The PALAEOASSOCIA method was now applied to all macro-botanical samples available from the small Swifterbant river system from the period of Neolithic habitation (4300-4000 cal. BC). This includes samples from the S3 creek bank site settlement layers, the S4 site drift line samples and site S25, directly adjacent to one of the sand dunes in the area. These extensive and very time consuming analyses proved of great value for a more detailed reconstruction of the natural vegetation in the area, and subsequently, understanding human behavior. This reconstruction was further supported by secondary data from additional proxies, including diatoms, pollen and wood.

A few major conclusions could be drawn. The human impact on the vegetation in the river system must have been modest. Explicitly, culturally bound vegetation types, namely arable weed vegetation (*Stellarietea*) and ruderal vegetation (*Artemisietea*), were well supported in the analyses from the S3 settlement layers, but already much less so in the directly adjacently sampled drift line samples from S4. Despite the fact that especially arable weed vegetation must have known a different composition in the past, the conclusion that cereals were cultivated locally is supported by the analysis.

Both the ecology of the identified plant communities and additional proxies testify of periodic (probably seasonal) flooding of the creek banks, thereby indicating that permanent habitation in the area was unlikely. Minor indications for a marine influence have been identified in both diatoms and plant macro-remains, but it could be concluded that this influence was too incidental to result in an ecological imprint on the landscape: it was an exclusively fresh (so not even brackish) water ecosystem.

Whereas palaeoecological studies tend to emphasize the succession in hydrosere plant communities, all plant communities typically associated with a hydrosere (and peat formation) occurred contemporaneously in zonation. This includes reed swamps, sedge swamps, sawgrass marshes and carr forests. The human activity on the dune edge site S25 must have been very different from the creek bank sites. Cereal remains are lacking here, and numerous acorns testify to the local occurrence of oaks on the dunes. That these remains were not collected is indicated by their virtual absence at the creek banks.

2.1.3 Maritime archaeology

International Fieldschool Maritime Archaeology Flevoland (A.F.L. van Holk)
The IFMAF excavation was conducted at lot OL 79, near Dronten (Flevoland). The remains were 16.5 by 4.5 m while the deepest point under the surface lay at a depth of 1.2 m. The ship was carrying a cargo of slate.

It was decided to choose this wreck for the fieldschool because the bad state of the wooden remains of the wreck would deteriorate further in the future and the artefactual inventory seemed to be interesting enough. The fieldschool yielded a lot of new information about the wreck. Especially the artefactual inventory proved to be quite substantial, as was to be expected from a ship-wreck from the eighteenth century. Among these artefacts were *inter alia* glasses and pencils. These imply the skipper was literate. Among the coins were several tokens, which served as receipts for the yearly payment for the maintenance of lighthouses, beacons and landmarks. Based on these date-stamped tokens, the vessel foundered in 1796 AD, or shortly thereafter. The creamware tea-set found in the wreck was decorated with patriotic propaganda, suggesting that the skipper had patriotic sympathies. According to the preliminary valuation of the artefactual inventory, the skipper was reasonably well to do. That would be in accord with the fact that the patriots were to be found, although not exclusively, among the middle-class of society. With some caution the conclusion could be drawn, based on the artefactual inventory that the wife of the skipper also stayed on board. For the first time in the history of maritime archaeology in The Netherlands, aerial photographs were taken with a drone. The excavation at lot OL 79 was very well covered by the media. More than 700 people visited the open day at the site.

2.1.4 Archaeological heritage management

Interreg project 'Land van ontdekkingen/Land der Entdeckungen' 2011-2014 (H.A. Groenendijk; Y. van der Veen; H. Woldring; K. de Vries (Medusa Explorations))

Within the project module '*Op zoek naar de trechterbekercultuur*' the quest for the lost megalith G4 (Onneres, Onnen) was continued. Pollen analysis of a depression, excavated in 2012 and thought to be filled in with the debris of the demolished megalith, dated the filling in the Middle Ages. Though, the original position of the demolished megalith is still unknown, a more precise soil radar measuring was undertaken, leading to the discover of four concentrations of granite fragments in the direct surroundings of the depression. Further investigation of these concentrations is planned for 2014.

Participation Project 'Kerk Garsthuizen' (H. A. Groenendijk; A. Zagkotsis (BA-student GIA); L. Jetten (BA-student GIA); M.-L. Gregoire (*Stichting Restauratie kerk Garsthuizen*); P. Breukink (*Stichting Oude Groninger Kerken*))

The transition of the ramshackled Neo-gothic church of Garsthuizen (municipality of Loppersum, Groningen) into an information centre for the *Stichting Oude Groninger Kerken* has been adjusted to a participation project for the residents of the village of Garsthuizen, who had been fighting for years in vain for the preservation of the building. Archaeology now has become the means to convey public involvement to a new function of the premise. Students from th GIA designed the participation programme, also comprising a test excavation.

2.2 Classical and Mediterranean Archaeology

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

Crustumerium project (P.A.J. Attema; B. Belelli Marchesini; A.J. Nijboer; G.J. van Oortmerssen; J.F. Seubers; S.L. Willemsen)

Fieldwork: 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 as part of regular fieldwork of GIA, several fieldwork campaigns were carried out at Crustumerium (Central Italy). One campaign in the spring and two campaigns in the autumn were dedicated to geophysical prospecting, test-pitting and rural survey. These campaigns yielded valuable data on infrastructural and settlement features (roads, a drainage canal and various anomalies further to be explored). The summer excavation and field school carried out with 2nd year students, master students, researchers and staff targeted the ‘fossato group’ of tombs within the Monte del Bufalo burial ground revealing new clusters of tombs, while the discovery of an Archaic road trench at great depth and indications for quarries within the burial ground added considerable knowledge to the topography and uses of the Monte del Bufalo cemetery other than burial. The remains of a Roman road found at much higher level than the Archaic road provide invaluable information on the phase of abandonment of the site and its reuse in the Roman period. Throughout the year in Groningen at the Laboratory of Conservation and Material Studies (LCM), work was carried out on the conservation and restoration of objects from tombs excavated by the GIA in the campaign of 2012 supervised by G. van Oortmerssen and A.J. Nijboer. This included mini-excavations of block lifts exported to the GIA’s laboratory. A special project on the study of the Roman rural landscape was undertaken by students supervised by Seubers and Attema. This project resulted in 2013 in the appointment of two research assistants on the sustainability of Roman farming in the ‘ager Clustuminus’. In October, Attema wrote the mid-term report of the ‘People and the State Project’ for NWO.

PhD research: Sarah Willemsen prepared the manuscript ‘Into the Light, A study of the changing burial customs at Crustumerium in the 7th and 6th centuries BC’ for sending out to the committee. The date of defense has been established on the 17th of April, 2014. Jorn Seubers proceeded well with fieldwork, data processing and writing for his thesis on the settlement and rural territory of Crustumerium. His research is on schedule (dissertation foreseen in 2015).

Conference: At the end of January 2013, a successful 2-day international conference was held organised by Seubers and Attema on Urbanization and State formation in Central Italy, the proceedings of which will hopefully appear end of 2013/beginning of 2014.

Publications: Nijboer, Attema, Seubers and Willemsen edited volume 8 of *Caecvlvs*, entitled 'Research into Pre-Roman burial grounds in Italy' (232 pages). The editing and proof reading was completed and the printed result by Peeters in Leuven is awaited. Researchers in the project gave multiple presentations at survey workshops at Groningen and Amsterdam (6/7 December), at international conferences (AIAC Merida 13-17 May, Spain/Tarquinius conference Rome, 6-8 November) and at the Informatica meeting '*Verso la conoscenza archeologica condivisa*' on 23-24 May, 2013 in Rome, Italy. Furthermore, a new book series was set up, the 'Corollaria Crustumina,' in which the first volume edited by Attema and international colleagues containing papers in which key researchers of the Crustumerium project now appear.

Valorisation: In early 2012, a poster and book exhibition was prepared by Attema and (research) master students in the University Library for which a booklet in English was produced presenting Crustumerium and the GIA's archaeological excavations at the site.

Pontine Region Project (P.A.J Attema; P.M. van Leusen; T.C.A de Haas; G.W Tol) Under this umbrella, van Leusen (with Attema) worked on the preparation of a funding application in the NWO Free Competition regarding Early Bronze Age migration in central Italy, to be submitted early 2014, which was supported by a faculty bonus. E. Witmer, supervised by Tol and de Haas worked on the Pontine Region site database that collects all archaeological data for further settlement studies of the region (see also Minor Centers Project below). Attema continued to work on chapters of the book '*Quae Arx in Pomptino esset.*'

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

Van Loon continued her work on her dissertation on the nature sanctuary at 'Laghetto del Monsignore,' located near present-day Campoverde (Italy). A large part of this year's work has concentrated on preparing the studied materials for the data analysis and final publication of the assemblage. The remainder of the year was spent on literature study and writing texts for several chapters.

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

In preparation of the final publication of the GIA excavations at Satricum (remained unpublished since two decennia) taken up by Attema and van't Lindenhout, a full inventory of excavated materials in storage in Vopel (GIA's local archaeological depot) was made and recorded in a database by R. Brandhoff (student assistant). A start was made with the digitalisation of the extensive slide collection. In addition, an inventory of field drawings was made in a database and a much work was done on the digitalisation of analogue field drawings by two Saxion students on internship at GIA. Analysis of skeletal remains of Volscian burials at Satricum was carried out as part of a BA thesis by Menk Hendriksen BA, supervised by Attema with the help of PhD student O.A. Jones.

The International Francavilla Project (P.A.J. Attema; P.M. van Leusen (cooperation J.K. Jacobsen, Glyptotek Copenhagen and associated researcher of GIA) Former GIA PhD student Colelli and Dr. J. Jacobsen reworked Colelli's dissertation 'Ceramica d'Impasto da Francavilla Marittima' defended at the University of Groningen for publication with a foreword by Attema (book published as of February 2013 with the prestigious Edipuglia Publishing House). Attema and Nijboer discussed PhD proposals with external PhD students M. Crudo on the relationship between Greeks and indigenous populations in South Italy and G. Mittica on the Attema/Jacobsen Timpone della Motta excavations. Both Crudo and Mittica have been accepted by the GIA as external PhD's (promotores Attema and Nijboer). External PhD student E. Weistra presented a lecture on Terracottas, textiles and cult in the Athenaion at Francavilla Marittima, Southern Italy at the 'Textiles and Cult in the Mediterranean Area in the first Millennium BC conference in Copenhagen.

Landscapes of Early Roman Colonization (J. Pelgrom, Royal Institute at Rome (KNIR) with co-director dr. T. Stek of the University of Leiden) Four fieldwork campaigns were coordinated. In May, a four week prospection campaign at Venosa; in August a three week survey campaign at Jelsi; from September to October a 10-week survey campaign at Isernia and in October a four week survey and geophysical prospecting campaign at Venosa. Tasks implied the supervision of one student assistant, two post-doctoral fellows, 1 research assistant and two pottery specialists. Research permits were acquired from the Superintendencies of Molise and Basilicata for field research, while collaboration was established with the University of Foggia for survey and pottery research at Venosa, with the Comune di Jelsi for free accommodation and a permanent research centre, the ICCD for free use of their aerial photography archive and the Laboratory of Geophysical - Satellite Remote Sensing and Archaeo-environment Foundation for Research and Technology, Hellas, for prospection research.

Mapping the via Appia (J. Pelgrom, Royal Institute at Rome (KNIR) with co-directors S. Mols (Radboud University), S. Soetens (Free University Amsterdam) and E. Moormann (Radboud University Nijmegen) Several field activities were coordinated in the spring of 2013 including: 3D mapping (1 week) with FUGRO, GEOdelta and Spinlab and ground radar prospection (1 week) with the British School at Rome. In July, excavation took place (4 weeks) in collaboration with the Radboud University and in November three weeks were spent on geophysical prospections with the Free University of Amsterdam. Further tasks included the supervision of a pottery and bone specialist. Collaboration arrangements were made with the British School at Rome for prospective research. Several permits were obtained by the Archaeological superintendency for this fieldwork project.

2.2.2 Methods and approaches of archaeological detection in Mediterranean landscapes

The *Raganello Archaeological Project* (P.A.J. Attema; P.M. van Leusen)
Between January and April, van Leusen continued, with the help of R. Brandhoff, editorial checks on the RAP site catalogue planned for publication in 2014. In the field, van Leusen revisited a large number of RAP sites (some with F. Ippolito) to obtain better dating and location data and five new protohistoric sites were discovered in the Contrada Damale. Ippolito made good progress with her thesis that is now co-supervised by Professor M. Pacciarelli of the University of Naples.

Before the Iron Age: the oldest settlements in the hinterland of the Sibaritide (Calabria, Italy) (F. Ippolito).

The aim of this research is to reconstruct the protohistoric landscape of the hinterland of the Sibaritide in Northeastern Calabria (Italy). The Bronze Age in Southern Italy is mainly known from coastal areas sites and, consequently, the study on the inland sites here proposed, gives a new and more complete insight on the Southern Italian settlement pattern in the period at issue. Pottery fragments collected during the last 20 years surveys by GIA researchers have been studied by the author in order to define chronology and function of the detected sites. In addition, pottery from the excavated site of Timpone della Motta at Francavilla Marittima was analysed to provide a stratigraphic chronology for the Bronze Age. In addition, pottery material from cave sites is included to reconstruct the cultural beginning of the Bronze Age, almost unknown in the study area. A full catalogue has been prepared and the data have been compared with the available data from Bronze Age sites in Southern Italy to reconstruct the cultural network characterizing Southern Italy during the Bronze Age. The work for the thesis is in the final stage.

The Rural Life Project (P.M. van Leusen; K.L. Armstrong; W. de Neef)

This year, the Rural Life Project shifted its attention to the uplands of the Raganello Basin, where two field campaigns were conducted in spring and autumn to investigate the simple, rich, and atypical upland protohistoric site classes. The work indicates that the earliest (Neolithic) settlement occurs along south-facing limestone rock faces, with later (so far poorly dated) settlement moving out into the open undulating sloping land. No built structures were identified geophysically, and corings indicated that surface sites merely express extensive subsurface habitation layers. All remaining work in the foothill zone, concentrating on understanding on-site stratigraphy and postdepositional processes, was completed this year. Work on the translation and correction of the PhD manuscript 'Dealing with biases' by H. Feiken continued until early September, when it was approved by the promotores. Copies were sent to the reading committee in early October. The technical reports on the 2013 field campaigns by de Neef, Armstrong, and

den Haan/Sevink were corrected, and a new version of a paper on the 2005-6 MS pilot work (with Armstrong/Kattenberg) was submitted to the journal *Archaeological Prospection*. Post-doc Armstrong planned and conducted laboratory work in Mainz on a suite of samples from the Rural Life Project Autumn 2012 campaigns, co-supervised a BA thesis with Martijn van Leusen, assisted in preliminary reporting to the local Superintendent for all fieldwork conducted this year, and examined soil samples from the Rural Life March-April 2013 fieldwork. She also re-submitted a revised paper to *Archaeological Prospection* titled 'Magnetic Susceptibility Detection of Small Protohistoric Sites in the Raganello Basin, Calabria (Italy)' which has been accepted for publication and will appear in 2014.

2.2.3 Economy and living standards in the Roman World

The Minor Centers Project (T.C.A. de Haas; G.W. Tol; K.L. Armstrong; B. Borgers; P.A.J. Attema)

2013 was the second full year of the NWO-funded Minor Centers project (in full: *Fora, stationes and sanctuaries: the role of minor centers in the economy of Roman central Italy*). Three field campaigns (March, July and October) were conducted, in which on-site surveys and geophysical prospections at the sites of Forum Appii and Ad Medias were combined. Geophysical prospections were also undertaken at the site of Astura and at a rural ceramic production site. Tol undertook additional ceramic studies in February/March and July. Borgers was added to the research group and initiated a program of thin section analyses on ceramic waster fragments from Forum Appii, Astura and the abovementioned rural production site. Work on our regional survey, site and artefact database progressed with the help of student assistant Evelien Witmer (see also below 'Pontine Region Project'). Tol and de Haas organized a conference at and in collaboration with the Royal Netherlands Institute in Rome. Valorization activities included the production of a project leaflet (400 copies distributed among local population), a public lecture in Pontinia and lectures at primary schools in Borgo Faiti and Pontinia. Post-doc Armstrong completed internal technical reporting (to English Heritage standards) on geophysical aspects of Minor Centers fieldwork in July-August 2013. She also planned and participated in Minor Centers fieldwork in July-August and helped plan geophysical surveys commissioned from Eastern Atlas within the Minor Centers project. She assisted in preliminary reporting to the local Superintendent for all fieldwork conducted this year, including the results of surveys undertaken by Eastern Atlas for the Minor Centers project. She helped preparing an article (with G.W. Tol, T.C.A. de Haas and P.A.J. Attema) on early results of the Minor Centers project for the Proceedings of the British School at Rome which has been accepted and will be published in 2014.

Standard of living in the Roman Empire (G. Klein-Goldewijk)

The focus during 2013 was on writing and editing chapters for the dissertation. Klein-Goldewijk is currently working towards finishing her dissertation.

Productive Landscapes: An interdisciplinary inquiry into the crop husbandry in the Roman Empire 200 B.C. - 500 A.D. (F.B.J. Heinrich)

In 2013 the Productive Landscapes project focused on constructing and/or improving crop chronologies for (Roman) Italy, Sardinia and Egypt. A preliminary synthesis of these regions was established. Also the papyrological component of the project was largely rounded off and the validity of its results confirmed by a leading papyrologist (Prof. R. Bagnall). Furthermore, the project database was constructed and data entry has been steadily pursued. In addition efforts were made to start the construction of the project's analytic model, while for the case studies for which material was not yet available, this has been secured through setting up international collaborations (sometimes shaped as side-projects). These collaborations, in addition to additional material, also have brought additional funding to the project. Lastly, two project publications will be published next year were (largely) written and submitted in 2013.

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. Ingvarsson-Sundstrom (University of Uppsala); E. Milka (Argolid Directorate))

The progress of the final publications of the MH Argolid Project is gathering pace. Two articles which summarize the findings of the project have appeared in Voutsaki and Valamoti (eds.) 2013. *Diet, economy and society in the ancient Greek world. Towards a better integration of archaeology and science* (Peeters, Leuven). They discuss the changing articulation of mortuary practices, economic organisation and social structure in two MH communities, Lerna and Asine. The website of the project has been updated.

Argos Tumuli Project (S. Voutsaki; K. Sarri (free-lance pottery specialist); O. Dickinson (Emeritus, University of Durham); S. Triantaphyllou (Thessaloniki University); E. Milka (Argolid Directorate))

The final publication of the Argos Tumuli Project (INSTAP Academic Press) is in preparation. The results of the contextual analysis will not be included in E. Milka's PhD, because of the volume of the material. The results of the analysis of the Deilaki excavations is being integrated with the results of excavations elsewhere in Argos, as presented in the preliminary reports which appear in the *Archaologikon Deltion*. The data are subjected to a spatial analysis by using GIS. The analysis is slowed down because of the difficulty in integrating uneven information from old rescue excavations.

Before Menelaus: Social change in early Mycenaean Ayios Vasilios, Laconia (S. Voutsaki; E. Vika (Ionian islands / Attica Directorate, Greek Ministry of Culture); L. Polymenakos (Geophysics Consultancy Geotomi); P. Karkanias (Palaeoanthropology and Speleology Directorate, Greek Ministry of Culture); D. Fallu (University of Boston); I. Moutafi (University of Sheffield))

The excavation at the Northern Cemetery, Ayios Vasilios (carried out under the auspices of the Archaeological Society and Athens) have produced very interesting results this year. The geophysical prospection has enabled us to locate more tombs and has given us indications about the extent of the cemetery and its relation to the settlement. The soil micromorphology analysis is already helping us reconstruct the sequence of the tombs and the external appearance of the cemetery, but also episodes of use (and re-use) of individual graves. Five new tombs have been excavated; a large built tomb with several primary and secondary burials and a large rectangular pit with a man and a woman buried in contracted position in close embrace can be singled out. The careful excavation of the tombs and the skeletal remains allows us to make detailed taphonomic

observations and reconstruct the practices surrounding the disposal of the body and the deposition of offerings. The excavation will give us invaluable information about the early stages of the Mycenaean palatial centre at Ayios Vasilios. The costs of the bioarchaeological analyses are covered by a generous grant by the Ammodo Foundation. **Note:** One article on the results has been submitted, and another two are in preparation.

Explaining Change in Aegean Prehistory (C.W. Wiersma, S. Voutsaki)

The first Groningen Greek Archaeology Conference was held in Groningen on 16-17 October 2013, as part of the PhD examination of Corien Wiersma. A group of international scholars as well as students (from the Netherlands, Greece, Germany, Great Britain, Canada, USA, Sweden, England) gathered to discuss the problems surrounding the explanation of sociocultural change in Aegean prehistory. The conference was broadcasted using a livestream connection, and attracted a lot of attention. The Proceedings of the Conference will be published.

Building the Bronze Age. Architectural and social change on the Greek Mainland during Early Helladic III, Middle Helladic and Late Helladic I (C.W. Wiersma)

During 2013, Corien Wiersma finished writing and revising her PhD thesis which she successfully defended in October 2013.

Magoula Pavlína (C.W. Wiersma)

In November, Wiersma visited the storeroom in Almirós to look at the Middle Bronze Age ceramics collected during the survey at Magoula Pavlína. The visit was used to assess the quality and possibilities the material offers for the planned study season in 2014. It turned out that not only Middle Bronze Age ceramics were collected, but also earlier material of the Early Bronze II and possibly Early Bronze III period. The settlement was therefore longer inhabited than initially believed. Two students had previously worked on the material before Wiersma (in 1999). During her visit, she had to reorder and rebag the material into proper ware categories.

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

Mycenaean Burial Traditions of Achaea: An anthropological and bioarchaeological approach : Preliminary remarks regarding the skeletal analysis of the Petroto tomb (O.A. Jones)

In September of 2013, Olivia began her skeletal analysis in the Wiener Laboratory of the American School of Classical Studies at Athens. Olivia's preliminary results of this analysis indicate that the Mycenaean tholos tomb of Petroto has a higher than

previously thought minimum number of individuals and also other unexpected animals are mixed with the human remains.

The transition from the Bronze Age to the Iron Age in Greece: isotopic analysis of skeletal remains from burial sites of central Greece (E. Panagiotopoulou)

In 2013, the bone collagen extraction was carried out at the Centre of Isotope Research (CIO), University of Groningen by Eleni Panagiotopoulou. Panagiotopoulou followed the lab protocol, according to the training she received in the first year of her PhD. During her lab work, Panagiotopoulou decided to create an internship position. Approximately, 50% of the samples yielded collagen. After discussing that with Dr. Papanastasiou and other specialists on isotopic analyses on Greek materials, they suggested that this is normal for samples from extended and shallow cemeteries (rather than caves). Alongside the lab work, she wrote the analysis of mortuary data from the cemeteries of Pharsala, Halos, Chloe and Agios Dimitrios. In August 2013, she received the isotopic results, which she combined with the results of the mortuary study. The integration of the methods resulted in the first oral presentation at the GIA Research day on 13 December 2013.

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

The Introduction of the Proceedings of the Conference 'Diet, Economy and Society in the ancient Greek world' (Peeters, Leuven) and the discussion in the Round Table included in the same volume, have benefited from the experience of directing a large, multidisciplinary project aimed at the integration of traditional archaeological methods and novel scientific techniques. The discussions have been reported to the Directorate of Prehistoric and Classical Antiquities, Greek Ministry of Culture, as they are relevant to policy makers and to the regulation of archaeological science in Greece.

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

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

The main questions that Tamara has been dealing with in 2013 are how the city of Patras changed after it was colonized by Augustus after the Battle of Actium; how did the city's inhabitants respond to the massive influx of Roman army veterans, and how did both locals and immigrants find a place for themselves in this newly formed colony? She studied the problem by analysing the cemeteries of the city, more specifically the location, tomb architecture, mode of deposition, tombstones and epitaphs. The analysis has given some very interesting results concerning the use of the cemetery in social

strategies. In the early Roman period the cemetery changes drastically in appearance as large, conspicuous marble tombs were built using styles that were not before seen in Patras or the region. The number of tombstones and epitaphs rises exponentially and the use of Latin far exceeds the use of Greek on these stones. From the names on these tombstones we know that there is an influx of Roman citizens in Patras in this period, a lot of whom were veterans of the Roman army. She suggests that their overtly visibly presence in the cemetery of Patras was a strategy of conspicuous self-representation, showing off almost, aimed at securing a respected social position in the city.

Erbil Plain Archaeological Survey project - results 2013 (L. de Jong; J. Ur (Harvard University))

This project investigates the long-term impact of ancient empires on the rural landscape of North Iraq (Kurdistan) by combining a study of historical satellite and aerial photographs with on the ground survey. The projects hosts various international scholars specialized in the prehistoric, Bronze Age, Iron Age, Sassanian, and Early Islamic periods. The GIA involvement concentrates on the Hellenistic though Roman-Parthian centuries. 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 about the lives of local villagers between the 3rd century BC and the 3rd century AD. De Jong gave lectures on the project at the Annual meeting of the Archaeological Institute of America and the *Veldwerkdag* (Rijksmuseum van Oudheden, Leiden). J. Ur presented the project during the International Mediterranean Survey Workshop in Groningen. In August 2013, the second survey season took place in which a GIA student participated, and a second student participated in a similar survey project carried out north of Erbil by Dr. Rafał Koliński of Adam Mickiewicz University in Poland. J. Ur won grants from the National Science Foundation and National Geographic allowing the survey project to continue.

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

This research project concentrates on the archaeology, history, and environment of North Mesopotamia in the Classical, Byzantine, and Early Islamic era. A comparative study of patterns of urbanism the Balikh Valley (Syria) and the Erbil Plain (Iraq) in the Roman and the Abbasid period was presented at the Groningen Islamic Studies seminar in 2013. A GIA student is formulating a Master's thesis centered on the role of the Roman army in North Mesopotamia.

Tombs and Empire – various (L. de Jong)

The final report of the Baalbek cemeteries survey as part of DAI/DGA Baalbek project directed by Margarete van Ess (DAI) and Klaus Rheidt (Cottbus) was submitted to Bulletin d'Archéologie et d'Architecture Libanaises (BAAL).

In June, an exploratory mission to North Pisidia (Turkey) was conducted by Lijde Wijde de Jong, Onno van Nijf (RUG—Ancient History) and Christina Williamson (RUG—Ancient History) at the invitation of Associate Professor Bilge Hürmüzlü of Süleyman Demirel University in Isparta, an Erasmus partner of the University of Groningen. The trip was aimed to visit the area and discuss possibilities for collaboration with the University of Groningen in a research project. Teams from Süleyman Demirel University have identified numerous previously unknown cemeteries from the Hellenistic-Roman period in Northern Pisidia. A research assistant supported de Jong with the categorization of previously published funerary material from this area. The next collaborative step consists of organizing a panel at the coming EAA conference on North Pisidia in the Hellenistic and Roman periods and discussing options to include the funerary material from Roman Pisidia into a national or European funding proposal.

Local identity in a global world: archaeological research in the East Mediterranean (300 BCE-300 CE) (L. de Jong; F. Abudanah; J. Boertien; R. Bonnie; J. Claeys; M. Driessen; T. M. Dijkstra; M. van der Enden; N. Mulder-Hymans; M. Steiner; A. Verlinde; C. Williamson)

At the invitation of the editors of *Tijdschrift voor Mediterrane Archeologie* (TMA), Lidewijde de Jong edited a special issue focusing on the Near East and the Greek world during the Hellenistic and Roman periods. The TMA issue collects eight research articles that present new PhD research and recently started excavation and survey projects. A central theme of the articles is the relationship between the central state and local communities, and the expression of local identity in an increasing global world. This volume of TMA, which also includes seven reviews of books dealing with a variety of topics of the archaeology and history of the East Mediterranean and Near East, was published in December 2013.

2.3.4 Attitudes to the past in the present

Ayios Vasilios and Xirokambi: an excavation and the local inhabitants (S. Voutsaki)

An important aim of the Ayios Vasilios project is to inform the local inhabitants but also to involve them in the excavation. The project works closely with the local authorities who provide us with free accommodation, and who have offered to convert an abandoned building into storage and finds processing unit. Progress is hampered by the economic malaise in Greece, and specifically by the drastic decrease in the subsidies received by the local cultural associations. For this reason, our own activities have been restricted this last year. A Research Seminar was given in the GIA in Spring 2013 in order to present our outreach activities and plans in Ayios Vasilios.

Ancient Monuments and Modern Identities: Towards a critical history of Greek archaeology in the 19th and 20th centuries (S. Voutsaki)

The edited volume with papers on the history of Greek archaeology, the shifting attitudes to the past and on the relation between archaeology and the formation of a modern Greek national identity will be published in 2014 by Ashgate, London.

2.4 Arctic and Antarctic Studies

The Arctic is a unique landscape for studying the long-term interaction between humans and their environment. Though the natural environments of the Circumpolar regions are harsh and inhospitable, a human footprint of past adaptation and exploitation can still be found in many areas. Evidence of human adaptation to, and 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 responded to change. However, global warming is accelerating the pace of change in the natural environment and also opening up new areas. Global society has a renewed interest in understanding the long-term human history within the circumpolar regions, and the exploitation of its natural resources, and so 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 archaeology, history, anthropology, biodiversity, ecology, conservation, pollution and geopolitics are all part of the multidisciplinary research programmes currently running at the Arctic Centre.

The Chair of Arctic and Antarctic Studies has three inter-locking research fields:

1. Exploration and resource development in polar areas
2. Environmental change and adaptation in the Arctic landscape
3. Hunter-Gatherer Archaeology and Ethnoarchaeology of the Circumpolar North

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; L. Hacquebord)

The project (LASHIPA) has been a major research focus of the Arctic Centre in the past 5 years. Three Ph.D. students are finishing their projects and working towards their thesis defense under supervision of L. Hacquebord, including: H.R. de Haas Coal exploitation by the Dutch Spitsbergen Coal Company (NESPICO), F. Kruse British mining, exploration and geopolitics on Spitsbergen, 1904-1953. (defended December 13), and U.I. Gustafsson The exploitation of natural resources by the early 20th century whaling industry. Unfortunately, the Ph.D. project on 'the exploitation of the natural resources in Green Harbour, Spitsbergen in the industrial; whaling and hunting period' by Y.I. Aalders stopped 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 a global interest for future resource development. This has re-activated the debate on ownership of new territories. Scientific research is used to participate 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, pollution and adaptation in the Arctic***How are geese adapting to global change*** (M.J.J.E. Loonen; F. Schaafsma)

Our data span a period of 24 years, in which the Arctic (the summer breeding location of the geese studied) has warmed faster than temperate regions (the wintering grounds of the geese). In this period, the geese have adapted to this change by starting breeding earlier. However, this change happened at one moment in the extreme warm year, 2007, and was not a gradual adaptation to increasing temperature. After 2007, geese bred on average 12 days earlier than before 2007. However in both periods, there is no correlation with actual temperature. Therefore, adaptation occurs during extreme events and is not a gradual process in this migratory species.

Birdhealth (M.J.J.E. Loonen; C.A.M. Sandström (PhD student Faculty of Natural Sciences/Arctic Centre); J. Prop (guest scientist AC); M. de Jong (student biology); N. van den Brink (Wageningen University); P. de Vos (UMCG Groningen); A. Gröne (Diergeneeskunde, Utrecht); N. Lebedeva (Russian Academy of Science))

In the Arctic, there is less risk for infection compared to our latitudes. This is measured in Barnacle Geese on Spitsbergen and The Netherlands. Several manuscripts have been prepared to show this difference both in parasitic infections and in immunological defence parameters in blood.

In 2013, we have created growth differences in a captive Arctic gosling group and disentangled the effect of location from the effects of growth rate. Analysis show minor effects of growth, but are still processed.

Plant-animal interaction on Arctic tundra (M.J.J.E. Loonen; J.P. Bakker (RUG biology); D.J.P. Kuijper (Mammal Research Institute, Polish Academy of Sciences); M. Krikke (student biology))

We documented a bottom-up process of reduction of carrying capacity. Heavily grazed vegetation produces slower after many years of grazing, because below ground biomass becomes depleted. In 2013, we studied the spatial distribution of productivity of the vegetation in our study area.

Arctic tern migration: from North to South Pole. (M.J.J.E. Loonen; B. Moe (NINA Tromsø, Norway); Tim van Oosten (student biologie Wageningen University)) We retrieved 8 geolocators with daily locations of migrating terns. They pass the entire Atlantic and even can switch from the African to the South American coast. Wintering area is the Weddell Sea. The terns did not migrate further east as observed in arctic terns in The Netherlands. Crowd funding allowed us to deploy another 40 geolocators.

Dynamics on predation pressure on Arctic breeding birds (M.J.J.E. Loonen; J. Prop (guest researcher Arctic Centre); E. Fuglei (Norwegian Polar Institute); Å. Pedersen (Norwegian Polar Institute))

Predation pressure by polar bears on bird nests is still increasing on Spitsbergen as a consequence of global change. In 2013, 25% of the goose eggs were predated by polar bears. The arctic fox is the most important predator during rearing of young. This year, foxes were not denning and ate mainly arctic tern nests. The long-term predation data set is analysed in a three species model with arctic foxes, geese and reindeer.

Global modelling of mercury emissions (UNEP/AMAP) (F. Steenhuisen; S. Wilson (AMAP))

Although atmospheric mercury has its origin outside the Arctic, the problematic highest 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.' 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. Initial data delivery to UNEP took place in February 2013. Additional datasets (aggregated sector emissions, mercury releases to water) have been published in the course of 2013 as are minor tweaks to the original emission data. The *Technical Background Report for the Global Mercury Assessment 2013* was published in June 2013.

PhD project: Transnational ties, urban networks and identity formation among Inuit migrants in Denmark and southern Canada (T.K. Terpstra)

The focus during the last months of the appointment (until 31st of July) in 2013 was on writing and editing chapters for the dissertation. Terpstra is currently working towards finishing his dissertation.

2.4.3 Hunter-Gatherer Archaeology and Ethnoarchaeology of the Circumpolar North

Hunter-Gatherer Archaeology and Ethnoarchaeology of the Circumpolar North (Peter Jordan, with various international partners)

This research examines cultural diversity and change in the Circumpolar North from archaeological and ethnoarchaeological perspectives. The key focus is on understanding the long-term interactions between northern hunter-gatherer adaptations, climate change, technological innovation and cultural landscapes.

2.5 Bioarchaeology

Neolithisation of Aegean Turkey (C. Cilingiroglu (Ege University), C. Çakırlar) Increasing fieldwork around Izmir Region produced much sought tangible evidence about the ways in which food producing communities emerged in the Aegean. Focusing on the archaeological and zooarchaeological data from Ulucak and neighboring sites, our research sheds light on the possible mechanisms of initial farmer-herder dispersals into the region. By choosing multiple criteria related to the daily lives of early farming communities in Aegean Turkey, we are able to identify both the unifying and diverse features. While unity can be observed in the prevailing features of pottery traditions, female symbolism, textile production and decoration, and the outlines of subsistence strategies, diversity is best exemplified in building techniques and plans across contemporary sites. Diverse traditions seem to emerge also in stone and clay tool kits.

Formalized Epinephelus butchery in 5th century BC Kinet Höyük, Turkey (C. Çakırlar, S. Ikram (American University in Cairo), M.-H. Gates (Bilkent University))

This project is part of the larger 'Ancient Fisheries Project.' Archaeological evidence for fish preparation in the Eastern Mediterranean is scarce. A Late 5th century deposit at Kinet Höyük provides tangible evidence for the systematic butchering of large individuals of *Epinephelus* (groupers), and possibly of *Mugilidae* (mulletts), and *Clarias gariepinus* (African catfish). Butchery marks on head and proximal trunk regions of groupers follow a consistent pattern, indicating the processing of large fish heads for, apparently, local redistribution and consumption at the settlement. Although elements of the vertebral column remaining between the atlas and the ultimate vertebra are virtually absent in the assemblage associated with these butchered fish remains, this differential representation of elements does not appear to be an unequivocal reflection of fish processing techniques and subsequent trade. The insufficiency of research on ancient fisheries and fishing in the Eastern Mediterranean poses an obstacle to contextualize this deposit within a general historical and archaeological framework.

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

To improve the identification of dispersal units in plants, a book has been published that discusses the inflorescences, infructescences, fruits and seeds, diaspores as well as possible heterocarpy and seed dimorphism. The book is published bilingual (A manual for the identification of plant seeds and fruits; *Handboek voor het determineren van zaden en vruchten*).

During two visits at Kurdistan (Iraq), traditional agricultural practices dealing with working at land, crop processing and food processing had been documented for the Digital atlas of traditional agricultural practices (to be finished December 2015). There has been special emphasis on the baking of flat bread that is storable for long periods.

Iraq (Kurdistan) (R.T.J. Cappers)

During two visits archaeobotanical research has been stated up at Tell Shemshara (excavated by J. Eidem; NINO, Leiden) and Tell Begem (excavated by O. Nieuwenhuys, Leiden University). Both Neolithic Tell sites will improve our knowledge of a part of the Fertile Crescent that has been inaccessible for many decades.

Typology of processing marks (R.T.J. Cappers)

Similar to the study of wear marks on wood and flint, archaeobotanical research has become focused on the recognition of processing marks on by products of threshing. It is aimed at linking these processing marks to specific treatments and implements. The first typology of threshing marks has been developed for the culm fragments of Hard wheat. Both size and processing marks clearly show that extra labour was applied to shorten the fragments so that it could be easier mixed with the clay used for mud brick production.

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

Threshing remains from mud bricks have been identified and quantified. These data are used to reconstruct the crop processing (including manuring and irrigation regimes, harvesting method and threshing quality). An article has been published dealing with the characteristics of the Neolithic landscape in relation to early agriculture.

Description of Plates from J.J. Rifaud depicting Egyptian plants (R.T.J. Cappers)

At the invitation of Wouter Claes (Royal Museums of Art and History; Brussels) a description has been made of the plates of J.J. Rifaud depicting plants from Egypt. The description will be part of a monograph that will be published in cooperation with Marie-Cécile Bruwier van het Koninklijke Museum van Mariemont and the Société archéologique de Nivelles.

Barley research (R.T.J. Cappers and F.B.J Heinrich)

Barley is often considered as a cereal used for beer production and fodder. This interpretation, however, is mainly based on its current use. The modeling of crop selection has shown that barley is an ideal crop, judging by its ecological requirements and economic criteria dealing with yield, labour, fuel and logistics (storage and transport). Experimental archaeology has demonstrated that dehusking hulled barley is not necessary for making flat bread. The results have been presented at the 14th annual symposium of Current research in Egyptology in Cambridge (2013) and were accepted for the Proceedings (Oxbow Books; in press).

The relation between dung from hay-fed livestock and vegetation (M. Schepers)

In an experimental study, hay from a known grassland was fed to both cattle and sheep to evaluate to what extent the botanical composition of their dung matches the vegetation of the source area. Pollen analysis hereby proved to match both the local (the hay field proper) and the surrounding landscape exceptionally well. A more detailed picture of the hay field emerged from the analysis of plant macro-remains. Seed counts were found to be highly variable and to poorly reflect the ratio between the plant species in standing vegetation. The sample frequency of the taxa however, reflected the source vegetation very well: the more common plant species in the dung samples were the more common species in the standing vegetation as well. Larger seeds (~2 mm) were less well represented in the sheep pellets than in the cow dung, which was found to contain more species in general as well. Therefore, we were able to conclude that samples from cow dung are better suited to reconstruct past natural vegetation than samples from sheep pellets.

3. GIA Activities

While the previous chapters 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 2013 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. The lecture programme was organized by Kayt Armstrong, Olivia Jones, Lidewijde de Jong and Gary Nobles. 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* 24 and four volumes of the Groningen Archaeological Studies series (volumes 22-25) 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 over 100 attendees consistently each year, this day functions as an excellent alumni activity. The 19th GIA day took place on 13 December.

Appendix 1. GIA Research Activities

1.1 Fieldwork

Chair of Prehistoric and Protohistoric Archaeology

Onnen - Onneres, 3 December 2012 — 6 February. Soil radar measuring (2nd phase), detecting the lost megalith G4.

Director : H.A. Groenendijk

Participants : K. de Vries, W. Rooke (Medusa Explorations, Groningen)

Cooperation : Interreg Project 'Land van ontdekkingen/Land der Entdeckungen'

Saksenoord, Lollum, 22 April — 3 May. Geomagnetic survey of a dug-away terp site.

Director : T.W. Varwijk

Cooperation : K. Mückenberger (NIhK)

De Leege Terp, Kimsward, 29 April — 2 May. Geomagnetic survey of a dug-away terp site.

Director : T.W. Varwijk

Cooperation : K. Mückenberger (NIhK)

Valthe, 15 May — 15 June. Fieldschool excavation of Funnel Beaker Period and Iron Age site.

Director : S. Arnoldussen

Staff : R.Rap, N. de Vries

Participants : P. Albers, Groningen first year archaeology students

Cooperation : M. Montforts (Gemeente) W. van der Sanden (Provincie) D. Leeuwerik (DLG)

Warten, 3 June — 2 July. Excavation of a Roman Iron Age dwelling mound (Wartena-Noord).

Director : M. Bakker

Staff : M. Bakker, J.A.W. Nicolay, T.W. Varwijk, S. Tiebackx, E. Bolhuis

Participants : S. Thasing, A. Kaspers, S. Wassenaar, Y. Csonka, T. Stellingwerf, R. Kuiper (students), R. Visser, A. Visser, H. Baron (volunteers AWF), E. Scheele (volunteering archaeologist)

Cooperation : P.C. Vos (Deltares), H. Huisman (RCE), Willem van der Burg, Jelle van Gunst

Someren, 9 — 10 July. Corings and test-pits at the Someren Hoederboom Celtic field.

Director : S. Arnoldussen
Cooperation : J.W. de Kort (RCE)

Dronten, 5 — 30 August. Excavation of 18th century cargo vessel near Dronten.

Director : A.F.L. van Holk
Staff : L. Koehler, G. Schreurs
Participants : N. Middag, A. Windig, E. de Heer, S. van Vuuren, D. van der Linden, S. Haahedoorn, A. van den Heuvel, M. Peters, A. Bulder, P. Lunshof, M. van der Velde, Y. van Popta, K. Blok, S. Rijlaarsdam, R. van Haarlem, volunteers of the Archeologische Werkgemeenschap Nederland
Cooperation : Dick Velthuis (Nieuw Land) L. Koehler (RCE) G. Schreurs (RCE) F. Dallmeijer (RCE)

Saksenoord, Lollum, 19 August — 2 October. Excavation of terp site, Early Iron Age to medieval period.

Director : T.W. Varwijk
Staff : M. Bakker, J.A.W. Nicolay, S. Tiebackx, T.W. Varwijk
Participants : A. Kaspers, S. Thasing (students), N. Casolin, G. Hofstra, R. Visser, H. Baron, A. Visser, M. Lutgendorff, R. van Splunder, E. Scheele (volunteers)
Cooperation : W. van den Burg, S. van den Burg (van der Wiel Holding BV), P. Vos (Deltares)

Warten, 23 September — 11 October. Archaeological surveillance of groundwork in the region north of Warten (Friesland).

Director : M. Bakker
Staff : T.W. Varwijk
Participants : J. van der Laan, R. van Splunder, E. Scheele (volunteering archaeologists), S. Thasing (student), R. Visser (volunteer AWF)
Cooperation : Municipality of Boarnsterhim

Chair of Classical and Mediterranean Archaeology

Crustumerium, Rome, 15 — 25 March. Augering and geophysical prospecting of the settlement of Crustumerium.

Director : P.A.J. Attema
 Staff : J.F. Seubers, J. Sevink, M. den Haan
 Participants : Y. van Popta, R. Bronkhorst, N. Noorda
 Cooperation : Eastern Atlas, Geophysikalische Prospektion und Messtechnik, Berlin (B. Ullrich, D. Pilz)

Crustumerium (Rome), 29 July — 3 August. Excavations of the Monte del Bufalo necropolis at Crustumerium and artefact study, conservation and restoration campaign.

Director : P.A.J. Attema, A.J.Nijboer
 Staff : B. Belelli Marchesini, S.E. Boersma, G.J. van Oortmerssen, J.F.Seubers, S.L. Willemsen
 Participants : R. Bronkhorst, J. Hilbrants, Y. van Popta, R. Brandhoff, M. Bannink, E. Witmer, L. Mavrichi (intern) F. Taormina (intern University of Palermo), S. Berendsen, J. Hekman, F. Koolstra, M. Louwes, R. Scharff, J. van der Velden, G. Verbree, S. Verhagen, M. van den Hoek, K. Fraase Storm, M. Catsman (Free University of Amsterdam), A. Wijnstok, J.F. van der Weg, N. Noorda, S. Manuel, P. Kalkman.
 Cooperation : P. Filippini (Soprintendenza Speciale per i Beni Archeologici di Roma), F. di Gennaro (Museo Pigorini, Roma), W. Pantano (Servizio di Antropologia della Soprintendenza Speciale per i Beni Archeologici di Roma).

Crustumerium (Rome), 16 — 19 October. Geophysical prospectings of the settlement of Crustumerium.

Director : P.A.J. Attema
 Participants : B. Ullrich (Eastern Atlas, Berlin), D. Pilz (Eastern Atlas, Berlin), L. Goosens (Gent University)
 Cooperation : Eastern Atlas, Geophysikalische Prospektion und Messtechnik, Berlin

Rome (Crustumerium), 2 — 23 November. Coring in the Tiber valley, excavation of geophysical anomalies, rural survey

Director : P.A.J. Attema
 Staff : J.F. Seubers, J. Sevink
 Participants : Y. van Popta, R. Bronkhorst, N. Noorda, B. Danhof, C. Luinge, T. Kauling
 Cooperation : P. Filippini, Soprintendenza Speciale per i Beni Archeologici di Roma

Pontine Region, Central Italy, 4 February — 31 March. Geophysical survey at Ad Medias (19/20 Mar), Field surveys around Ad Medias (19-30 Mar), and processing of archaeological materials collected during fieldwork of the Minor Centers project (4 Feb — 31 Mar).

Director : G.W. Tol and T.C.A. de Haas
 Staff : B. Ullrich, W. de Neef, D. Pilz (Eastern Atlas GmbH, geophysics)
 Participants : F. Verhagen (student), M. Nijboer (student), J. Waanders (student), E. Witmer (student), J. Hilbrants (student) (artefact processing, participated for 10 days), M. Nijboer, R. Bronkhorst, S. Manuel (University of Groningen), L. Weekers (Ghent University) (field surveys)
 Cooperation : C. Anastasia (local liaison), P. Sperlonga (comune di Pontinia)
 Note : Organized by The Minor Centers project

Pontine Region, Italy, 5 October — 10 November. Geophysical prospections at Forum Appii and Ad Medias (14/15 Oct), field surveys on and around Ad Medias and Forum Appii (6 Oct — 3 Nov) and processing of archaeological materials collected during fieldwork of the Minor Centers project (5 Oct - 10 Nov).

Director : T.C.A. de Haas and G.W. Tol
 Staff : B. Ullrich, (D. Pilz, L. Goossens (Eastern Atlas GmbH, geophysics)
 B. Borgers (artefact processing)
 Participants : F. Verhagen (student, University of Groningen), M. Nijboer (student, University of Groningen), E. Witmer (student, University of Groningen), R. Bronkhorst (student, University of Groningen), J. Hilbrants (student, University of Groningen), R. Rap (student, University of Groningen), C. Afacan (student, Trakya University), N. Demir (student, Trakya University), K. Couchez (student, Ghent University), L. Weekers (student, Ghent University), Y. van Deun (student, University of Groningen), E. Vergaert (student, Ghent University), K. van Quathem (student, Ghent University), J. Defrancq (student, Ghent University), C. de Raedt (student, Ghent University), M. Mandich (PhD student, University of Leicester) (field surveys and artefact processing).
 Cooperation : C. Anastasia (local liaison), P. Sperlonga (comune di Pontinia)

Pontinia, Central Italy/Astura, Central Italy, 17 July — 2 August. Geophysical survey at Astura, Forum Appii and a rural site (24 Jul-2 Aug) and processing of archaeological materials collected during fieldwork of the Minor Centers project (17 Jul — 2 Aug).

Director : G.W. Tol (artefact processing) and K.L. Armstrong (geophysics)
 Staff : S Tiebackx, I. Bolhuis
 Participants : T. Trienen (Univ. of Ghent) (geophysics)
 F. Verhagen, M. Nijboer, J. Waanders and A. van den Heuvel (artefact processing)
 Cooperation : Poligono militare di Nettuno
 Note : Organized by The Minor Centers project

Raganello Basin (Calabria, Italy), 24 March — 14 April. Geophysical and geoarchaeological investigations on nine protohistoric upland sites; revisits to RAP sites.

Director : P.M. van Leusen
 Staff : W. de Neef, K.L. Armstrong, J. Sevink, F. Ippolito, M. den Haan (student assistant)
 Participants : W.J. Wubs, T. Trienen, A. van den Dorpel (students)
 Cooperation : A. Larocca (director, Gruppo Speleologico Sparviere), S. Luppino (inspector, Soprintendenza per i beni archeologici della Calabria)

Raganello Basin (Calabria, Italy), 22 September — 6 December. Geophysical and geoarchaeological investigations at seven upland protohistoric sites, followed by test pits at protohistoric sites T73 and T130a in the municipality of San Lorenzo Bellizzi.

Director : P.M. van Leusen
 Staff : W. de Neef, K.L. Armstrong, J. Sevink, M. den Haan (student assistant)
 Participants : W.J. Wubs, N. Noorda (students), T. Trienen, T. Roovers (volunteers)
 Cooperation : A. Larocca (director, Gruppo Speleologico Sparviere), S. Luppino (inspector, Soprintendenza per i beni archeologici della Calabria), S. Hay, S. Kay, A. James, M. Berry (British School at Rome), L. Alessandri (independent researcher, Rome)

Sibari-S. Lorenzo Bellizzi (Calabria, Italy), 10 October — 30 October. Study of pottery from Timpone della Motta, Area Rovitti, survey sites.

Director : P.A.J. Attema, J. Jacobsen
 Staff : F. Ippolito, S. Boersma
 Participants : M. Crudo (self-funded PhD student, GIA)
 Cooperation : J. Jacobsen (curator, Carlsberg Glyptotek Copenhagen, associated researcher GIA)

Chair of Greek Archaeology

Ayios Vasilios, Xirokambi, Sparta, 1 July — 6 August. Excavation of early Mycenaean cemetery (Northern Cemetery) at Ayios Vasilios.

Director : S. Voutsaki

Staff : Vika, E. (Ionian islands / Attica Directorate, Greek Ministry of Culture), Polymenakos, L. (Geophysics Consultancy Geotomi), Karkanas, P. (Palaeoanthropology and Speleology Directorate, Greek Ministry of Culture), Fallu, D. (University of Boston), Moutafi, I. (University of Sheffield)

Participants : I. Rom, T. Verlaan (both REMA students)

Cooperation : Archaeological Society at Athens, 5th Directorate of Prehistoric and Classical Antiquities, Sparta Geophysics Consultancy Geotomi

Kurdistan, 13 — 31 August. Erbil Plains Archaeological Survey.

Director : J. A. Ur

Staff : L. de Jong

Participants : I. Koopmans

Cooperation : Directorate of Antiquities for the Kurdistan Regional Government, and the State Board of Antiquities and Heritage, Baghdad

Zakynthos, 7 — 13 January. Research on Bronze Age material from the Zakynthos Archaeological Project survey.

Director : G.J. van Wijngaarden, (UvA) and A. Sotiriou, 35th Directorate of Prehistoric and Classical Antiquities | (35th EPKA)

Staff : Stissi, V. (UvA), Pieters, N., (UvA), Ruckl, S. (UvA), G. Kourtessi-Phillipakis, C.W. Wiersma

Participants : A. Krijnen (UvA), V. Nearchou and K. Psoma (Kapodistrian University at Athens) (students)

Almirós, Greece, 31 October — 4 November. Preliminary research of Middle Bronze Age ceramics of Magula Pavlina.

Director : H.R. Reinders

Staff : C.W. Wiersma

Chair of Arctic and Antarctic Archaeology

Norway, Ny-Ålesund, Spitsbergen, 16 June — 16 August. Barnacle Goose Ecology.

Director : M.J.J.E. Loonen

Participants : M. de Jong (student biology) M. Krikke (student biology) T. van Oosten (student biology Wageningen University) S. Lubbe (volunteer) W.E.E. Loonen (volunteer) J.N. Loonen (volunteer)

Cooperation : I.B.R. Scheiber (Post-doc RUG biology) B.M. Weiss (Konrad Lorentz Institute Austria) G.W. Gabrielsen (Norwegian Polar Institute, Norway) S. Coulson (UNIS, Norway) B. Moe (NINA, Tromsø, Norway)

Research group Bioarchaeology

Tall Hisban, 22 May—27 May. Archaeobotanical research of Tall Hisban, Jordan

Director : B.J. Walker (Missouri State University/University of Bonn)

Staff : A.M. Hansen

Cooperation : B.J. Walker (Missouri State University/University of Bonn); Oystein LaBianca (Andrews University); Dr. Chiara Corbino, Zooarchaeologist; Dr. Sofia Lapidou, Phytolith specialist

Note : Annette M. Hansen began archaeobotanical systematic sampling at Tall Hisban, Jordan of Mamluk period occupation layers.

Gordion, 15 June — 20 July. Archaeozoological research of Gordion, Turkey

Director : B. Rose (University of Pennsylvania)

Staff : C. Çakırlar

Participants : M. Post (The University of Groningen)

Cooperation : J. MacMarston (Boston University)

Note : Mirjam Post, student, had the opportunity to work with the Penn team for six weeks. I spent one week at the beginning and one week at the end with her.

Ulucak, 11 — 19 July. Archaeozoological research of Ulucak, Turkey

Director : Ö. Çevik (University of Thrace)

Staff : C. Çakırlar

Participants : Students from Tübingen University, Ege University, University of Thrace

Cooperation : Ç. Çilingiroglu (Ege University)

Alalakh (Tell Atchana), 22 – 24 July. Archaeozoological research in Bronze Age capital Alalakh, Turkey

Director : K. A. Yener (Koç University)

Staff : C. Çakırlar

Participants : Students and researchers from all over the world.

Note : Excavations did not take place this year due to war situation at the Syrian-Turkish border. The team met in Istanbul instead.

Klazomenai, 23 – 30 July. Archaeozoological research in Ionian Capital Klazomenai, Turkey

Director : Y. Ersoy (Hitit University)

Staff : C. Çakırlar

Participants : Students and researchers from various universities in Turkey

Cooperation : E. Koparal (Corum University)

1.2 Lectures and Poster Presentations

Armstrong, K.L.

- 28 May — 2 June, Vienna (Austria): 10th International Conference on Archaeological Prospection, 'The Many Scales of Rural Life in Protohistoric Italy.'
- 4 — 8 September, Pilsen (Czech Republic): 19th Annual Meeting of the European Association of Archaeologists, 'Walking before you run: Geophysical explorations of Rural Life in Protohistoric Italy.'
- 1 November, Rome (Italy): KNIR Public Lectures on Prospection Archaeology, 'Geophysics as a data source in Pre- and Protohistoric archaeology.'

Arnoldussen, S.

- 22 January, Vienna (Austria): *ÖGUF / Vortrag auf Einladung des AK Neolithikum/Bronzezeit*, 'At the river's mercy? ... The cultural Landscape of Bronze Age Farmers in the Rhine-Meuse river delta.'
- 21 November, Borger (The Netherlands): *AWN cursus archeologie*, 'Bronstijd (2.000 – 800 v. Chr.).'
- 10 December, Ezinge (The Netherlands): *AWN cursus archeologie*, 'Het verhaal van de prehistorie.' at the Museum Wierdland.

Attema, P.A.J.

- 31 January — 1 February, Groningen (The Netherlands): International Conference on Urbanization and State Formation in the Italian Iron Age, 'The people and the State, material Culture, Social Structure and Political Centralization in Central Italy (800-450 BC).' Introduction.
- 26 — 27 April 2017, Groningen (The Netherlands): International Mediterranean Survey Workshop, 'Session opening 'International Survey Projects.'
- 13 — 17 May 2017, Merida (Spain): XVIIIth International Congress of Classical Archaeology, 'The People and the State, on the Relationship between Burial Evidence and State formation in Central Italy (ca. 800 - 450 BC): Crustumium and Rome.'
- 13 — 17 May, Merida (Spain): XVIIIth International Congress of Classical Archaeology, 'The impact of infrastructural works on regional settlement systems: the via Appia and the Pontine marshes.'
- 23 — 24 May, Rome (Italy): *Conference Verso la conoscenza archeologica condivisa, III Convegno SITAR*, 'La sistematizzazione dei dati del IV Municipio, prospettive di ricerca e sviluppo.' with F. di Gennaro, P. Filippini, A. Malizia, B. Belelli Marchesini, A. Ceccarelli, A. Cecchetti.
- 27 July, Pontinia (Italy): Presentation of GIA fieldwork in the Pontine plain, 'The Pontine Region Project.'

- 20 – 22 September, Cambridge (United Kingdom): Frontiers of the European Iron Age, Conference with a Regional Focus on Central Italy, ‘Palus or Ager? Changing Perceptions of Economic Landscapes in the Pontine Region (South Lazio, Central Italy).’
- 7 – 9 November, Rome (Italy): The Age of Tarquinius Superbus. A Paradigm Shift?, ‘Survey.’ With Simon Stoddart (University of Cambridge).
- 7 – 9 November, Rome (Italy): The Age of Tarquinius. A Paradigm Shift?, ‘Archaic Urbanization and Ruralisation in Latium Vetus, the Archaeological Evidence.’ With Tymon de Haas, Jorn Seubers and Gijs Tol.
- 28 – 29 November, Rome (Italy): Rural Communities in a Globalizing Economy, New Perspectives on the Economic Integration of Roman Italy, ‘Rural Communities in a Globalizing Economy, New Perspectives on the Economic Integration of Roman Italy.’ Keynote lecture.
- 7 December 2011, Göttingen (Germany): Workshop U4 Archaeology/Ancient History: Landscape - Memory - Connectivity, ‘Teaching and Research / Research and Teaching at the Department of Archaeology/Groningen Institute of Archaeology.’ University Network Groningen, Göttingen, Gent and Uppsala.
- 13 December, Groningen (The Netherlands): GIA Research Day, ‘Geophysical results in the Crustumerium project - the use of geophysics on protohistoric sites.’ With Burkhard Ullrich (Eastern Atlas).
- 19 December, Groningen (The Netherlands): *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013), ‘Van kompas en kaart tot PDA en shape-file, 25 jaar landschapsarcheologie in TMA.’*

Bakker, M.

- 1 October, Leeuwarden (The Netherlands): Meeting AWF (*Argeologysk Wurkferbân*), ‘Op het spoor van de vroegste veenontginningen in Westergo. Het archeologisch onderzoek van een nederzetting uit de late ijzertijd en Romeinse tijd bij Arkum.’
- 16 November, Groningen (The Netherlands): *Reuvsdagen*, ‘Arkum en Wartena: nieuwe inzichten in de oudste Friese veenontginningen.’

Beckerman, S.M.

- 13 December, Groningen (The Netherlands): GIA Research Day, ‘Gebruik, rol en functie van nederzettingssaardewerk van de Enkelgrafcultuur.’

Çakirlar, C.

- 4 – 5 March, Tübingen (Germany): East and West: Phoenician Everyday Culture and Phoenician Societies from the Levant to Spain, ‘Archaeozoology of the Phoenician World: Dream or Possibility?’ Invited lecture.

- 17 April, Kiel (Germany): Socioenvironmental dynamics over the last 12,000 years: the creation of landscapes II, 'The biometry of *Sus scrofa* in Early Neolithic Anatolia as a proxy for understanding the diversity of westward neolithisation.' Invited lecture.
- 9 – 10 May, Izmir (Turkey): Theoretical Archaeology Meeting (1st) in Turkey, '*Kemikler kifayetsiz kalıyor.*'
- 24 – 27 June, Haifa (Israel): 11Th ASWA conference, 'Social diversity in LBIIa Amuq: Zooarchaeological evidence from recently excavated contexts at Alalakh.' Invited lecture.
- 5 July, Amersfoort (The Netherlands): Annual Meeting of Dutch Archaeozoologists, 'Logarithmic size index in archaeozoology.' Invited lecture.
- 21 October, Groningen (The Netherlands): GIA seminar series, 'Secondary Products Revolution already in the Neolithic? Origin vs. Scale.' Invited lecture.
- 16 November, Groningen (The Netherlands): *Reuensdagen*, '*Het gebruik van Archeozoölogische metadata (BoneInfo) binnen ecologische vraagstukken.*' Poster presentation with K. Eising (biology, RUG).
- 22 – 23 November, Istanbul (Turkey): 4. *Netzwerktreffen "Produktion: Stätten, Organisation und Ablauf*, 'Understanding Production and Power in Pre-Modern Anatolia: The Contribution of Archaeozoology.'" Invited lecture.
- 7 – 8 November, Ljubljana (Slovenia): 20th Neolithic Seminar, 'Unity vs. Diversity in Aegean Turkey during the 7-6th Millennia cal. BCE.' Invited lecture (with C. Cilingiroglu, Ege University).

Cappers, R.T.J.

- 2 February, Cairo (Egypt): Conference on the Bioarchaeology of Ancient Egypt, 'Modelling Shifts in Cereal Cultivation in Egypt from the Start of Agriculture Until Modern Times.'
- 18 April, Leiden (The Netherlands): NINO lezing, '*Van gerst tot broodtarwe. Ethno-archeologisch onderzoek naar de selectie van granen in het oude Egypte.*'
- 17 May, Paris (France): *Des grains et du vin dans l'Antiquité : entre aliments et médicaments*, 'Cereals, Ovens and Fuel. Modelling the Baking of Bread.'
- 3 July – 20 June, Thessaloniki (Greece): 16th Conference of the International Workgroup for Palaeoethnobotany, 'Modeling shifts in cereal cultivation in Egypt from the start of agriculture until modern times.'
- 13 December, Groningen (The Netherlands): GIA Research Day, '*Brood, brandstof en ovens: een etno-archeologisch onderzoek.*'

Dijkstra, T.M.

- 21 January, Groningen (The Netherlands): 2nd CRASIS Master Class: 'Cultural Encounters in the Ancient Mediterranean', 'Cultural Encounters in Roman Greece: Colonia Augusta Achaica Patrensis.'

- 27 May, Athens (Greece): Research Presentation at the Netherlands Institute Athens (NIA), 'Cultural Encounters in Patras: Burial and Commemoration in the first 100 years of the colony.'
- 6 July, Nottingham (United Kingdom): Nottingham University Conference: Processes of Integration in the Roman World, 'Cultural Encounters in Roman Patras: The Impact of Colonization.'
- 10 September, Groningen (The Netherlands): ReMa course Ancient History: 'Empire of Memory', 'The rise, decline and fall of the theory of Romanization.'
- 8 October, Groningen (The Netherlands): ReMa course Ancient History: 'Empire of Memory', 'Individual and Collective Memories: Funerary Practices and Cultural Identity.'
- 10 November, Heidelberg (Germany): *Altertumswissenschaftliches Studierendenkolloquium 3*, Ruprecht-Karls-Universität Heidelberg: 'Im Schatten der Alten? Ideal und Lebenswirklichkeit im römischen Griechenland', 'Cultural Encounters in Roman Patras: The Impact of Colonization.'

Groenendijk, H.A

- 24 February, Ezinge (The Netherlands): *Museumjeugduniversiteit cursus*, 'Droge voeten in Groningen?'
- 9 March, Garrelsweer (The Netherlands): Annual meeting Stichting Historie Garrelsweer, 'Waarom lokale historie zo belangrijk is. Archeologisch nieuws uit de omgeving van Garrelsweer.'
- 22 March, Groningen (The Netherlands): University of Groningen Course Landscape History of the Northern Netherlands (Kenniscentrum Landschap, T. Spek), 'Het landschap Westerwolde (Groningen).'
- 26 March, Groningen (The Netherlands): Research seminar GIA (with S. Voutsaki), 'Eigentijdse archeologie.'
- 2 April, Emden (Germany): Lecture series Interreg project 'Land van ontdekkingen/Land der Entdeckungen', 'Archäologie kennt keine Grenzen, oder doch?'
- 12 April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA)*, 'Expanding views.'
- 20 April, Groningen (The Netherlands): *Dag van de Noord-Nederlandse Archeologie (cooperation of AWN-Noord, DPV, Arg. Werkferbân, Groninger Archieven)*, 'Wie schrijft geschiedenis? De veranderde rol van amateurarcheologen.'
- 17 September, Noorderhoogebrug (The Netherlands): Lecture series *Groninger Landschap*, 'De wierde van Wierum.'
- 14 November, Siddeburen (The Netherlands): Annual meeting *Historische Vereniging Bie 't Schildt*, 'Achter de kust. Op het snijvlak van twee landschappen.'
- 16 November, Groningen (The Netherlands): *Reuwendagen, session Amateurarcheologen 2020*, 'Gaat het wel snel genoeg? Bundel kracht, creëer macht.'

- 16 November, Groningen (The Netherlands): *Reuvensdagen, session Terpen en Wierden, 'Archeologie onder de mensen. Gezamenlijk optrekken in het kustgebied.'*
- 26 November, Ezinge (The Netherlands): Landscape Course Archeologische Werkgemeenschap Nederland, *'De mens en het landschap; het Groninger landschap van prehistorie tot middeleeuwen.'*

Haas, T.C.A. de

- 15 – 17 January, Ghent (Belgium): Radio-past colloquium: Non-destructive approaches to complex archaeological sites in Europe: a round-up, 'Understanding minor centers: integrated non-invasive research at the site of Forum Appii.' Poster presentation, co-authored with Kayt Armstrong and Gijs Tol.
- 23 January, Amsterdam (The Netherlands): Symposium: The study of Roman landscapes and the use of GIS, 'The via Appia, nucleated and rural occupation and the reclamation of the Pontine marsh, central Italy.' Co-authored with Gijs Tol.
- 31 January, Groningen (The Netherlands): Conference "Settlements and state formation in Iron Age Central Italy", 'Central places and networks: exploring Roman settlement organization and economy.'
- 13 May, Mérida (Spain): AIAC conference, 'The impact of infrastructural works on regional settlement systems: the via Appia and the Pontine marshes.' Co-authored with G.W. Tol, K.L. Armstrong and P.A.J. Attema.
- 31 May, Rome (Italy): Workshop Paesaggi Coloniali nell'Italia Repubblicana, 'The colonization of the Pontine marshes: preliminary results of the Minor Centers project.' Co-authored with Gijs Tol.
- 18 June, Groningen (The Netherlands): GIA research seminar, 'Dealing with sampling issues in a regional landscape archaeological project: experiences from the Pontine Region Project.' Co-authored with Gijs Tol.
- 16 September, Groningen (The Netherlands): Crasis Seminar, 'Investigating Roman rural centres in the Pontine plain (Lazio, Central Italy): first results of fieldwork at the road stations of Forum Appii and Ad Medias.' Co-authored with Gijs Tol.
- 17 October, Rome (Italy): Università La Sapienza, *'Ricognizioni di superficie nella Pianura Pontina: metodi e risultati.'* Guest lecture in course 'Archeologia del Paesaggio', co-authored with Gijs Tol.
- 17 October, Borgo Faiti (Italy): Scuola Elementare, *'Antichi Romani a Borgo Faiti? Ricerche archeologiche nella pianura pontina.'* Guest lecture at primary school.
- 29 November, Rome (Italy): Conference Rural communities in a globalizing economy: new perspectives on the economic integration of Roman Italy, 'Demand, Infrastructural developments and economic integration: geographic approaches.'
- 8 November, Rome (Italy): Conference: The Age of Tarquinius. A Paradigm Shift?, 'The Ager Pomptinus and Rome: settlement developments in the Pontine Region between the 6th and 4th centuries BC.'

9 November, Rome (Italy): Conference: The Age of Tarquinius: A Paradigm Shift?, 'Archaic urbanisation and ruralisation, the archaeological evidence.' Co-authored with Peter Attema, Jorn Seubers and Gijs Tol.

Heinrich, F.B.J.

- 26 February, Groningen (The Netherlands): Capita Selecta Lectures Series, 'Nitrogen and carbon stable isotope analysis and manuring: Agricultural change and economic growth in the Upper Thames Valley from the Late Iron Age to the Early Roman Period: The Case of Gravelly Guy.'
- 19 – 22 March, Cambridge (United Kingdom): Current Research in Egyptology XIV conference, 'The Production of barley bread in Umm Mawagir (Kharga Oasis, Egypt).'
- 16 May, Oxford (United Kingdom): Oxford Paleobotany Group Seminar/ Oxford Diet/Stable Isotope Group Seminar, 'Nitrogen and carbon stable isotope analysis and manuring: Agricultural change and economic growth in the Upper Thames Valley from the Late Iron Age to the Early Roman Period: The Case of Gravelly Guy.'
- 28 – 29 November, Rome (Italy): Rural Communities in a Globalizing Economy conference, 'Archaeobotany and Agriculture in Roman Italy: An overview of current research and future directions.'

Hacquebord, L.

- 1 February, Amsterdam (The Netherlands): Nederlands Scheepvaartmuseum: 'Contacts between European Whalers and Russian Furhunters on Spitsbergen.'
- 25 April, Stadskanaal (The Netherlands): 'STOPAQ: SEALFORLIVE in the Arctic.'
- 21 May, Groningen (The Netherlands) Workshop Russia to-day SIB: 'Who Owns the North Pole.'
- 27 May, Groningen (The Netherlands) Afscheidscollege RUG Groningen: '*Noordpool: wildernis en wingewest.*'
- 25 June, Groningen (The Netherlands) International Summer school, 'The Arctic as energy producing area.'
- 04 June, Enschede (The Netherlands): Lecture at the TU Enschede, 'The Arctic as an energy producing area.'
- 17 October, Groningen (The Netherlands): Lecture at the Faculty of Spatial Science RUG, Groningen, 'Industrial developments in the Arctic.'
- 28 September, Harlingen (The Netherlands): Lecture at the opening of an exhibition in Harlingen, 'Shipping routes through the Arctic.'

28 November, Lecture at the energy battle meeting: Arctic Strategic Dynamics.
 16 December, Amsterdam (The Netherlands): Lecture Spui 25: The Arctic as energy producing area.

Hansen, A.M.

27 May, Madaba (Jordan): Tall Hisban Excavations Seminar series, 'An Introduction to Archaeobotany.'
 13 December, Groningen (The Netherlands): GIA Research Day, 'Revisiting the Arab Agricultural Revolution.'

Holk, A.F.L. van

21 February, Emmeloord (The Netherlands): *Lezingserie Bibliotheken Flevoland*, 'IFMAF, Excavation shipwreck near Lelystad.'
 4 March, Groningen (The Netherlands): Course HOVO, 'Viking Age shipbuilding, the Nordic tradition.'
 6 March, Dronten (The Netherlands): *Lezingenserie Bibliotheken Flevoland*, 'IFMAF, Excavation of shipwreck near Lelystad.'
 7 November, Steenwijk (The Netherlands): A&O days, 'Waterbodems.'
 16 November, Groningen (The Netherlands): *Reuvensdagen*, 'Maritime archaeology, education, research, public and policy.'

Ippolito, F.

11 June, Groningen (The Netherlands): GIA seminar *Capita Selecta*, 'The Galleria dei Vasi in the Cave Sant'Angelo II. New data on the Protoapennine period in the Sibaritide.'

Jones, O.A.

4 March, Groningen (The Netherlands): Guest Lecture in Dr. Çakırlar's Zooarchaeology course, 'Introduction to Bioarchaeology.'
 7 May, Leiden (The Netherlands): Leiden Archaeological Forum Lecture, 'Bioarchaeological and Anthropological Approaches to Mycenaean Burial.'

Jong, L. de

25 January, Leiden (The Netherlands): *Veldwerkdag RMO*, 'Noord Irak tussen Alexander de Grote en Keizer Valerianus: de eerste resultaten van de Harvard Erbil Plain Archaeological Survey.' Invited speaker.
 4 January, Seattle (United States of America): Annual meeting of the Archaeological Institute of America (AIA), 'On the grounds of Gaugamela: Imperial landscapes in the Erbil Plain (with Jason Ur).' Peer-reviewed conference.
 15 March, Groningen (The Netherlands): Groningen Islamic Studies lecture series, 'Cities in the Steppe: North Mesopotamian urbanization in the Early Islamic period.' Invited speaker.

27 April, Groningen (The Netherlands): International Mediterranean Survey Workshop 2013, 'Introduction to panel: Surveys in the Near East.'

Jordan, P.

7 September, Pilsen (Czech Republic): Annual meeting EAA, 'Comparative perspectives on hunter-gatherer archaeology in Northeast Asia.' Keynote lecture.

Langen, G.J. de

20 April, Groningen (The Netherlands): *Opening van de Dag van de Noord-Nederlandse archeologie te Groningen.*

8 November, Lemmer (The Netherlands): *De vroegste veenontginningen in Friesland: stand van het archeologisch en landschapshistorisch onderzoek. Studiedag Verleden, heden en toekomst van de veenweidegebieden in Fryslân georganiseerd door het Wetterskip Fryslân, het Nederlands Veengenootschap en het Kenniscentrum Landschap van de RUG.*

16 November, Groningen (The Netherlands): *Reuwendagen, 'Inleiding tot de Lezingensessie Terpen en Wierden.'*

Leusen, P.M. van

1 February, Groningen (The Netherlands): Workshop 'Urbanisation and state formation in the Italian Iron Age', 'Rural Life in Protohistoric Italy: how to study it.'

20 September, Grosseto (Italy): Workshop 'Predicting Prehistory. Predictive models and field research methods for detecting prehistoric contexts', 'Detecting unobtrusive pre- and protohistoric remains in the Raganello Basin: recent experiences and results from the Rural Life Project.'

5 September, Pilsen (Czech Republic): 19th Annual Meeting of the EAA, 'An Experimental Lithics Survey in Northern Calabria (Italy).'

6 September, Pilsen (Czech Republic): 19th Annual Meeting of the EAA, 'Roundtable Introduction.' with Bevan, Armstrong, and de Neef.

6 – 7 December, Amsterdam (The Netherlands): International Survey Workshop, 'Burial and exposure processes in an undulating landscape.'

Lindenhout, E. van't

1 February, Groningen (The Netherlands): Workshop on Urbanisation and State Formation in the Italian Iron Age, 'Architecture of the proto-urban Landscape of Latium Vetus.'

7 November, Rome (Italy): 'The Age of Tarquinius Superbus. A paradigm shift?' held at the KNIR. Poster presentation with S. Filatova entitled: 'Fire! on the Acropolis of Satricum. A Preliminary analysis of grumi discovered in 1987-1989.'

9 November, British School, Rome (Italy): Conference: 'The Age of Tarquinius Superbus. A Paradigm Shift?', 'House form and social complexity in Latium vetus in the 6th c. BC.'

19 December, Groningen (The Netherlands): Symposium: *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013), 'De iconografie van de site, dertig jaar architectuuronderzoek.'*

Loonen, M.J.J.E.

- 23 April, Groningen (The Netherlands): Willem Lodewijk College, 'A biologist as researcher.' Plenary lecture for 4th grade high school students in their science week.
- 25 April, Groningen (The Netherlands): Centre for Evolutionary and Ecological Studies, 'Variability, change and adaptation in Arctic migratory birds.' Keynote lecture.
- 12 July, Ny-Ålesund, Spitsbergen (Norway): Svalbard kurset: course for Norwegian governmental employees, 'Arctic goose ecology.'
- 8 July, Ny-Ålesund, Spitsbergen (Norway): Visit of US congressmen, 'Ecological research on geese.'
- 18 September, Brussels (Belgium): EU headquarters on invitation at the EU Arctic dialogue with indigenous people, 'A historic perspective on Arctic European involvement with the Arctic.'
- 10 October, Rome (Italy): NySMAC science conference, 'Geese adapting to a changing environment.'
- 30 October, Ede (The Netherlands): Reehorst Congress Centre: *Landelijke Dag Vogelonderzoek, 'Brandganzen op Spitsbergen.'*
- 28 November, Groningen (The Netherlands) Symposium 25th anniversary of the Centre for Canadian Studies, 'Biological Studies on the Hudson Bay Lowlands near Churchill, Manitoba.' Keynote lecture.

Neef, W. de

- 15 – 17 January, Ghent (Belgium): Radio Past colloquium, 'Poster, Macro to Micro: Multi-scalar approaches to the interpretation of protohistoric surface scatters.'
- 4 – 8 September, Pilsen (Czech Republic): EAA conference, 'You can't make an omelet without breaking some eggs. Why a little bit of invasive research could go a long way.'

Nieuwhof, A.

- 12 April, Groningen (The Netherlands): *Cursus Cultuurlandschappen, 'Mens en kwelderlandschap in de ijzertijd en de Romeinse tijd.'*
- 24 September – 29 October, Groningen and Leeuwarden (The Netherlands): *Cursus Seniorenacademie, 'Wonen op terpen en wierden. De archeologie van het noord-Nederlandse kustgebied.'* Collegeserie (5x).
- 16 November, Groningen (The Netherlands): *Reuvensdagen, 'De vondsten van Ezinge en verder. Resultaten van een Odyssee-project.'*
- 18 December, Adorp (The Netherlands): *Lezing Historische kring Ubbega, 'Bijzondere vondsten uit de wierden van het Reitdiepgebied.'* Public lecture.

Panagiotopoulou, E.

- 27 — 30 August 2012, Lille (France): 19th European meeting of the Paleopathology Association, 'Diet Reconstruction with Stable Isotope Analysis of Human Skeletal Remains of the Early Iron Age site, Agios Dimitrios in Central Greece.'
- 13 December, Groningen (The Netherlands): GIA Research Day, 'The Protogeometric cemeteries of ancient Halos, carbon and nitrogen isotopic results.'

Peeters, J.H.M.

- 20 March, Assen (The Netherlands): *Drentse Prehistorische Vereniging*, 'Mesolithische jager-verzamelaarslandschappen. Over continuïteit en discontinuïteit van landschapsgebruik na de laatste ijstijd.'
- 12 April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA) 2013*, 'Shifting scales: hunter-gatherer behavioural variability, landscape dynamics, and perception.' Keynote lecture.
- 24 September, Szczecin (Poland): Final SPLASHCOS meeting 'Under the Sea: Archaeology and Palaeolandscapes', 'Flooded landscapes, human cultural divergence, and the North Sea basin.' Co-authored by G. Momber.
- 25 September, Szczecin (Poland): Final SPLASHCOS meeting 'Under the sea: archaeology and palaeolandscapes', 'Drowned Prehistoric Landscapes and Archaeology in the Dutch Sector of the North Sea: Trying to get the picture.' Co-authored by H. Weerts, A. Otte, E. Vreenegoor, G. Erkens, L. Vonhögen-Peeters, S. Heteren.
- 5 — 8 November, Schleswig (Germany): Meeting of UISPP The Final Palaeolithic of Northern Eurasia, 'Hamburgian Hunter-Gatherers in the Ice-Pushed Hills of the Central Netherlands.' Lecture co-authored by Dr. E. Rensink.

Pelgrom, J.

- 31 January-2 February, Geneva (Switzerland): Conference at the Fondation Hardt, '*Entre archéologie et Histoire: dialogues sur divers peuples de l'Italie préromaine.*' Invited chair.
- 16 April, Groningen (The Netherlands): Capita Selecta Seminars, 'Settlement models and imperial success in Republican Italy.'
- 25 May, Roccaravindola/Montaquila (Italy): Workshop *tecnico su agricoltura, ambiente, alimentazione.* 'Un'esperieza archeologica olandese in Molise.' Paper co-authored by Dr. T. D. Stek.
- 31 May, Rome (Italy): *Conference Paesaggi Coloniali nell'Italia Repubblicana*, 'Landscapes of Early Roman colonization.' Paper co-authored by Dr. T. D. Stek. 20-21 September, Veleia (Italy): *IV Convegno Internazionale di Studi Veleiati*, 'Nuove riflessioni sulle colonie latine di Venusia e Aesernia.' Lecture co-authored by Dr. E. Modrall.

1 November, Rome (Italy): Public lectures, prospection Archaeology in Italy. 'preliminary results of the Mapping the Via Appia project.' Paper co-authored by Dr. S.T. A.M Mols and Dr. S. Soetens.

Raemaekers, D.C.M.

13 February, Assen (The Netherlands): Lecture for local amateurs, *'Tussen Swifterbant-S3 en D15-Loon. Nieuwe ontwikkelingen in het onderzoek van de jonge steentijd van Noord-Nederland.'*

20 April, Groningen (The Netherlands): *Dag voor de Noord-Nederlandse Archeologie, 'Van Giffen en de Drentse hunebedden.'*

18 June, Groningen (The Netherlands): University meeting on digital data management, *'Digitale archeologie: wetten en wensen.'*

26 October, Groningen (Netherlands): Lecture Series Historisch Genootschap, *'Van Giffen en de Drentse hunebedden.'*

7 November, Borger (The Netherlands): Lecture series on Dutch archaeology, *'Neolithicum.'*

19 December, Leiden (The Netherlands): Symposium on neolithisation, *'Old food in new pots. Becoming Neolithic by potting and eating.'*

3 December, Groningen (The Netherlands): Lecture series on history of science, *'Van Giffen en de Drentse hunebedden.'*

Scheepstra, A.J.M.

19 December, Groningen, (The Netherlands): Symposium 'Arctic mining - past practices, present parallels', *'ARCTIC MINING: from present to future.'*

Schepers, M.

16 January, Assen (The Netherlands): *Lezing Drents Prehistorische Vereniging, 'Van keileemplateau tot kwelderwal: een vergelijking tussen de plantaardige voedselvoorziening van het terpengebied en Drenthe.'*

16 November, Groningen (The Netherlands): *Reuwendagen, 'Graanverbouw in het terpengebied.'*

14 December, Nijmegen (The Netherlands): *Florondag, 'Het heden als sleutel voor het verleden: vegetatiereconstructie in de archeobotanie.'*

Seubers, J.F.

31 January, Groningen (The Netherlands): workshop on state formation in Italy (lecturer)

1 February, Groningen (The Netherlands): specialist workshop on Crustumerium (lecturer).

26 April, Groningen (The Netherlands): International Mediterranean Survey Workshop (lecturer).

- 5 May, Rome (Italy), Landscape and Memory in ancient Latium (lecturer).
 11 – 21 May, Rome (Italy): Ancient Latium Workshop, ‘Archaic ruralisation in Crustumerium.’
 7 November, Rome (Italy), Tarquinius Superbus conference (poster).
 7 November, Rome (Italy): The Age of Tarquinius. A Paradigm Shift?, ‘Archaic Urbanization and Ruralisation in Latium Vetus, the Archaeological Evidence.’ With Peter Attema, Tymon de Haas, and Gijs Tol.
 18 November, Rome (Italy): AIAC meeting at Swedish institute (lecturer).
 6 December, Amsterdam (Netherlands), International Mediterranean Survey Workshop (lecturer).

Terpstra, T.K.

- 14 February, Groningen (The Netherlands): Guest contribution to Minor Arctic Studies/Module on the Arctic Discourse, ‘*Een introductie: ‘het’ Arctisch gebied en de bewoners.*’
 11 March, Groningen (The Netherlands): Participation in Expert Meeting – Inuit Studies/Northern Studies, on the occasion of professor Daniel Chartier’s visit to Groningen, ‘Representations of and by Inuit Migrants in Denmark and Southern Canada.’

Tol, G.W.

- 15 – 17 January, Ghent (Belgium): Conference: Radio-past, radiography of the past, ‘Understanding minor centers: integrated non-invasive research at Forum Appii (Lazio, Italy).’ Co-authored with T.C.A. de Haas and K.L. Armstrong.
 23 January, Amsterdam (The Netherlands): Symposium: The study of Roman landscapes and the use of GIS., ‘The via Appia, nucleated and rural occupation and the reclamation of the Pontine marsh, central Italy.’ Co-authored with T.C.A. de Haas.
 6 May, Groningen (The Netherlands): Guest-lecture within the course ‘*Villa's en boeren*’, ‘Fora, stationes, and sanctuaries: the role of minor centers in the economy of Roman Central Italy.’
 13 May, Merida (Spain): Conference of the ‘*Associazione Internazionale di Archeologia Classica*’, ‘The impact of infrastructural works on regional settlement systems: the via Appia and the Pontine marshes.’ Co-authored with T.C.A. de Haas, K.L. Armstrong and P.A.J. Attema.
 31 May, Rome (Italy): Workshop *Paesaggi Coloniali nell’Italia Repubblicana.*, ‘The colonization of the Pontine marshes: preliminary results of the Minor Centers project.’ Co-authored with T.C.A. de Haas.
 18 June, Groningen (The Netherlands): GIA Research Seminar, ‘Dealing with sampling issues in a regional landscape archaeological project: experiences from the Pontine Region Project.’ Co-authored with T.C.A. de Haas.

- 27 July, Pontinia (Italy): Lecture for the general public at the Museo del Agro Pontino, *'Il sito romano di Ad Medias e il suo territorio. Primi risultati di un progetto archeologico per ricostruire la storia insediativa della pianura pontina.'*
- 16 September, Groningen (The Netherlands): CRASIS Ancient World Seminar, 'Investigating Roman rural centres in the Pontine plain (Lazio, Central Italy): First results of fieldwork at the road stations of Forum Appii and Ad Medias.' Co-authored with T.C.A. de Haas.
- 17 October, Rome (Italy): Guest lecture at La Sapienza University, *'Ricognizioni di superficie nella Pianura Pontina: metodi e risultati.'* Co-authored with T.C.A. de Haas.
- 30 October, Pontinia (Italy): Lecture at elementary school in Pontinia, *'Antichi Romani a Ad Medias. Ricerche archeologiche nella pianura pontina.'*
- 9 November, Rome (Italy): Conference: The Age of Tarquinius Superbus. A paradigm shift?, 'Archaic urbanisation and ruralisation in Latium Vetus, the archaeological evidence.' Co-authored with P.A.J. Attema, T.C.A. de Haas and J.F. Seubers.
- 29 November, Rome (Italy): Conference: Rural communities in a globalizing economy: new perspectives on the economic integration of Roman Italy, "From surface find to consumption trend: a ceramic perspective on the economic history of the Pontine Region (Lazio, Central Italy) in the Roman period."
- 12 December, Groningen (Netherlands): *Loopbaandag Bachur*, *'Een zelf gefinancierde promotie: mogelijkheden en valkuilen.'*

Varwijk, T.W.

- 30 October, Leeuwarden (The Netherlands): *Provinciale beroepenvoorlichting NHL*, *'Beroepenvoorlichting Archeologie.'*
- 16 November, Groningen (The Netherlands): *Reuwendagen*, *'Saksenoord, een eerste bericht over nieuw terpzoelonderzoek.'*

Voutsaki, S.

- 26 March, Groningen (The Netherlands): GIA Research Seminar, 'The past in the present. A discussion and a case-study from the Mediterranean.' Joint lecture with H. Groenendijk.
- 12 April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA)*, 'Archaeology, science and theory. Towards a successful integration.' Keynote lecture.
- 14 June, Groningen (The Netherlands): Mortuary Studies Group, 'Contextual analysis.'
- 26 August, Groningen (The Netherlands): *Introductiedag*, 'The Archaeology of Death: Theory and Practice.'
- 16 – 17 October, Groningen (The Netherlands): Greek Archaeology Conference I, Explaining Social Change in Aegean Prehistory, 'A society in flux. Social change in the MH Argolid.'

26 November, Groningen (The Netherlands): Inaugural lecture, 'Archaeology of / in a changing society.' Keynote lecture.

12 December, Groningen (The Netherlands): *Loopbaanochtend*, 'Doing a PhD Abroad.'

13 December, Groningen (The Netherlands): GIA Research Day 2013, 'The Northern Cemetery in Ayios Vasilios.'

Wiersma, C.W.

16 – 17 October, Groningen (The Netherlands): Greek Archaeology Conference I, Explaining Social Change in Aegean Prehistory, 'Building the Bronze Age. Architectural and social change on the Greek Mainland during Early Helladic III, Middle Helladic and Late Helladic I.'

Willemsen, S.L.

28 March, Groningen (The Netherlands): *Een dag student*, 'Grafveldonderzoek in Centraal-Italië.'

16 September, Groningen (The Netherlands): Death Squad Meeting, 'Mortuary studies at Crustumerium.'

19 December, Groningen (The Netherlands): Conference *Tijdschrift Mediterrane Archeologie*, 'Acht jaar Gronings grafveldonderzoek in Crustumerium.'

1.3 Working Visits and Events, including conferences, workshops, and meetings

Armstrong, K.L.

- 14 – 17 January, Gent (Belgium): RadioPast Colloquium: Non-destructive approaches to archaeological sites in Europe: a round up. Presented a poster as part of my role in the Minor Centers project titled: Understanding minor centers: integrated non-invasive research at Forum Appii (Lazio, Italy).
- 31 January – 1 February, Groningen (The Netherlands): Workshop participation: Urbanisation and State formation in the Italian Iron Age.
- 22 – 23 February, London (United Kingdom): Computer Applications and Quantitative Methods in Archaeology: United Kingdom chapter meeting.
- 4 – 8 September, Pilsen (Czech Republic): 19th Annual Meeting of the European Association of Archaeologists: Co-Organiser of roundtable 'Far From the Madding Crowd: interpreting the ephemeral evidence for rural life'. Co-organiser with P.M. van Leusen, W. de Neef (GIA) and A. Bevan (UCL).
- 1 November, Rome (Italy): Geophysical Survey and Archaeology: Magnetic Susceptibility. Guest lecture to participants in KNIR Masterclass in geophysical prospection.

Arnoldussen, S.

- 18 October, Amersfoort (The Netherlands): Organizer: *1e Metaaltijdendag* (Conference on Archaeology of the Bronze- and Iron Age).

Attema, P.A.J.

- 31 January – 1 February, Groningen (The Netherlands): International Conference on Urbanization and State Formation in the Italian Iron Age, 'The people and the State, material Culture, Social Structure and Political Centralization in Central Italy (800-450 BC).
- 22 – 23 April, Delft University of Technology: Workshop 'Between Human Niche Construction and Imperial Power: Long-term trends in Ancient Water Systems.'
- 26 – 27 April 2017, Groningen (The Netherlands): International Mediterranean Survey Workshop.
- 13 – 17 May, Merida (Spain): XVIIIth International Congress of Classical Archaeology
- 21 May, Amsterdam (The Netherlands): Promotion committee A. Scelza, VU.
- 21 – 23 September, Cambridge (United Kingdom): Frontiers in the European Iron Age.
- 13 – 15 October, Agro Pontino (Sermoneta, Italy): Working visit to Minor Centers Project (Dr. T.C.A. de Haas and Dr. G.W. Tol).
- 7 November, KNIR, Rome: Workshop: The Age of Tarquinius Superbus. A Paradigm Shift? Acted as panel member.

- 8 – 9 November, British School, Rome (Italy): Conference: The Age of Tarquinius Superbus. A Paradigm Shift? Chaired a session.
- 27 November, Rome (Italy): Meeting with superintendent E. Calandra and inspector N. Cassieri.
- 13 December, Groningen (The Netherlands): GIA Research Day.
- 19 December, Groningen (The Netherlands): Symposium: *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013)*.

Beckerman, S.M.

- 15 – 18 April, Kiel (Germany): Socio-environmental dynamics over the last 12.000 years: the creation of landscapes III.
- 19 – 21 September, Padova (Italy): European meeting Ancient Ceramics (EMAC). Poster presentation: Corded Ware settlement ceramics.

Çakirlar, C.

- 6 November, Leiden (The Netherlands): Study Brandwijk material.
- 7 November, Alphen (The Netherlands): Sample de Bruin animal bone material.

Cappers, R.T.J.

- 19 – 21 March, Coimbra (Portugal): *Curso Intensivo em Análises e Práticas Arqueobotânicas*.
- 2 – 6 June, Istanbul (Turkey): Starting up educational exchange environmental archaeology with Koç University.
- 18 – 25 August, Tell Begem (Iraq): Working visit.
- 13 – 19 October, Tell Shemshara (Iraq): Working visit.

Dijkstra, T.M.

- 20 – 21 January, Groningen (The Netherlands): Annual Meeting CRASIS: 'Cultural Encounters in the Ancient Mediterranean'.
- 28 April – 4 May, Athens (Greece): NIA Course: Advanced Modern Greek.
- 5 – 7 July, Nottingham (United Kingdom): Nottingham University Conference: 'Processes of Integration in the Roman World'.
- 1 – 2 November, Nunspeet (The Netherlands): OIKOS Nunspeet Seminar: 'Evidence'.
- 8 – 10 November, Heidelberg (Germany): *Alttertumswissenschaftliches Studierendenkolloquium 3*, Ruprecht-Karls-Universität Heidelberg: 'Im Schatten der Alten? Ideal und Lebenswirklichkeit im römischen Griechenland'.
- 13 December, Groningen (The Netherlands): Annual Meeting GIA.
- 19 December, Groningen (The Netherlands): *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013)*.'

Groenendijk, H.A

- 13 – 14 June, Aurich (Germany): Annual meeting *Archäologische Kommission Niedersachsen*.
- 20 September, Groningen (The Netherlands): Opening exhibition project '*Land van ontdekkingen/Land der Entdeckungen*' Groninger Museum.
- 5 October, Groningen (The Netherlands): Annual meeting *Dag van de Groninger Geschiedenis* (Groninger Archieven).
- 11 October, Assen (The Netherlands): Opening exhibition '*Land van ontdekkingen/Land der Entdeckungen*' Drents Museum.
- 15 – 16 November, Groningen (Netherlands): *Reuvensdagen*.

Haas, T.C.A. de

- 11 January, Utrecht (The Netherlands): Board meeting *Stichting Vrienden van het KNIR*.
- 27 February, Nettuno (Italy): Meeting at the Poligono Militare di Nettuno.
- 18 March, Groningen (The Netherlands): Crisis Seminar. Introduced the speaker Stephan Mols.
- 12 April, Groningen (The Netherlands): Annual *Symposium Onderzoek Jonge Archeologen (SOJA)*. Acted as session chair.
- 7 June, Utrecht (The Netherlands): Board meeting *Stichting Vrienden van het KNIR*.
- 25 October, Mesa di Pontinia (Italy): Meeting with ispettrice of the soprintendenza N. Cassieri.
- 27 November, Rome (Italy): Meeting with soprintendente E. Calandra and ispettrice of the soprintendenza N. Cassieri.
- 13 December, Groningen (The Netherlands): Annual meeting GIA.
- 19 December, Groningen (The Netherlands): *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013)*. Invited as session chair.

Hacquebord, L.

- 1 February, Amsterdam (The Netherlands): Workshop, Russian-Dutch maritime contacts in the 18th century, Nederlands Scheepvaart Museum.
- 14 March, The Hague (The Netherlands): *Interdepartementaal overleg BUZA*.
- 15 March, Utrecht (The Netherlands) Project Delta Group TNO.
- 26 March, Groningen (The Netherlands): *Overleg met Leo Tops, Shell*.
- 26 April, Groningen (The Netherlands): *Overleg met Patrick Brandt, BUZA*.
- 08 April, Amsterdam (The Netherlands): Russia Business meeting Beurs van Berlage.
- 09 April, Utrecht (The Netherlands): *Nederlandse Pool Commissie, NWO*.
- 13-19 April, Krakau (Poland): Arctic Science Summit Week.
- 25 April, Stadskanaal (The Netherlands): STOPAQ Congres Stadskanaal.
- 06 May, Harlingen (The Netherlands): Visit to the shipyard of the replica ship of Willem Barentsz.

- 21 May, Workshop Russia today SIB Groningen
- 27 May, *Afscheidscollege Noordpool: wildernis en wingewest*
- 28 May, *Afscheidssymposium met diverse gasten organisatie Annette Scheepstra, Maarten Loonen.*
- 12 June, *Interdepartementaal Pool Overleg BUZA.*
- 18 June, NWO Brainstormen symposium
- 25 June, International Summerschool RUG, Groningen
- 27 June, Canada-day *Canadeese ambassade, Wassenaar.*
- 15 July, *Bezoek aan Ny Alesund Spitsbergen onderzoekvoorbereiding en tv opnames Labirint VPRO.*
- 06 August, *Bezoek Drs B. Ten Tusscher, Ambassadeur in Oslo, Groningen*
- 28 August – 15 September, *Expeditie naar Groenland met Alumni RUG.*
- 28 September, Opening Exhibition in Harlingen on the shipyard of the replica of Willem Barentsz
- 09 September, *Nederlandse Pool Commissie NWO in Utrecht*
- 29 October, *Afscheid van Kitty van der Heide as director of DES BUZA, Den Haag.*
- 28 November, Energy battle meeting IGU Den Haag.
- 16 December, Strategy discussion future polar research NWO Den Haag
- 16 December Discussing Arctic Oil drilling Spui 25 Amsterdam with representatives of Greenpeace and BUZA.
- 19 December, PhD defense of Frigga Kruse RUG, Groningen.

Hansen, A.M.

- 13 December, Groningen (The Netherlands): GIA Research Day.

Heinrich, F.B.J.

- 31 January – 1 February, Groningen (The Netherlands): Urbanisation and state formation in the Italian Iron Age, conference.
- 19 – 22 March, Cambridge (United Kingdom): Current Research in Egyptology XIV conference.
- 12 April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA) 2013.* Session chair for two sessions.
- 17 May, Oxford (United Kingdom): Meeting on my project's papyrological methodology with Prof. Dr. Roger Bagnall.
- 28 – 29 November, Rome (Italy): Rural Communities in a Globalizing Economy conference.
- 13 December, Groningen (The Netherlands): GIA Research Day.
- 19 December, Groningen (The Netherlands): Symposium: *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013).*

2 December, Rome (Italy): Working visit (and collaboration talks) to Bioarchaeological Institute of the Sapienza / prof. Dr. L. Constantini.

Holk, A.F.L. van

24 – 26 April, Antwerpen (Belgium): Research on the Doeler Cog.

14 May, Groningen (The Netherlands): Working Group (post)medieval archaeology.

12 September, Lelystad (The Netherlands): *Pasta cursus*.

15 October, Groningen (The Netherlands): Working Group (post)medieval archaeology.

13 November, Groningen (The Netherlands): Annual meeting GIA.

15 – 16 November, Groningen (The Netherlands): *Reuvsdagen*.

25 – 27 November, Gdansk (Poland): Preparation ISBSA 14 in 2015.

10 December, Groningen (The Netherlands): Working Group (post)medieval archaeology.

Ippolito, F.

31 January – 1 February, Groningen (The Netherlands): Urbanisation and State formation in the Italian Iron Age.

1 February, Groningen (The Netherlands): PhD thesis assessment meeting. First meeting with Marco Pacciarelli.

2 February, Amsterdam (The Netherlands): Ceramic perspectives on connectivity in the ancient Mediterranean.

26 – 27 April, Groningen (The Netherlands): International Mediterranean Survey workshop.

2 May, Naples: Phd thesis assessment meeting. Second meeting with Marco Pacciarelli.

6 – 7 December, Amsterdam (The Netherlands): International Mediterranean Survey Workshop.

Jones, O.A.

16 – 18 May, Athens (Greece): Meeting contacts in the American School of Classical Studies.

20 – 24 May, Patras (Greece): Meeting Greek archaeologists at the Achaia Directorate to arrange access to excavation notes and skeletal material.

23 – 27 September, Patras (Greece): Meeting with Greek archaeologists and transportation of skeletal material to Athens laboratory.

30 November, Leiden (The Netherlands): DNA Today, Dutch Association for Physical Anthropology (NFVA).

Jordan, P.

3 – 7 April, Honolulu, Hawaii (United States of America): Annual meeting Society for American Archaeology (United States of America). Co-organised session (with K. Gibbs): 'Circumpolar ceramics: pottery technology and the 'foraging spectrum'.'

- 13 – 19, April, Krakau (Poland): Arctic Science Summit Week.
- 4 September – 8 September 2014, Pilsen (Czech Republic): Annual Meeting European Association of Archaeologists. Co-organised session (with A. Weber): Comparative perspectives on hunter-gatherer archaeology in Northeast Asia.
- 7 September, Pilsen (Czech Republic): Annual meeting EAA, 'Comparative perspectives on hunter-gatherer archaeology in Northeast Asia.' Keynote lecture. This was the session opening paper in the above EAA session.

Jong, L. de

- 21 January, Groningen (The Netherlands): CRASIS Annual Meeting.
- 25 January, Leiden (The Netherlands): *Veldwerkdag RMO*.
- 3 – 6 January, Seattle (United States of America): Annual meeting of the Archaeological Institute of America (AIA).
- 9 – 11 January, Cambridge (United States of America): Research visit to Harvard University.
- 12 April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA)* conference.
- 22 April, Delft (The Netherlands): Workshop Niche Water Systems (TU Delft).
- 26 – 27 April, Groningen (The Netherlands): International Mediterranean Survey Workshop.
- 2 – 9 June, Isparta (Turkey): Exploratory mission to North Pisidia (Turkey) at the invitation of Süleyman Demirel University.

Leusen, P.M. van

- 30 April, Mol (Belgium): Progress meeting on the BELSPO-ANAGHLIA project.
- 21 May, Amsterdam (The Netherlands): Promotion committee A. Scelza, VU.
- 10 June, Valthe (The Netherlands): Excursion to RUG 1st year's fieldwork project Valthe.
- 18 June, Leiden (The Netherlands): Preparation of an NWO funding application (Avellino Event).
- 30 August, Esterwegen (Germany): Excursion Landscape History: the Emsland peat landscape.
- 6 September, Pilsen (Czech Republic): 19th Annual Meeting of the EAA. Organized (with A. Bevan, K.L. Armstrong and W. de Neef) a roundtable session 'Far from the madding crowd - interpreting the ephemeral evidence for rural life'.
- 13 December, Groningen (The Netherlands): Annual meeting GIA.
- 2 – 3 December, Antwerpen (Belgium): Steering Committee meeting of the BELSPO-ANAGHLIA project.
- 5 December, Leiden (The Netherlands): Preparation of an NWO funding application (Avellino Event).

Lindenhout, E. van't

31 January — 1 February, Groningen (The Netherlands): Workshop on Urbanisation and State Formation in the Italian Iron Age.

7-9 November, KNIR, Rome: Workshop: The Age of Tarquinius Superbus. A Paradigm Shift?

13 December, Groningen (The Netherlands): Annual meeting GIA.

19 December, Groningen (The Netherlands): Symposium: *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013)*.

Loon, T. van

4 February — 3 April, Civit  Castellana, Tarquinia, Viterbo, Vulci, and Cerveteri (Italy). A two months visit to Italy for library visits in Rome and visiting museums in Latium and Etruria.

26 October — 10 November, Rome and Sermoneta (Italy): Library visits in Rome. Included a three day visit to a conference in Rome (7-9 November 2013): The Age of Tarquinius Superbus. A Paradigm Shift?

Loonen, M.J.J.E.

10 — 16 February, Yakutsk (Russia): CAFF biennial Arctic Biodiversity.

13 April — 19 April, Krakau (Poland): Arctic Science Summit Week.

6 — 12 October, Rome (Italy): NySMAC science symposium.

1 November, The Hague (The Netherlands): Polar symposium.

28 November, Groningen (The Netherlands): Canadian Study Centre Symposium.

Neef, W. de

31 January — 1 February, Groningen (The Netherlands): Crustumerium symposium.

19 March, Rome (Italy): *Anatomia del Potere: Strategie, Rappresentazioni e Trasformazioni tra la MBA e PF symposium*.

26 — 27 April, Groningen (The Netherlands): Mediterranean Survey Workshop.

19 — 20 September, Grosseto (Italy): Workshop Predicting Prehistory: Predictive Models and Field Research Methods for detecting prehistoric contexts.

13 December, Groningen (The Netherlands): Annual meeting GIA.

Nicolay, J.A.W.

17 — 24 August, (Iraq): Visiting several tell sites. The visit was aimed at understanding the similarities and differences in structure and conservation of archaeological remains in tells versus terp - the last being characteristic of the coastal area of the Northern Netherlands and the present focus of the Terp Research Project at the GIA.

7 — 11 September, Paderborn (Germany): 64. *Internationales Sachsensymposion*.

16 November, Groningen (The Netherlands): *Reuvsdagen*.

13 December, Groningen (The Netherlands): GIA Research Day.

Nieuwhof, A.

27 February, Aurich (Germany): Press conference *Land der Entdeckungen-project*.

20 April, Groningen (The Netherlands): *Dag van de Noord-Nederlandse Archeologie*.

20 June, Firdgum (The Netherlands): *Opening zodenhuis*.

27 August, Lollum (The Netherlands): *Bezoek opgraving GIA*.

7 – 11 September, Paderborn (Germany): *Sachsensymposium*.

12 September, Leeuwarden (The Netherlands): *Opening/voorbezigting Fries Museum*.

20 September, Groningen (The Netherlands): Opening '*Het verdrongen land is vruchtbaar*', Groninger Museum.

1 November, Groningen (The Netherlands): Symposium: *De dood van het kerkhof?*

15 – 16 November, Groningen (Netherlands): *Reuwendagen*.

13 December, Groningen (The Netherlands): GIA Research Day.

Nobles, G.R.

12th April, Groningen (The Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA)*. Chair of session 7: Prehistory of Northwestern Europe.

15th – 18th April, Kiel (Germany): Socio-environmental dynamics over the last 12,000 years: The creation of landscapes III. Corded Ware Settlements in the Low Countries: Late Neolithic Behavioural Variability in a Dynamic Landscape. Presented by Jos Kleijne on behalf of the larger project team.

16th – 18th December, Bournemouth (United Kingdom): Theoretical Archaeological Group. Putting people into space: From artefacts to spatial behavior.

Panagiotopoulou, E.

18 – 19 December, Volos (Greece): Meeting with Greek excavators in regional Archaeological Directorates in order to discuss publication strategies

22 – 24 August, Volos (Greece): Meeting with Greek excavators in regional Archaeological Directorates in order to collect archaeological data, photos, maps/plans and visit the sites

1 – 3 March, Amsterdam (The Netherlands): NPAP conference: Island, Mainland, Coastland and Hinterland Ceramic Perspectives on Connectivity in the Ancient Mediterranean. Organised by ARCHON and University of Amsterdam.

13 March, Amersfort (Netherlands): 1E BAP Symposium '*Isotopen voor Dummies, De (on) mogelijkheden van isotopenonderzoek in de archeologie.*'

11 – 14 April, Cardiff (United Kingdom): United Kingdom Archaeological Sciences (UKAS) 2013: Experimental and Environmental Archaeology Conference.

30 November, Leiden (The Netherlands): DNA Today, Dutch Association for Physical Anthropology (NFVA).

Peeters, J.H.M.

27 June, Southampton (United Kingdom): Expert meeting 'Unknown marine assets and landscapes'. Commissioned by English Heritage.

5 – 7 November, Schleswig (Germany): UISPP Symposium on the Final Palaeolithic of Northern Eurasia.

13 December, Groningen (The Netherlands): GIA Research Day.

Raemaekers, D.C.M.

16 April, Groningen (The Netherlands): Project meeting *Land der Ontdekkingen*.

24 April, Groningen (The Netherlands): Project Meeting *Onlanden*.

15 May, Utrecht (The Netherlands): Meeting between minister Bussemaker and representatives of Dutch archaeology.

27 May, Amersfoort (The Netherlands): Project meeting Swifterbant with Hans Huisman (*Rijksdienst voor het Cultureel Erfgoed*).

19 June, Well-Aijen (The Netherlands): Field visit.

12 September, Lollum (The Netherlands): Field visit excavation Saksenoord.

13 September, Aurich (Germany): Expert meeting reconstruction megalithic tomb Tannenhausen.

4 October, Sumar (The Netherlands): Field visit excavation.

15 November, Groningen (The Netherlands): *Reuvsdagen*.

25 November, Amersfoort (Groningen): Project meeting Hanzelijn.

26 November, Sumar (The Netherlands): Field visit excavation.

7 November, Wormerveer (The Netherlands): Collecting finds from depot North Holland.

10 December, Sumar (The Netherlands): Field visit excavation.

5 December, Sumar (The Netherlands): Field visit excavation.

Schepers, M.

24 – 26 May, Dordrecht (The Netherlands): *Inventarisatieweekend Biesbosch en eiland van Dordrecht van FLORON en PKN*.

Seubers, J.F.

21 – 23 September, Cambridge (United Kingdom): Frontiers in the European Iron Age.

7 – 9 November, Rome (Italy): The Age of Tarquinius Superbus. A Paradigm Shift?

Scheepstra, A.J.M.

13 – 14 February, Rovaniemi (Finland): Kick off meeting 'Strategic Environmental Impact Assessment of development of the Arctic'.

2 – 3 October, Rovaniemi (Finland): Stakeholders meeting 'Strategic Environmental Impact Assessment of development of the Arctic'. Leading stakeholders meeting about Arctic Mining together with Kim van Dam.

10 – 12 December, Tromsø (Norway): Workshop Adaptation Actions for a Changing Arctic part C.

Steenhuisen, F.

25 – 27 February, Roskilde (Denmark): AMAP Radioactivity Expert Group, preparation AMAP radioactivity assessment 2014.

27 February – 1 March, Oslo (Norway): Working visit Statens Strålevern (Norwegian Radiation Protection Authority).

27 – 28 May, Groningen (The Netherlands): *Afscheids-symposium* Louwrens Hacquebord.

28 July – 2 August, Edinburg (Scotland): International Conference on Mercury as a Global Pollutant. Note: Presentation: Geospatial distribution of 2010 global mercury emissions as part of the work to prepare the UNEP/AMAP 2010 mercury emissions inventory, a geospatial-distribution model was developed that further refined the methodology employed for distributing previous global mercury emissions inventories. The model is based on a global 0.5 degree grid. Major new innovations include: (i) increasing the global coverage of point sources, methods for acquiring this information from different sources, and methods for processing this information and make it useful; (ii) further development of methods for distributing emissions from artisanal and small-scale gold mining. The presentation will detail aspects of this work and present results of the geospatial distribution of the 2010 global mercury emissions inventory prepared by UNEP/AMAP.

14 – 18 September, Tórshavn (Faroe islands): AMAP Working group WG27.

1 November, Den Haag (The Netherlands): NWO polar symposium.

28 November, Den Haag (The Netherlands): Geopolitics and Natural Gas – Arctic Roundtable.

6 – 8 November, Moscow (Russia): Dutch Delta Group meeting Moscow 7 Nov.

Note: Dutch Delta Group meeting Moscow (as part of the Dutch Trade Mission Russia 2013) presentation: 40 years of Arctic research, The Arctic Centre at the University of Groningen.

4 December, Utrecht (The Netherlands): Meeting Strategic Environmental Assessment for Yamal project.

Terpstra, T.K.

24 – 25 January, Tromsø (Norway): Meeting of the Sustainable Development Working Group of the Arctic Council.

17 March, Stockholm (Sweden): Meeting of the Sustainable Development Working Group of the Arctic Council.

26 June, Groningen (The Netherlands): 7th International Conference on Population Geographies 2013. Organization together with K.I.M. van Dam of a special session on Arctic Population Geography on the 26th of June during the conference (25-28 June).

Tol, G.W.

27 February, Nettuno (Italy): Visit to Poligono Militare di Nettuno. Visit to discuss possibility to conduct fieldwork on Military Base together with T.C.A. de Haas.
7 – 20 April, London (England): Course Thin Section Petrography of Archaeological Ceramics: Methods and Application.
27 November, Rome (Italy): Meeting at the Soprintendenza per i beni archeologici del Lazio.
12 December, Groningen (The Netherlands): Meeting with staff of the Tell Abu Sarbut project to discuss collaboration.

Varwijk, T.W.

25 April, Noordelijk Archeologisch Depot Nuis (The Netherlands): Meeting on Briquetage.
16 November, Groningen (The Netherlands): *Reuwendagen*.
13 December, Groningen (The Netherlands): Annual meeting GIA.

Voutsaki, S.

21 January, Groningen (The Netherlands): CRASIS Annual Conference.
1 – 2 February, Amsterdam (The Netherlands): NPAP Connectivity Conference.
20 March, Amersfoort (The Netherlands): Meeting ARCHON Educational Programme Committee.
21 March – 4 April, Athens (Greece): Research visit British School at Athens. Ayios Vasilios and Argos Project meetings.
5 – 7 March, London (United Kingdom): Annual Meeting British School of Archaeology. Ayios Vasilios Project meeting.
10 – 12 April, Groningen (Netherlands): *Symposium Onderzoek Jonge Archeologen (SOJA)*.
28 April – 4 May, Athens (Greece): Research at British School at Athens. Argos Tumuli Project meeting.
5 May, Leiden (The Netherlands): Meeting Editorial Board BABesch.
1 July – 6 August, Ayios Vasilios (Greece): Fieldwork 2013 campaign.
28 August, Amersfoort (The Netherlands): Meeting ARCHON Educational Programme Committee.
28 September – 10 October, Athens (Greece): Research visit, Athens. Ayios Vasilios Project meeting. Argos Tumuli Project meeting.
1 October, Groningen (The Netherlands): Conference Dood van Kerkhof.

- 16 – 17 October, Groningen (The Netherlands): Greek Archaeology Conference I, Explaining Social Change in Aegean Prehistory.
- 31 October, Groningen (The Netherlands): Memento Mori Expert meeting on Databases.
- 31 October, Groningen (The Netherlands): Meeting Scientific Advisory Board, Netherlands Institute Athens.
- 12 November, Groningen (The Netherlands): *Loopbaanochtend*, Bachur.
- 19 November, Leiden (The Netherlands): Meeting Editorial Board BABesch. *Byvanck lezing*.
- 30 November, Leiden (The Netherlands): DNA Today, Dutch Association for Physical Anthropology (NFVA).
- 13 December, Groningen (The Netherlands): Annual meeting GIA.
- 15 – 22 December, Athens (Greece): Research in British School Athens, Ayios Vasilios Project meeting, Meeting with University of Ioannina Erasmus coordinator.

Wiersma, C.W.

- 1 – 2 February, Amsterdam (The Netherlands): NPAP Connectivity Conference.
- 16 – 17 October, Groningen (The Netherlands): Greek Archaeology Conference I, Explaining Social Change in Aegean Prehistory.
- 13 December, Groningen (The Netherlands): GIA Research Day.
- 19 December, Groningen (The Netherlands): TMA Conference: *25 Jaar Mediterrane Archeologie vanuit Nederland en België, TMA van Toen tot Nu (1988-2013)*.

1.4 Workshops and Exhibitions

- 28 januari, Rome (Italy): *AIAC bijeenkomst: Paesaggi abruzzesi e laziali, tra Preistoria e Medioevo* (Landscapes of Abruzzo and Latium, between prehistory and the medieval period), organised by J. Pelgrom.
- 31 January — 1 February, Groningen (The Netherlands): International Conference on Urbanization and State Formation in the Italian Iron Age, organised by J.F. Seubers, P.A.J. Attema.
- 31 January — 26 March, Groningen, University Library (The Netherlands): Exhibition 'Unveiling Crustumerium, The Excavations at Rome by the Groningen Institute of Archaeology,' organised by Staff, P.A.J. Attema, K. van der Ploeg, Master and Research Master students of the Department of Archaeology, R. Brandhoff, R. Bronkhorst, S. Manuel, W. van Oossanen, M. Post, I. Rom, P. Swart, T. Verlaan, C. De Waal.
- 25 April, Nuis (The Netherlands): Workshop *briquetage Northern Netherlands-Niedersachsen*, organised by A. Siegmüller, A. Nieuwhof.
- 26 — 27 April, Groningen (The Netherlands): International Mediterranean Survey Workshop 2013 Methods and Experiments/Surveys in the Near East, organised by P.A.J. Attema, J.F. Seubers, P.M. van Leusen, G.W. Tol, T.C.A. de Haas, and L. de Jong.
- 28 May, Groningen (The Netherlands): Symposium Louwrens Hacquebord: *Het Noordpoolgebied; wildernis of wingewest*, organised by A.J.M. Scheepstra, L. Hacquebord.
- 31 May, Rome (Italy): workshop *Paesaggi Coloniali nell'Italia Repubblicana* (Colonial landscapes of Republican Italy), organised by J. Pelgrom.
- 6 June, Rome (Italy): Congress *Lazio e Sabina* (Latium and Sabina), organised by J. Pelgrom and the Soprintendenza per i Beni Archeologici del Lazio, the Academia Belgica and the Swedish Institute at Rome.
- 24 June, Rome (Italy): Workshop 'The Roman Toilets of the Capital,' organised by J. Pelgrom and Brandeis University (United States of America).

- 25 June, Haifa (Israel): Conference session 'Anatolian Urban Economies', organised by C. Çakırlar, N. Marom. Session organized in 11th ASWA.
- 28 June, Rome (Italy): Book presentation: *Le decorazioni dipinte e marmoree della Domus Aurea di Nerone a Roma*, organised by J. Pelgrom.
- 4 – 8 September, Pilsen (Czech Republic): Round Table Far From the Madding Crowd – Interpreting the Ephemeral Evidence for Rural Life, organised by P.M. van Leusen, K. L. Armstrong, W. de Neef, A. Bevan.
- 16 – 17 October, Groningen (The Netherlands): Greek Archaeology Conference I, Explaining Social Change in Aegean Prehistory, organised by C.W. Wiersma and S. Voutsaki.
- 30 October, Groningen (The Netherlands): Polar bear symposium, organised by A.J.M. Scheepstra, J. Prop.
- 1 November, Rome (Italy) 'Prospection Archaeology in Italy,' organized by J. Pelgrom.
- 7-9 November, Rome (Italy): The Age of Tarquinius Superbus. A Paradigm Shift?, organized by J. Pelgrom and University of Amsterdam and the British School at Rome.
- 13 November, Groningen (The Netherlands): Workshop on Wetland Archaeology, organised by J.H.M. Peeters.
- 28 November, Lelystad (The Netherlands): National Conference on underwater bottoms, organised by A.F.L. van Holk.
- 28 – 29 November, Rome (Italy), Royal Netherlands Institute in Rome: Conference: 'Rural communities in a globalizing economy: new perspectives on the economic integration of Roman Italy', organised by G.W. Tol and T. C. A. de Haas.
- 19 December, Groningen (The Netherlands): Promotion Frigga Kruse: Arctic mining – past practices, present parallels, organised by A.J.M. Scheepstra, F. Kruse, L. Hacquebord.

1.5 Visiting Scholars

- Dr. L. Alessandri (Rome, Italy): Preparation NWO Free Competition Proposal on the Bronze Age of the Pontine Region and Fondi basin.
- Dr. Th. ten Anscher (Regionaal Archeologisch Archiverings Project (RAAP), The Netherlands): Invited speaker Workshop on Wetland Archaeology.
- Dr. D. Avango (Royal Institute of Technology (KTH), Stockholm, Sweden): Promotion and symposium Frigga Kruse.
- Dr. B. Basberg (Norwegian School of Economics (NHH), Bergen, Norway): Lecture during symposium Hacquebord.
- Dr. S. Barr (Directorate for Cultural Heritage, Oslo, Norway): Lecture during symposium Hacquebord.
- Prof. J. Bintliff. (Leiden University, Leiden, The Netherlands): Member of promotion committee for C.W. Wiersma.
- Drs. E. Bulten (Archeologie Den Haag, Den Haag, The Netherlands): Meeting on new Neolithic site.
- Drs. B. Borgers (Vrije Universiteit Brussel, Ixelles, Belgium): Meeting to discuss role of B. Borgers in the Minor Centers project. Borgers started working as a post-doctoral researcher in the Minor Centers project from October 2013 onwards.
- Daniel Chartier (The Université du Québec à Montréal (UQAM), Montréal, Canada): Lecture supported by the Candian Embassy
- Dr. R. Correl (Chair of Arctic Climate Impact Assessment, United States of America): Lecture during symposium Hacquebord.
- Dr. Nazli Demirel (Istanbul University, Turkey and Kiel University, Germany): Publication meeting of the Ancient Fisheries Project.
- Dr. J. Eerkens (University of California Davis, United States of America): Sabbatical stay.

Dr. Gerlis Fuggman (Association of Polar Early Career Scientists (APECS), Tromsø, Norway).

Prof. A. van Gijn (Leiden University, The Netherlands): Invited speaker Workshop on Wetland Archaeology.

Dr. P. Harrison (Queens University, Kingston, Canada): Lecture during symposium Hacquebord.

Dr. Bilge Hürmüzlü (Isparta University, Turkey): Research visit to Groningen. Meeting on research network on Hellenistic - Roman necropoleis in the eastern Mediterranean.

Ms. Anemie Kersten (Vaheningen University, The Netherlands): Visit to discuss online publication of Ksar Aqil.

Ms Roza Laptander. Arctic Centre, Rovaniemi, Finland. (Sociolinguistics, Nenets language, linguistic anthropology). Ongoing cooperation with Arctic Centre as weekly visiting scientist.

Dr. Olivier Nieuwenhuys (Leiden University, The Netherlands): Preliminary visit for excavations in Iraq.

Dr. M. Oglethorpe (Historic Scotland): Promotion and symposium Frigga Kruse.

Drs. H. Beelen Oldenburg (Germany): visiting the Arctic Centre.

Dr. Peter Pope (Memorial University, New Foundland, Canada): Lecture during symposium Hacquebord.

Prof. D. Pullen: (Florida State University, United States of America): Member of promotion committee C.W. Wiersma.

Prof. J. Rutter: (Dartmouth College, United States of America): Member of promotion committee C.W. Wiersma.

L. Sevillano (CSIC Institute of Archaeology, Mérida, Spain): Advising on preparation of PhD thesis.

M. Steiner/J. Boertien/N. Mulder (Groningen, The Netherlands): Visit to discuss collaboration within the framework of the Tell Abu Sarbut project.

Prof. Th. Terberger (Greifswald University, Germany): Invited speaker Workshop on Wetland Archaeology.

J. Ur (Harvard University, MA, United States of America): Cooperation on surveys in the Near East. Planning for fieldwork in Kurdistan.

Drs. B. Ullrich (Eastern Atlas Geophysical Prospections GmbH (Berlin, Germany)): Visit to discuss geophysical prospections to be carried out within the ambit of the Minor Centers project.

Dr. Jorien E. Vonk (University of Utrecht, The Netherlands): Postdoctoral researcher focusing on the Terrestrial and coastal biogeochemistry in Northern Siberia. Ongoing cooperation with Arctic Centre as weekly visiting scientist.

Mrs. Ann Flanagan Whalen ('S-Gravenhage, Canada): Counsellor at Canadian Embassy.

1.6 Editorships and Representation on Boards and Committees

Armstrong, K.L.

Member of GIA research seminar committee.

Member of the board of Stichting Archaeological Dialogues.

Arnoldussen, S.

Editorial Board Journal of Archaeology in the Low Countries (www.jalc.nl).

Editorial Board *Paleo-aktueel*.

Secretary Educational Advisory Board.

Editorial Board Metaalijden.

Member of the jury of the yearly W.A. van Esprijs.

Attema, P.A.J.

Head of the Department of Archaeology.

Director of Studies of the researchmaster in Art History and Archaeology.

Chairman of the GIA Advisory Board.

Coordinator Cluster Classical and Mediterranean Archaeology of GIA.

Member of the Groningen Institute of Archaeology Management Team

Member of the Editorial Board *Paleohistoria*.

Member of the Editorial board Groningen Archaeological Studies (GAS).

Member of the Advisory Board Journal of Mediterranean Archaeology (TMA).

Member of the Editorial Board of Amsterdam Archaeological Studies of Amsterdam University Press.

Member of the Editorial Board of *Corollaria Crustumina*.

Member of the Editorial Board *Palaeohistoria*.

Çakırlar, C.

Elected member of the International Council of Archaeozoology International Committee.

Member of the Steering Committee, Dama International research group.

Member of the Editorial Board Groningen Archaeological Studies.

Member of Educational Programme Committee, REMA.

Cappers, R.T.J.

Editorial Board Electronic Journal of Indian Medicine.

Editorial Board Groningen Archaeological Studies.

Groningen Institute of Archaeology Management Team

Member of the Curatorium of the Netherlands Institute for the Near East.

Member of the Editorial Board *Palaeohistoria*.

Dijkstra, T.M.

Reviews editor for the *Tijdschrift voor Mediterrane Archeologie*.
Member of the CRASIS Ancient World Seminars organizing committee.
Member of Mortuary Studies Discussion Group.

Groenendijk, H.A.

Editorial Board Historisch Jaarboek Groningen.
Member of the Archäologische Kommission Niedersachsen (D).
Member of the jury of the Publieksprijs Nederlandse Archeologie 2013, organized by the Stichting Archeologie en Publiek.

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.
Past-President and member of the Human and Social Workinggroup of IASC.
Council member and delegate for the Netherlands in IASC.
Leader of the IPY-LASHIPA project.
Member of the International Polar Heritage Committee ICOMOS.
Member of the Editorial Board Groningen Archaeological Studies (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.

Member of the GIA Advisory Board.
Member GSH PhD Council.

Holk, A.F.L. van

Member of the Glavimans Stichting.
Member of the scientific committee 'Doeler Cog' (Belgium).
Member of the committee preparing the International Symposium on Boat and Ship Archaeology in 2015, 2018, 2021.

Jones, O.A.

Organizing Committee of GIA Research Seminars.
Member of Mortuary Studies Discussion Group.

Jong, L. de

Member of Advisory Board of the American Journal of Archaeology.

Board member of CRASIS (Interdepartmental institute for Culture, Religion and Society in Graeco-Roman Antiquity).

Guest editor *Tijdschrift voor Mediterrane Archeologie* for Issue 50: 'The East Mediterranean between Alexander the Great and Emperor Constantine, 300 BC-300 AD.'

Organizing Committee of GIA Research Seminars.

Anonymous reviewer American Journal of Archaeology.

Regular membership: American Schools of Oriental Research.

Regular membership: Archaeological Institute of America.

Regular membership: European Association of Archaeologists (EAA).

Regular membership: Groningen Islamic Studies (GIS).

Regular membership: Network Impact of Empire.

Regular membership: Women's Classical Caucus.

Senior member: OIKOS.

Regular membership: ARCHON.

Member of Mortuary Studies Discussion Group.

Jordan, P.

Fennoscandia Archaeologica (Editorial Board)

Journal of Anthropological Archaeology (Editorial Board).

Journal of World Prehistory (Advisory Editor).

Japanese Journal of Archaeology (Advisory Board).

Ethnoarchaeology: Journal of Archaeological, Ethnographic and Experimental Studies (Editorial Board).

Sibirica: International Journal of Siberian Studies (Editorial Advisory Board).

Archaeology of the North Book Series Cambridge University Press (Series Co-Editor)-.

Groningen Institute of Archaeology Management Team.

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

Member of the Facultaire stuurgroep Letteren Honourscollege, RUG.

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

Member of the jury of the GIA Masterscriptie-prijs.

Editorial Board *Paleo-Aktueel*.

Loon, T. van

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*.

Loonen, M.J.J.E.

Netherlands representative Ny-Ålesund Managers committee (NySMAC).

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

Member of the Willem Barentsz Polar Institute.

Member of EU-FP7 project SIOS.

Observer to EU-project INTERACT terrestrial polar stations.

Netherlands representative in Forum of Arctic Research Operators.

Member of the working group on Arctic sea birds (CBIRD-CAFF).

Member of the scientific advisory committee of SOVON bird research.

Member of the scientific advisory committee of Vogelbescherming Nederland.

Member of the Norwegian Scientific Academy for Polar Research.

Member of the Centre for Canadian Studies, University of Groningen.

Webmaster Netherlands Ornithological Union (www.nou.nu).

Webmaster international bird journal ARDEA (www.ardeajournal.nl).

Webmaster Dutch bird research journal LIMOSA (limosa.nou.nu).

Promotion and reading committee Bert Buizer (VU Amsterdam, 13 Sept 2013).

Neef, W. de

Editorial Board *Paleo-aktueel*.

Nicolay, J.A.W.

Member of the jury of the yearly W.A. van Esprijs.

Member organizing committee Annual meeting GIA.

Nieuwhof, A.

Secretary of the Vereniging voor Terpenonderzoek.

Editor of the Jaarverslagen van de Vereniging voor Terpenonderzoek.

Nijboer, A.J.

Member of the FEWI (Facultaire Expertisegroep Wetenschappelijke Informatie).

From September/October 2012 onwards: Member and subsequently Chairman 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 (shortened ExCom KCA).

Member Diocesane Commissie voor Kerkinrichting en Kerkelijk Kunstbezit van het Bisdom Groningen-Leeuwarden (DCKKK).

Coordinator of the GIA Library.

Panagiotopoulou, E.

Organizing Committee of GIA Research Seminars

Administrator of Mortuary Studies Group

Peeters, J.H.M.

Chief Editor of the journal: *Archeologie*.

Member of the Management Committee of SPLASHCOS (EU Cost Action TD0209). Splashcos ended in November 2013.

Member of the Editorial Board Netherlands Journal of Geosciences.

Guest Editor Netherlands Journal of Geosciences. Special Issue North Sea submerged Landscapes and Prehistory.

Member of the Editorial Board *Palaeohistoria*.

Member of the GIA advisory board.

Member of the Mid-Term Review Committee.

Editorial Board *Paleo-Aktueel*.

Pelgrom, J.

Editor of the journal *Archaeological Dialogues* (Cambridge University Press)

Editor of the newsletter 'New Studies' of the Royal Netherlands Institute at Rome

Peer reviewer for SIRIUS

Coordinator of the 'pioneer landscapes' research programme

Representative for the Royal Netherlands Institute at Rome at AIAC (International Association for Classical Archaeology)

Advisory Board *Tijdschrift voor Mediterrane Archeologie*.

Postma, D.

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

Raemaekers, D.C.M.

Director of GIA

Member Groningen Institute of Archaeology Management Team

Secretary of the Department of Archaeology

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

Chair of the Board of the National Research School ARCHON

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 Scientific Advisory Board project Well-Aijen.

Scientific advisor reconstruction megalithic tomb Tannenhausen (Ostfriesland).

Representative of the province of Friesland in excavation Sumar (bevoegde overheid).

Member visitation committee HBO Opleiding Archeologie Saxion.

Seubers, J.F.

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

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.

Tol, G.W.

Substitute member of the education committee of the Classics Department, replacing Lidewijde de Jong in the period October 2013-February 2014.

Voutsaki, S.

Groningen Institute of Archaeology Management Team

Afdelingsbestuur, Archaeology.

Erasmus Coordinator, Archaeology.

Erasmus Coordinator, GLTC.

Member of Faculty of Arts Praemium Erasmianum Committee.

Advisory Board of Journal Archaeological Dialogues.

Editorial Board of BABesch.

Advisory Board of Pharos, the Journal of the Netherlands Institute at Athens.

Member of Editorial Board Groningen Archaeological Studies.

Member of Editorial Board of *Palaeohistoria*.

ARCHON Teaching Programme Committee.

Chairperson, Educational Programme Committee, REMA.

Member of AB, GLTC (until September 2013).

Member of Scientific Advisory Board, Netherlands Institute at Athens.

Member of Educational Programme Committee, Graduate School for the Humanities (until Sept 2013).

Member of the CRASIS Board (until June 2013).

Member of Promotion Committee, Ioannina University.

External Reviewer, NWO VIDI.

Member of VENI Selection Committee, NWO.

Organiser of Mortuary Studies Discussion Group.

Wiersma, C.W.

Member of the Editorial Board *Tijdschrift voor Mediterrane Archeologie*.

Willemsen, S.L.

Member of editorial board *Tijdschrift voor Mediterrane Archeologie*.

Appendix 2. PhD Projects

2.1 PhD Defenses 2013

23 May, Johan Thilderqvist

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

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

17 October, Corien Wiersma

Building the Bronze Age. Architectural and Social Change on the Greek Mainland during Early Helladic III, Middle Helladic and Late Helladic I.

Promotor: S. Voutsaki

11 November, Izabel Devriendt

Stone and flint artefacts from the Stone Age sites of Swifterbant

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

19 December, Frigga Kruse

FROZEN ASSETS; British mining, exploration, and geopolitics on Spitsbergen, 1904-53

Promotor: Prof. Dr. L. Hacquebord

2.2 Current PhD Projects

Chair of Prehistory and Protohistory of Northwest Europe

Bakker, M. (Wadden Academy : University Campus Fryslân, University of Groningen/Groningen Institute of Archaeology, 2013-2017)

The Frisian peat reclamations of the Late Iron Age and Roman Iron Age

Promotores: Prof. Dr. G.J. de Langen. Prof. D.C.M. Raemaekers, and Prof. Dr. ir. M. Spek. Co-promotor: Dr. J.A.W. Nicolay

Beckerman, S.M. (NWO, 2009-2014)

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

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

Drenth, E. (self-funded)

The Beaker Cultures in Northwest Europe

Promotor: D.C.M. Raemaekers.

Krol, T.N. (self-funded)

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

Promotor: G.J. de Langen. Co-promotor: D.C.M. Raemaekers, Drs. A. Nieuwhof.

Matthews, S.G. (self-funded)

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

Promotor: D.C.M. Raemaekers. Co-promotores: S. Hamilton, Dr. S. Arnoldussen.

Niekus, M.J.L.Th. (self-funded)

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

Promotor: D.C.M. Raemaekers.

Nieuwhof, A. (self-funded)

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

Promotores: D.C.M. Raemaekers, Prof. J. Bazelmans.

Nobles, G.R. (NWO, 2009-2013)

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

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

Overmeer, A.B.M. (self-funded)*Dutch clinker-built ships in the 15th and 16th centuries*

Promoters: Prof. D.C.M. Raemaekers, Prof. H.R. Reinders and Prof. A.F.L. van Holk.

Postma, D. (University of Groningen/Groningen Institute of Archaeology, 2011-2015)*Lost building traditions: turf construction and early medieval architecture in the southern North Sea area*

Promotor: G.J. de Langen.

Schepers, M. (Ubbo Emmius, 2009-2013)*Coastal culture: a methodological palaeobotanical study on land use and landscape development in two distinct coastal areas*

Promotores: R.T.J. Cappers, D.C.M. Raemaekers.

Varwijk, T.W. (Province of Fryslân, Municipality of Súdwest-Fryslân, Municipality of Littenseradiel, University of Groningen/Groningen Institute of Archaeology, Vereniging voor Terpenonderzoek, 2013-2017)*Settlement development of Frisian Terp sites from the Early Iron Age to the Late Middle Ages*

Promotores: Prof. Dr. G.J. de Langen, Prof. Dr. D.C.M. Raemaekers. Co-promotor: Dr. J.A.W. Nicolay.

Woltinge, I. (self-funded)*What lies beneath? The value of buried Stone Age landscapes*

Promotor: D.C.M. Raemaekers.

Chair of Classical and Mediterranean Archaeology**Feiken, H. (self-funded)***Geo-archaeological approaches to the hidden landscapes of Italy*

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

Klein Goldewijk, G.M. (self-funded)*Standard of living in the Roman Empire*

Promotor: P.A.J. Attema. Co-promotores: W.M. Jongman, J.P.A.M. Jacobs

Heinrich, F.B.J. (NWO, 2012-2016)*Productive Landscapes: An interdisciplinary inquiry into the productivity of crop husbandry*

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

Ippolito, F. (University of Groningen/Groningen Institute of Archaeology, 2009-2014)

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

Promotores: P.A.J. Attema and M. Pacciarelli.

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 (ca. 900-400 BC)

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

Neef, W. de (NWO, 2010-2015)

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

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

Oome, N. (self-funded)

Hellenistisch aardewerk en Hellenitische sites in de Sibaritide

Promotor: P.A.J. Attema.

Satijn, O. (self-funded)

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

Promotor: P.A.J. Attema.

Seubers J.F. (NWO, 2011-2015)

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

Promotor: P.A.J. Attema.

Weistra, E. (self-funded)

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

Promotor: P.A.J. Attema.

Willemsen, S.L. (Ubbo Emmius, 2008-2012)

The Iron Age necropolis of the Latin site Crustumium

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

Chair of Greek Archaeology

Dijkstra, T. (NWO, 2012-2016)

Civic and Cultural Identities in a Changing World: Analyzing the mortuary practices of the postclassical Peloponnese

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

Jones, O. (University of Groningen/Groningen Institute of Archaeology, 2012-2016)

Mycenaean Burial Traditions of Achaea: An Anthropological and Bioarchaeological Approach

Promotor: S. Voutsaki.

Milka, E. (NWO, 2003-2007)

Mortuary differentiation and social structure in the Middle Helladic Argolid

Promotor: S. Voutsaki.

Panagiotopoulou, E. (University of Groningen/Groningen Institute of Archaeology, 2012-2016)

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

Promoters: S. Voutsaki and H. van der Plicht. Supervisor: A. Papathanasiou.

Chair of Arctic and Antarctic Studies

Comis, S. (self-funded)

Het textiel van Spitsbergen

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

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

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

Promotor: L. Hacquebord and M.Nutell, University of Alberta Edmonton.

Steenhuisen, F. (Extern, University of Groningen, 2009)

A GIS model of Mercury emission and deposition in the World.

Promotor: L. Hacquebord.

Cornelisse M. (Extern, School voor Toerisme Breda)

Betekenis van duurzaam en experienced-based toerisme voor Ylläs, Finland.

Promotor: Dr. L.Hacquebord.

Steenbeek, S. (NWO, 2009-2013)

De Friese schippers in de Sontvaart en de Nederlandse markt voor maritime transport (1550-1800).

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

Sandström, C.A.M. (University of Groningen, Faculty of Science, 2010-2014)

Health and immunology of Arctic breeding birds

Promotor: A.G.J. Buma, L.Hacquebord. Co-promotor: M.J.J.E. Loonen.

2.3 FUNDED PHD PROJECTS 2007–2013

Name	Financed	2007	2008	2009	2010	2011	2012	2013
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					14-11 D
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	19-12 D
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		1-7 S
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				1-9 E
Seubers, J.F.	NWO					1-2 B		
Smit, B.I.	NWO	31-12 E			20-5 D			
Terpstra, T.K.	RUG			1-1 B				1-8 E
Thilderqvist, J.G.M.	UE			31-8 E				23-5 D
Wiersma, C.W.	RUG				1-11 B		1-11 E	17-10 D
Willemsen, S.L.	DPB		1-9 B					1-9 E

Woltinge, I.	NWO					1-1 E		
Bakker, M.	UCF							1-6 B
Varwijk, T.W.	PFR							16-5

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

UCF = University Campus Fryslân

PFR = Provincie Friesland

B = Begincontract

E = End contract

S = Stopped

D = Defence

Appendix 3. Publicity

3.1 Press Activities

Arnoldussen, S.

11 June 2012: *Dagblad van het Noorden*, *Zoeken naar sporen steentijd bij Valthe*.

3 July: <http://www.emmen.nu>, *Resten hunebedbouwers gevonden aan Spaanweg*.

3 July: <http://www.borger-odoorn.nl/nieuws/n>, *Speuren naar hunebedbouwers aan de Spaanweg in Valthe*. Link to article: <http://www.borger-odoorn.nl/nieuws/nieuwsberichten/item/article/speuren-naar-hunebedbouwers-aan-de-spaanweg-in-valthe-8118.html>.

3 July: *RTV Drenthe*, *Resten van hunebedbouwers gevonden bij Valthe*.

Link to article: <Http://www.rtvdrenthe.nl/nieuws/resten-van-hunebedbouwers-gevonden-bij-valthe>.

Attema, P.A.J.

1 January: *Toebosch' Eigen Tijdschrift*, *Wat doet een graf uit Crustumerium in Groningen?*

2 February: *'De Zaterdag Agenda' radio Noord*, *nieuwsitem over de tentoonstelling 'Unveiling Crustumerium.'*

23 February: *Nederlands Dagblad - Wetenschap*, p. 16-17, *nieuwsvermelding over Crustumerium 'Een reportage in 3D.'*

7 February: *Groninger Gezinsbode*, *RUG-bieb toont archeologisch onderzoek*.

Bakker, M.

10 June: *Omrop Fryslân*, *Archaeological excavation of a Roman Iron Age dwelling mound near Warten (M. Bakker)*.

21 June: *Leeuwarder Courant*, *Archeologen graven op in kilt (M. Bakker: newspaper article written by E. Boers)*.

22 June: *Omrop Fryslân*, *Alde pleats fûn by Warten (M. Bakker)*.

Çakirlar, C.

11 September: *TV programme Roeg! TV Drenthe*, *visit to GIA maceration lab and interview with L. de Vries*.

19 November: *TV programme Roeg! TV Drenthe*, *visit to GIA maceration lab and interview with L. de Vries*.

Groenendijk, H.A.

11 February: *RTV Noord Achtergrond*, *interview (R. Smith) 'De ouderdom van de Steentilbrug in Aduard'*.

16 October: *Magazine 'Golden Raand' (Groninger Landschap)*, *interview (A. van der Eijk) 'Militair erfgoed'*.

Haas, T.C.A. de

1 September: *Il Chinino, Quando a Mesa si parlava Latino*. Article in local journal on the Minor Centers research project.

Hacquebord, L.

14 January: *Omroep Fryslan*

12 May: *Radioprogramma Labyrint VPRO*. Hilversum.

15 May: BNR Nieuwsradio

14 May: Met Oog op Morgen Radio 1

24 May: Radio Fryslan

24 May: *Afscheids interview DvhN*

26 May: OVT Radio 1, VPRO

27 May: Video RUG Website RUG.

22 September: *Vroege Vogels* Radio 1, VARA

Holk, A.F.L. van

22 July: *Flevopost (website), Spannende scheepsopgraving van start*.

22 July: *Omroep Flevoland (TV), 'Scheepswrak akker wordt opgegraven'*.

22 July: *Stentor, Scheepswrak in Dronter akker wordt opgegraven*.

5 August: *Omroep Flevoland (TV), Opgraving 18e-eeuws vrachtschip van start*.

5 August: *Stentor, interview excavation: Opgraving scheepswrak Dronten van start* (A.F.L. van Holk).

5 August: *Flevopost (website), Scheepsopgraving moet nieuw licht op saai eeuwen werpen*.

5 August: *NOS Journaal, interview: Hout van schip zal inmiddels turfmoed zijn* (L. Koehler).

6 August: *Algemeen Dagblad, interview excavation 'Archeologen graven op de bodem van de voormalige Zuiderzee'* (A.F.L. van Holk).

10 August: *Omroep Flevoland Website, Opgraving scheepswrak Dronten van start*.

16 August: *Omroep Flevoland (website), Servies Bataafse Republiek opgegraven in Dronten*.

16 August: *Stentor, interview: Bataafs servies ligt bij scheepswrak* (A.F.L. van Holk).

16 August: *Flevopost (website), Scheepswrak had ooit patriottische schipper*.

17 August: *Flevopost (website), Eeuwenoud schip wordt opgegraven in Dronten*.

18 August: *Flevopost, interview excavation: Kennismaking met opvarenden Drontens scheepswrak* (A.F.L. van Holk).

24 August: *Dagblad van het Noorden, interview excavation 'Zuiderzee onthult geheimen'* (A.F.L. van Holk).

28 August: *Leeuwarder Courant, interview excavation 'Zuiderzee onthult geheimen'* (A.F.L. van Holk).

3 September: *NRC, interview excavation 'Tjalk met scherven en een vrouw'* (A.F.L. van Holk).

Jordan, P.

11 April: *Deutschlandfunk short piece on early hunter-gatherer pottery function*, Interview with P. Jordan about function of world's earliest pottery (with Lucian Haas). Note: Also appeared on website as text: *Die ersten Fischköche. Neues Analyseverfahren ermöglicht Nachweis organischer Reste in Jahrtausende alter Töpferware.*

Langen, G.J. de

9 december: *Steun voor herbouw verzakt zodenhuis.* Leeuwarder Courant.

Loonen, M.J.J.E.

28 March: Broerstraat5 (magazine for alumni) and 6 newspaper articles, 9 radio broadcasts and 4 web news sites about crowdfunding Arctic Tern.

6 April: Tros nieuwsshow, crowd funding Arctic Tern.

6 April: Dagblad van het Noorden, *De cowboy van Spitsbergen.*

5 July: Svalbard posten, *Gåseforsker møter motstand.*

2 August: Svalbardposten, *Strides om gåsemerking.*

12 September: NRC cultural supplement, *Muggen tellen en leren ijsbeer schieten* (Ramsey Nasr).

15 September: Labyrint (VPRO/NTR), *Strijd om de Noordpool.*

5 September: NRC cultural supplement, *Gras meten op Spitsbergen* (Ramsey Nasr).

26 October: Vroege Vogels TV, *Slimme ganzen, ganzenakkoord.*

10 November: Movie premiere, *Kennis voor een duurzame Noordpool.* Made by Wageningen University as lecture tool and for web viewing.

9 November: RUG opinion repeated in 6 news papers, *De gans verdient beter.*

12 December: NTR school television, *De trek van de brandgans.*

Neef, W. de

24 August: *Dagblad van het Noorden*, 400 dagen voor 400 vragen: De Planeet blijft wie hij is. Note: Kort interview n.a.v. een lezersvraag over archeologie en bodem, in het kader van het 400-jarig lustrum van de RuG.

Peeters, J.H.M.

29 November: *RUG website news*, *RUG archeologen schrijven wetenschappelijke synthese in opdracht van ProRail* (J.H.M. Peeters, D.C.M. Raemaekers).

Raemaekers, D.C.M.

15 August: *Radio programme Hoe Zo?*, Amateurs and professionals in Dutch archaeology.

15 October: *Dagblad van het Noorden*, Interview related to exhibition in Drents Museum: *'Hunebedbouwers en berenklauwen'* (with V. van Vilsteren).

Schepers, M.

29 August: *Waddenacademie/Wadweten, Plantenresten bij terpen onthullen gevarieerd kwelderlandschap*. Internet news item on published paper in Journal of Coastal Conservation.

Tol, G.W.

1 September: *Il Chinino*, Archaeological fieldwork in the Pontine plain by the Minor Centers project. Article in bimonthly magazine, based on presentation at a conference in the Museo dell'Agro Pontino (Pontinia, Lazio, Central Italy).

Varwijk, T.W.

29 August: *Friesch Dagblad*, 'Voorspoedig begin eerste terpzoolonderzoek' (T.W. Varwijk).

3 September: *Lee*, 'Stokoude pot en waterputten in Lollum' (T.W. Varwijk).

7 September: *Omrop Fryslân (radio)*, interview.

1 October: *Leeuwarder Courant*, 'Lollumer terp geeft 16 fibula's prijs' (T.W. Varwijk).

Voutsaki, S.

16 October: *NRC Wetenschap*, 'Een omhelzing die al 3.500 jaar duurt' (S. Voutsaki).

17 October: *De Wereld Draait Door*, 'Een omhelzing die al 3.500 jaar duurt' (S. Voutsaki).

Appendix 4. Awards

Jong, L. de

Broedbonus, Faculty of Arts, University of Groningen.

Dijkstra, T.

Award by Netherlands Institute at Athens 2013, €360,00.

OIKOS Travel grant, €312,00.

Loonen, M.J.J.E.

1 August: Crowd funding, rugsteuntstern.nl, € 26.000.

29 August: Board meeting Longyearbyen, Elected as member of the Norwegian Scientific Academy for Polar Research, on invitation.

Panagiotopoulou, E.

10 February: Research Grant by Institute of Aegean Prehistory, €2.200.

Voutsaki, S.

16 January: *AcademiaNET. Database of Excellent Women Scientists.*

14 July: Publication subsidy, \$7500.

10 February: Research Grant for Ayios Vasilios Project (as co-investigator), € 29.000.

Wiersma, C.W.

30 April: *Mediterranean Archaeological Trust*, £1800 , ceramic analysis Magoúla Pavlína.

28 November: Thessalika Erga Foundation, €1800, ceramic analysis Magoúla Pavlína.

18 December: Institute of Aegean Prehistory, Post-doctoral fellowship, \$28,000 and \$4,000 travel expenses.

20 August: Printing costs of PhD, Faculty of Arts, University of Groningen, €1.000.

Appendix 5. Publications

5.1 Refereed articles

Prehistoric and Protohistoric Archaeology

- Çakırlar, C. and R. Şeşen, 2013, 'Reading between the lines: $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ isotopes of *Unio elongatulus* shell increments as proxies for local palaeoenvironments in mid-Holocene northern Syria.' *Journal of Archaeological and Anthropological Sciences* 5(2), 85–94. doi: 10.1007/s12520-013-0125-8.
- Cappers, R. T. J., 2013, 'Modelling cereal selection in Neolithic Egypt: An evaluation of economic criteria.' *Studies in Early Near Eastern Production, Subsistence, and Environment* 16, 109–120.
- Ottoni, C., L. Girdland Flink, A. Evin, C. Geörg, B. de Cupere, W. van Neer, L. Bartosiewicz, A. Linderholm, R. Barnett, J. Peters, R. Decorte, M. Waelkens, N. Vanderheyden, F.-X. Ricaut, C. Çakırlar, Ö. Çevik, R. Hoelzel, M. Mashkour, A. Mohaseb Karimlu, S. Sheikhi Seno, J. Daujat, F. Brock, R. Pinhasi, H. Hongo, M. Perez-Enciso, M. Rasmussen, L. Frants, H.-J. Megens, R. Crooijmans, M. Groenen, B. Arbuckle, N. Benecke, U. Starnd Vidarsdóttir, J. Burger, T. Cucchi, K. Dobney, and G. Larson, 2013, 'Pig domestication and human-mediated dispersal in Western Eurasia revealed through ancient DNA and geometric morphometrics'. *Journal of Molecular Biology and Evolution* 30 (4), 823–832. doi: 10.1093/molbev/mss261.
- Nieuwhof, A., 2013, 'Anglo-Saxon immigration or continuity? Ezinge and the coastal area of the northern Netherlands in the Migration Period'. *Journal of Archaeology in the Low Countries* 5 (1), 53–83.
- Raemaekers, D. C. M., L. Kubiak-Martens, and T. F. M. Oudemans, 2013, 'New food in old Pots – charred organic residues in Early Neolithic ceramic vessels from Swifterbant, the Netherlands (4300-4000 cal. BC)'. *Archäologisches Korrespondenzblatt* 43(3), 315–334.
- Schepers, M., 2014, 'Wet, wealthy worlds: The environment of the Swifterbant river system during the Neolithic occupation (4300-4000 cal BC)'. *Journal of Archaeology in the Low Countries* 5, 79–106.
- Schepers, M., J. F. Scheepens, R. T. J. Cappers, O. F. R. van Tongeren, D. C. M. Raemaekers, and R. M. Bekker, 2013, 'An objective method based on assemblages of subfossil plant macro-remains to reconstruct past natural vegetation: A case study of Swifterbant, The Netherlands'. *Vegetation History and Archaeobotany* 22(3), 243–255.
- Schepers, M., R. M. Bekker, and R. T. J. Cappers, 2013, 'A review of prehistoric and early historic mainland salt marsh vegetation in the northern-Netherlands based on the analysis of plant macrofossils.' *Journal of Coastal Conservation* 17, 755–773.

Classical and Mediterranean Archaeology

Sevink, J., J. van der Plicht, H. Feiken, P.M. van Leusen, and C. C. Bakels, 2013, 'The Holocene of the Agro Pontino Graben: recent advances in its palaeogeography, palaeoecology, and tephrostratigraphy'. *Quaternary International* 303, 153–162. <http://dx.doi.org/10.1016/j.quaint.2013.01.006>.

Greek Archaeology

Papathanasiou, A., E. Panagiotopoulou, K. Beltsios, M. F. Papakonstantinou, and M. Sipsi, 2013, 'Inferences from the human skeletal material of the Early Iron Age cemetery at Agios Dimitrios, Fthiotis, Central Greece'. *Journal of Archaeological Science* 40, 2924–2933.

Ur, J. A., L. de Jong, J. Giraud, J. F. Osborne, and J. MacGinnis, 2013, 'Ancient Cities and Landscapes in the Kurdistan Region of Iraq: The Erbil Plain Archaeological Survey 2012 Season'. *Iraq* 75, 89–117.

Arctic and Antarctic Studies

Coulson, S. J., P. Convey, K. Aakra, L. Aarvik, M.L. Ávila-Jiménez, A. Babenko, E. M. Biersma, S. Boström, J.E. Brottain, A.M. Carlsson, K. Christoffersen, W.H. De Smet, T. Ekrem, A. Fjellberg, L. Füreder, D. Gustafsson, D.J. Gwiazdowicz, L.O. Hansen, M. Holmstrup, M. Hullé, Ł. Kaczmarek, M. Kolicka, V. Kuklin, H.-K. Lakka, N. Lebedeva, O. Makarova, K. Maraldo, E. Melekhina, F. Ødegaard, H.E. Pilskog, J.C. Simon, B. Sohlenius, T. Solhøy, G. Søli, E. Stur, A. Tanasevitch, A. Taskaeva, G. Velle, K. Zawierucha, K. Zmudczyńska-Skarbek, 2013, 'The terrestrial and freshwater invertebrate biodiversity of the archipelagoes of the Barents Sea; Svalbard, Franz Josef Land and Novaya Zemlya'. *Soil biology and Biochemistry* 68, 440–470.

Craig, O.E., H. Saul, A. Lucquin, Y. Nishida, K. Taché, L. Clarke, A. Thompson, D. T. Alftoft, J. Uchiyama, M. Ajimoto, K. Gibbs, S. Isaksson, C. P. Heron and P. Jordan, 2013, 'Earliest evidence for the use of pottery'. *Nature* 496 (7445): 351–354.

Gibbs, K and P. Jordan, 2013, 'Bridging the Boreal Forest: Siberian Archaeology and the Emergence of Pottery among Prehistoric Hunter-Gatherers of Northern Eurasia'. *Sibirica Journal* 12: 1–38.

Hayashi K., E.J. Cooper, M.J.J.E. Loonen, A.W. Kishimoto-Mo, T. Motohka M.Uchida, and T. Makatsubo, 2013, 'Potential of Svalbard reindeer winter droppings for emission/absorption of methane and nitrous oxide during summer'. *Polar Science*. online <http://dx.doi.org/10.1016/j.polar.2013.11.002>.

- Jonker, R. M., R. H. S. Kraus, Q. Zhang, P. van Hooft, K. Larsson, H. P. van der Jeugd, R. H. J. M. Kurvers, S. E. van Wieren, M. J. J. E. Loonen, R. P. M. A. Crooijmans, R. C. Ydenberg, M. A. M. Groenen, and H. H. T. Prins, 2013, 'Genetic consequences of breaking migratory traditions in barnacle geese *Branta leucopsis*'. *Molecular Ecology* 22, 5835–5847.
- Gilg O., B. Moe, S.A. Hanssen, N.M. Schmidt, B. Sittler, J. Hansen, J. Reneerkens, B. Sabard, O. Chastel, J. Moreau, R.A. Phillips, T. Oudman, E.M. Biersma, A.A. Fenstad, J. Lang, and L. Bollache, 2013, 'Trans-Equatorial Migration Routes, Staging Sites and Wintering Areas of a High-Arctic Avian Predator: The Long-tailed Skua (*Stercorarius longicaudus*).' *PLoS ONE* 8 (5): e64614. doi:10.1371/journal.pone.0064614.
- Prop, J., T. Oudman, T.M. van Spanje and E.H. Wolters, 2013, 'Patterns of predation of pink-footed goose nests by polar bear.' *Ornis Norvegica* 36: 38-46.
- Sandström C.A.M., Buma, A.G.J., Hoye, B.J., Prop J., van der Jeugd, H., Voslamber, B., Madsen, J., and Loonen, M.J.J.E. (2013) Latitudinal variability in the seroprevalence of antibodies against *Toxoplasma gondii* in non-migrant and Arctic migratory geese. *Veterinary Parasitology* 194: 9-15.

5.2 Non-refereed articles

Prehistoric and Protohistoric Archaeology

- Çilingiroglu, C. and C. Çakırlar, 2013, 'Configuring the neolithisation of Aegean Turkey'. *Documenta Praehistorica* 49, 21–29.
- Groenendijk, H. A. and P. C. Vos, 2013, 'Early Medieval Peatbog Reclamation in the Groningen Westerkwartier (northern Netherlands).' *Siedlungs- und Küstenforschung im südlichen Nordseegebiet* 36, 139–156.
- Nieuwhof, A., 2013, 'New research on the finds from Ezinge – an inventory of the human remains'. *Settlement and Coastal Research in the Southern North Sea Region (SCN)* 36, 209–223.
- Peeters, J. H. M., 2013, 'Review of 'North Sea Archaeologies' by R. van de Noort.' *Landscape History* 34(2), 90–91.
- Peeters, J. H. M., 2013, 'Review of 'Wetland Archaeology and Beyond' by F. Menotti.' *Journal of Wetland Archaeology* 12, 112–114.
- Raemaekers, D. C. M., 2013, 'Looking for a place to stay – Swifterbant and Funnel Beaker settlements in the northern Netherlands and Lower Saxony'. *Siedlungs- und Küstenforschung im südlichen Nordseegebiet* 36, 111–129.

Classical and Mediterranean Archaeology

Cassieri, N., P.M. van Leusen, H. Feiken, C. Anastasia, and G.W. Tol, 2013, 'Ricerche geoarcheologiche nell'area di Tratturo Caniò (Sezze, Latina)'. *Lazio e Sabina* 9, 393–398.

Greek Archaeology

Dijkstra, T. M., D. Efstathiou, J. van der Heul, D. van der Linde, I. Mamaloudi, and E. Stamelou, 2011, 'The House of Agnostos in Hellenistic Halos. Preliminary report on the 2010 and 2011 field seasons.' *Pharos* 18 (2), 107–124.

5.3 Books

Prehistoric and Protohistoric Archaeology

Cappers, R. T. J. and R. M. Bekker, 2013, *Handboek voor het determineren van zaden en vruchten*, Vol. 22 of *Groningen Archaeological Studies*. Groningen: Barkhuis and The University of Groningen Library.

Cappers, R. T. J. and R. M. Bekker, 2013, *Manual for the identification of plant seeds and fruits*, Vol. 23 of *Groningen Archaeological Studies*. Groningen: Barkhuis and The University of Groningen Library,.

Cappers, R. T. J., R. M. Bekker, and J. E. A. Jans, 2012, *Digital seed atlas of the Netherlands*, Vol. 4 of *Groningen Archaeological Studies*. Groningen: Barkhuis and The University of Groningen Library, 2nd edition.

Classical and Mediterranean Archaeology

Attema, P. A. J., F. di Gennaro, and E. Jarva (eds.), 2013, *Crustumium, Ricerche internazionali in un centro latino / Archaeology and Identity of a Latin settlement. near Rome*, Vol. 1 of *Corollaria Crustumina*. Groningen: University of Groningen / Groningen Institute of Archaeology and Barkhuis.

Greek Archaeology

Voutsaki, S. and S. M. Valamoti (eds.), 2013, 'Diet, economy and society in the ancient Greek world: towards a better integration of archaeology and science.', Vol. I of *Pharos Supplement*. Leuven.: Netherlands Institute at Athens, Peeters.

5.4 Book Chapters

Prehistoric and Protohistoric Archaeology

- Arnoldussen, S., 2013, '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.
- Arnoldussen, S., 2013, 'Metaal'. In: E. E. B. Bulten and Y. M. Boonstra (eds.): *Bronovo, een Hilversumvindplaats aan zee, gemeente Den Haag. Bronstijd- en ijzertijdbewoning in de Haagse Duinen*, Vol. 16 of *Haagse Oudheidkundige Publicaties 16*. Den Haag: Afdeling Archeologie, Gemeente Den Haag, Chapt. 6, pp. 112–131.
- Beckerman, S. M., 2013, 'The ceramics'. In: J. P. Kleijne, O. Brinkkemper, R. C. G. M. Lauwerier, B. I. Smit, and E. M. Theunissen (eds.): *A Matter of Life and Death at Mienakker (the Netherlands) Late Neolithic Behavioural Variability in a Dynamic Landscape*, Vol. 45 of *Nederlandse Archeologische Rapporten*. Amersfoort: Rijksdienst voor het Cultureel Erfgoed, pp. 37–58.
- Çakırlar, C., 2013, 'Rethinking Neolithic subsistence at the gateway to Europe with new archaeozoological evidence from Istanbul'. In: M. Groot, D. Lentjes, and J. Zeiler (eds.): *The environmental archaeology of subsistence, specialisation, and surplus food production*. Leiden: Sidestone Press, pp. 59–79.
- Cappers, R.T.J., E. Cole, D. Jones, S. Holdaway and W.Z.Wendrich (2013): The Fayyûm desert as an Agricultural Landscape: Recent Research Results, in: C. Arlt and M.A. Stadler (eds.): *Das Fayum in Hellenismus und Kaiserzeit. Fallstudien zu multukulturellem Leben in der Antike*. Wiesbaden: Harrassowitz Verlag, pp. 35-50.
- Kleijne, J.P., Beckerman, S.M., Brinkhuizen, D.C., Garcia-Diaz, V., Kubiak-Martens, L., Nobles, G.R., Oudemans, T.F.M., Zeiler, J.T., Brinkkemper, O., Lauwerier, R.C.G.M., Smit, B.I., Theunissen, E.M., Gijn, A.L. van, Peeters, H., and D.C.M. Raemaekers. (2013) Synthesis - A matter of life and death at Mienakker. In: Kleijne, J.P., Brinkkemper, O., Lauwerier, R.C.G.M., Smit, B.I., Theunissen, E.M. (Eds.), *A Matter of Life and Death at Mienakker (the Netherlands). Late Neolithic Behavioural Variability in a Dynamic Landscape*. Nederlandse Archeologische Rapporten 45. Cultural Heritage Agency of the Netherlands, Amersfoort, pp. 249 – 259.
- Nobles, G.R., 2013. Features. In: Kleijne, J.P., Brinkkemper, O., Lauwerier, R.C.G.M., Smit, B.I., Theunissen, E.M. (Eds.), *A Matter of Life and Death at Mienakker (the Netherlands). Late Neolithic Behavioural Variability in a Dynamic Landscape*. Nederlandse Archeologische Rapporten 45. Cultural Heritage Agency of the Netherlands, Amersfoort, pp. 29 – 36.

- Nobles, G.R., 2013. Spatial analysis. In: Kleijne, J.P., Brinkkemper, O., Lauwerier, R.C.G.M., Smit, B.I., Theunissen, E.M. (Eds.), *A Matter of Life and Death at Mienakker (the Netherlands). Late Neolithic Behavioural Variability in a Dynamic Landscape*. Nederlandse Archeologische Rapporten 45. Cultural Heritage Agency of the Netherlands, Amersfoort, pp. 185 – 240.
- Nobles, G.R., 2013. The canoe. In: Kleijne, J.P., Brinkkemper, O., Lauwerier, R.C.G.M., Smit, B.I., Theunissen, E.M. (Eds.), *A Matter of Life and Death at Mienakker (the Netherlands). Late Neolithic Behavioural Variability in a Dynamic Landscape*. Nederlandse Archeologische Rapporten 45. Cultural Heritage Agency of the Netherlands, Amersfoort, pp. 241 – 247.

Classical and Mediterranean Archaeology

- Attema, P. A. J., A. J. Nijboer, G. J. M. van Oortmerssen, J. F. Seubers, and S. L. Willemsen, 2013, 'Two Excavation campaigns of the University of Groningen at Crustumerium, Monte del Bufalo. Preliminary Results'. In: P. A. J. Attema, F. di Gennaro, and E. Jarva (eds.): *Crustumerium, Ricerche internazionali in un centro latino / Archaeology and Identity of a Latin settlement near Rome*, Vol. 1 of *Corollaria Crustumina*. Groningen: University of Groningen / Groningen Institute of Archaeology and Barkhuis, 1st edition, Chapt. 5, pp. 53–60.
- Nijboer, A. J., 2013, 'Banquet, Marzeah, Symposion and Symposium during'. In: Franco de Angelis (ed.) *Regionalism and Globalism Exploring Their Limits; Coloquia Antiqua 7*, ch. 5: 95–125.
- Nijboer, A. J., 2013, 'An interpretation of the radiocarbon date from the Warrior Tomb at Tarquinia'. In: A. Babbi and U. Peltz (eds.): *Das Kriegergrab von Tarquinia. Eliteidentität, Machtkonzentration und dynamische Netzwerke im späten 8. Jh. v. Chr.*, No. 108 in *Monographien des Römisch-Germanischen Zentralmuseums*. Mainz: Verlag des Römisch-Germanischen Zentralmuseums, 1st edition, Chapt. Naturwissenschaftliche Untersuchungen, pp. 205–11.
- Pelgrom, J., 2013, Population density in mid-Republican Latin colonies: a comparison between text-based population estimates and the results from survey archaeology, in *Atlante tematico di topografia antica (ATTA) 23*, 73-84.

Greek Archaeology

- Ingvarsson-Sundström, A., S. Voutsaki, and E. Milka, 2013, 'People, animals and social diversity in Middle Helladic Asine: a bioarchaeological view.'. In: S. Voutsaki and S. M. Valamoti (eds.): *Diet, economy and society in the ancient Greek world: towards a better integration of archaeology and science*, Vol. I of *Pharos Supplement*. Leuven., Peeters, pp. 149–162.

- Voutsaki, S. and S. M. Valamoti, 2013, 'Towards a better integration of archaeology and science in the study of ancient diet. An introduction.' In: S. Voutsaki and S. M. Valamoti (eds.): *Diet, economy and society in the ancient Greek world: towards a better integration of archaeology and science.*, Vol. I of *Pharos Supplement*. Leuven., Peeters, pp. 1–8.
- Voutsaki, S. and S. M. Valamoti, 2013, 'Institutional framework and ethical obligations: doing archaeological science in Greece. The Round Table Discussion.' In: S. Voutsaki and S. M. Valamoti (eds.): *Diet, economy and society in the ancient Greek world: towards a better integration of archaeology and science.*, Vol. I of *Pharos Supplement*. Leuven., Peeters, pp. 235–242.
- Voutsaki, S., E. Milka, S. Triantaphyllou, and C. Zerner, 2013, 'Middle Helladic Lerna: Diet, economy and society.' In: S. Voutsaki and S. M. Valamoti (eds.): *Diet, economy and society in the ancient Greek world: towards a better integration of archaeology and science*, Vol. I of *Pharos Supplement*. Leuven., Peeters, pp. 133–148.

5.5 PhD Theses

Prehistoric and Protohistoric Archaeology

Devriendt, I. I. J. A. L. M. 2013. *Swifterbant stones: the Neolithic stone and flint industry at Swifterbant (the Netherlands): from stone typology and flint technology to site function*. Groningen Archaeological Studies 25.

Thilderqvist, J.G.M. 2013. *Ritual bones or common waste? A study of bone deposits in northwestern Europe*. Groningen Archaeological Studies 24.

Greek Archaeology

Wiersma, C. W., 2013. *Building the Bronze Age. Architectural and social change on the Greek Mainland during Early Helladic III, Middle Helladic and Late Helladic I*, unpublished Ph.D. diss., University of Groningen.

Arctic Archaeology

Kruse, F. 2013. *Frozen Assets: British mining, exploration, and geopolitics on Spitsbergen, 1904-53*. Circumpolar Studies 9.

5.6 Conference Papers

Prehistoric and Protohistoric Archaeology

Peeters, J. H. M., 2013, 'Prehistorische landschappen in de Noordzee, het belang van de Noordzee voor het onderzoek naar prehistorisch landschapsgebruik'. In: J. van den Akker and R. Oosting (eds.): *Maritiem cultuurlandschap. Inleidingen gehouden tijdens het 11e Glavimans Symposium, Amersfoort, 30 mei 2008*. Amersfoort: Glavimans Stichting, pp. 149–160.

Classical and Mediterranean Archaeology

Armstrong, K.L. and P.M. van Leusen, 2013, 'Rural Life in Protohistoric Italy: Using integrated spatial data to explore protohistoric settlement in the Sibaritide'. In: G. Earl, T. Sly, A. Chrysanthi, P. Murrieta-Flores, C. Papadopoulos, I. Romanowska, and D. Wheatley (eds.): *CAA 2012: Proceedings of the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA)*, Southampton, England.

Tol, G.W. and T.C.A. de Haas, 2013, 'Pottery production and distribution in the Pontine Region: a review of data of the Pontine Region Project.' Eds. G. Olcese. *Immensa Aequora 3. Atti del Convegno, gennaio 2011*. pp. 139–151.

5.7 Professional Publications

Prehistoric and Protohistoric Archaeology

Arnoldussen, S., 2013, 'Zoektocht in het zuiden: Celtic fields op ongestuwde afzettingen in Zuid-Nederland'. *Paleo-aktueel* 24, pp. 59-66.

Erkens, G., J.H.M. Peeters, S. van Heteren, V. C. Marges, L. M. Vonhögen Peeters, and M. P. E. de Kleine, 2013, 'Proef Indicatieve Kaart Archeologische Waarden (IKAW) Noordzee'.

Fens, R.L. and S. Arnoldussen, 2013, 'Een opgraving bij de Valther hunebedden (D36 en D37)'. *Archeobrief* 17(2), 9–14.

Fens, R. L. and S. Arnoldussen, 2013, 'Een opgraving nabij hunebedden D36 en D37'. *Waardeel* 32(2), 16–19.

Groenendijk, H. A., J. E. Fries, J. F. Kegler, and D. C. M. Raemaekers, 2013, 'Von Jägern zu Bauern / Van jager tot boer'. In: J. F. Kegler, A. Nieuwhof, K. Nowak-Klimscha, and H. Reimann (eds.): *Land der Entdeckungen. Die Archäologie des friesischen Küstenraums / Land van Ontdekkingen. De archeologie van het Friese kustgebied*. Aurich: Ostfriesische Landscahft, 1st edition, pp. 112–121.

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