A word from the Director

First of all I would like to wish the reader on behalf of the GIA management team an inspiring and productive Archaeological New Year! On the 9th of December in my introduction to the well-attended and very interesting Annual GIA day, I looked back on 2016 stating that it had again been a successful year for the GIA in which we welcomed new researchers, saw many good publications and obtained grants that will have a positive effect on the coming year. This newsletter reports on part of those achievements. I especially like to congratulate Peter Jordan of the Arctic Centre who together with the chair group of Pre-and Protohistory managed to bring a substantial interdisciplinary and international PhD research and training programme to the GIA on scientific archaeology. You can read on it below! But there were other successes as well ranging from small grants to obtain, for example, 14C datings for a researchmaster thesis to larger grants enabling individual PhD's to start their dissertation. Also GIA researchers did well in the Digital Humanities Scheme. In this competition, in which up to 15,000 € for salary
costs and an substantial amount of computer expertise hours worth another 15,000 € could be won. No less than three projects were awarded to GIA members. Check out below who won projects and read on the exciting projects the various teams are going to start. Furthermore there are interesting items on fieldwork, public outreach and new publications. Finally a word on the international Peer Review Committee that visited the Institute in November to judge on GIA’s research quality (very good), its societal relevance (good) and viability (good). In their report the PRC sees ample possibilities for us to do even better. Well, wasn’t that just about what we were intending to go for in 2017?

New staff members

Six new PhDs start at GIA as part of ArchSci2020!
The EU Horizon2020 project 'ArchSci2020 - Archaeology on the Edge: Northern Europe and the Circumpolar World' got underway at GIA this autumn. In partnership with Copenhagen, Stockholm and York, Groningen will train a new generation of 15 PhD researchers in the latest methods in archaeological science. Three of these PhDs are based in Groningen this year (Aripekka Junno, Maddie Llewellin and Özge Demirci) and will spend next year at a partner university; three other Groningen PhDs are now at partner universities but come to GIA next year (Xenia Weber, Jack Dury and Manon Bondetti). All six Groningen PhD researchers are working towards PhD Double Degrees, which will be awarded jointly by Groningen and one of the partner universities. The ArchSci2020 project involves staff from the Arctic Centre (Peter Jordan), the Pre- and Proto history of Northwest Europe Research Group (Daan Raemaekers, Stijn Arnoldussen) and the Centre for Isotope Research (Hans van der Plicht). For further information see the ArchSci2020 website.

New PhD Project on Early Dorset Culture in Greenland
On December 1st the Arctic Centre welcomed another new PhD. Mr Eirik Haug Roe will be researching the technology and life-ways of Early Dorset Culture of Greenland. He is supervised by Peter Jordan and Hans Peeters in GIA, and by Bjarne Grønnow (National Museum) and Mikkel Sørensen (University of Copenhagen) in Denmark. Prior to this PhD, Eirik was employed at Alta Museum in Arctic
Norway, location of the World Heritage rock art sites. Visit their [website](http://us11.campaign-archive1.com/?u=e8b740dde897a6e932b5f2efe&id=e44893081d) for more information.

**Obituary**

**Dick Brinkhuizen (1946-2016)**
Dick C. Brinkhuizen (1946-2016), alumnus BAI (Biologisch-archeologisch Instituut Groningen) and a prominent member of the Dutch and international archaeozoological community, passed away on November 17th. Dick was best known with his work on archaeological fish remains. He was one of the few fish guys of the North. His co-edited book *Fish and Archaeology. Studies in osteometry, taphonomy, seasonality and fishing methods* (1986) published in the BAR International Series, is an indispensable resource for those interested in fish remains. He built the GIA fish skeletal reference collection, now more than 730 specimens, almost single-handedly. He was generous to the young generation, even when he didn't approve how the youngsters used his knowledge. Dick was passionate about the past and its material remains, be it sturgeons from Roman Netherlands, Palaeolithic stone tools, or 70's designer pots. The Groningen institute of Archaeology will always remain grateful for his contributions to archaeozoology, help with the collections, and his welcoming attitude to the new generation of archaeozoologists in the bone attic of the GIA.

**New publications**
Publication: Social Change in Aegean Prehistory
Based on the papers delivered at the symposium surrounding the PhD defense of Corien Wiersma, a volume has been published on Social Change in Aegean Prehistory. The main focus is on the Early Helladic III to Late Helladic I period in southern Greece, but also touches upon the surrounding islands. The book is edited by Corien Wiersma and Sofia Voutsaki and can be ordered for a special price at Oxbow Books.

Anniversary book of the Association of Terp Research
In 2016, the Association of Terp Research is celebrating its 100th anniversary. The Association has always been closely connected to the GIA, stimulating, financing and publishing first BAI and later GIA-research in the terp region. One of the activities this year is the publication of a book that summarizes earlier activities and gives an overview of present-day research in the terp region of the Northern Netherlands. Many GIA staff members have contributed to this book.

For further details, see www.terpenonderzoek.nl.

New Special Issue on Hunter-Gatherer Archaeology of Northern Eurasia
Peter Jordan of the Arctic Centre has recently completed a Special Issue of Quaternary International Journal. The focus is on understanding long-term change in the prehistoric hunter-gatherer societies of Northern Eurasia.

Dwelling on the edge of the Neolithic
On the 3rd of November Gary Nobles successfully defended his PhD, this draws a close to the GIA’s role in the NWO funded Unlocking Noord-Holland Late Neolithic Treasure Chest: an Odyssee project designed to make available and analyse data from 20th century excavations.

The thesis presents a detailed spatial analysis of the sites of Keinsmerbrug, Mienakker, and Zeewijk. These Late Neolithic settlement sites define the westernmost edge of the Corded Ware Culture (c. 2900-2300 cal BC). The
people took part in a broad spectrum of activities: hunting, gathering, fishing, agriculture, animal husbandry, and artisan crafts. They maintained their regional traditions while dwelling on the edge of this Neolithic cultural group. The study depicts Neolithic households as highly mobile with sedentary and seasonal settlements. The patterns that emerge from the in-depth spatial analysis of material distributions indicate the presence of spatially bound locations for specific activities. This structuring of space further supports the identification of various dwelling structures. Neolithic monumentality is, for the first time, identified within the Dutch coastal wetlands. The biographical perspective underlines the ephemeral nature of the divide between the place of the living and the place of the ancestors.

The resulting publication will be also available in the Groningen Archaeological Studies (GAS) volume 32. Contained within are 353 pages of which 140 are in colour.

**PhD cover image**

**Journal of Archaeological Science: Reports**

Tymon de Haas with Tony Brown and Kevin Walsh edited a special issue of Elsevier's *Journal of Archaeological Science: Reports* resulting from a session at the 2014 EAA meeting in Istanbul titled ‘human-environment interfaces: assessing the use of palaeoenvironmental information in mediterranean landscape archaeology’. Already on-line is Peter Attema’s “Sedimentation as geomorphological bias and indicator of agricultural (un) sustainability in the study of the coastal plains of South and Central Italy in antiquity”.

One of the more colourful representations of archaeological spatial data used to inform on the past use of settlement space.
Research

Bonify 1.0 – Ovis/Capra: Virtual solutions to zooarchaeological problems

In January the GIA will embark on a project which takes us into the developing world of virtual reality. In a project funded by the Digital Humanities, Assistant Professor Canan Çakırlar and Dr. Gary Nobles will undertake a 3D scanning campaign of the goat and sheep reference bone collection. In collaboration with CIT, these 3D models will be made accessible virtually via an android smartphone app (code name: Bonify).

The app makes use of head mounted devices (e.g. google cardboard) to augment reality, superimposing the 3D model within the real world, this is along similar lines as the recent Pokémon GO craze. The app will be used in current research and teaching programmes. Accessible around the world, it aims to enable researchers and students access to these vital reference materials wherever they are. This study builds upon the GIA’s long history of scientific innovation in this field: in 1986 Prummel & Frisch published a paper indicating how to distinguish between the two species of sheep and goat. At the time these morphological criteria were illustrated and released to the wider scientific community. Some 30 years later we continue tradition of scientific innovation within the academic discourse.

3-D exploration Crustumerium

Also the project “Interdisciplinary 3-D exploration of a giant burial mound from the Iron Age at the archaeological site of Crustumerium (Rome, Italy)” applied for by Peter Attema, Remco Bronkhorst and Nikolaas Noorda was awarded within the Digital Humanities Scheme. In 2014 the Crustumerium team discovered a burial mound at the ancient Latin settlement of Crustumerium near Rome (9th c. to 5th c. BCE) that appeared to disclose a mortuary record of more than 300 years. Archaeological trenches excavated in the campaigns of 2014 and 2015 coupled with innovative geophysical research revealed a complex stratigraphy and intricate spatial relationships with the surrounding...
settlement and burial grounds. The team soon realized that a mound this size can only be analysed and rendered comprehensible to peers and the public through advanced digital techniques.

While a digital record has already been built up of digitized analogue data of multiple archaeological strata intermingled with tombs, 3-D scans of wide area excavations, as well as geomagnetic and electric resistivity data indicating still hidden deep subsurface structures, no comprehensive model is available yet. To achieve a proper archaeological interpretation of the monument the team plans to exploit the full potential of these data in a geographically accurate 3-D environment in a pilot project that it will carry out with the Virtual Reality Laboratory of the University of Groningen. This pilot will serve a more substantial grant application which will ensure further work on this exceptionally important archaeological complex.

Digital Tombs: Towards an integrated study of funerary practices

This project concentrates on the impact of Roman conquest on local funerary customs in the territory of Syria. Processes of colonization, militarization, and rapid globalization uprooted local communities who now turned to the cemeteries to proclaim their sense of self, of home, and their relationship with the Empire. The tombs tell a story of integration, exclusion, and hybridization. Yet, up to now, it has been very difficult to tell this story. The dataset, consisting of tombs and their spatial setting, burial receptacles (urns and sarcophagi), decorated headstones (stelae), human remains, and inscriptions, is very large and highly fragmented. Furthermore, scholars have traditionally concentrated on their own specialty, be it tomb architecture, funerary iconography, or epigraphy.

The project (Digital Tombs) addresses these impediments by building an integrated database of funerary materials that facilitates the analysis of large and disparate bodies of data. With the help of a grant by the Centre for Digital Humanities, we will develop a tool to record text, illustrations (photos, drawings), spatial information (coordinates, aerial/satellite imagery, information about landscape/surroundings). Embedded in the
database are video and audio files, links to existing online tools for the study of the ancient world, such as those dealing ancient geodata, epigraphic collections, and 3D visualizations (see image). The database serves as a prototype for future studies of mortuary customs, as well as a digital repository of the severely threatened archaeological heritage of Syria.

3D model of the Iamblichus Tower Tomb in Palmyra (source: [https://www.facebook.com/Palmyra3Dmodel/](https://www.facebook.com/Palmyra3Dmodel/)).
Second survey season at Ayios Vasilios

In October/November, the second survey season has taken place at the Mycenaean settlement of Ayios Vasilios under the field direction of Dr. Corien Wiersma. A large group of student from the GIA participated, but also students from Greece, Hungary, France, Germany and England. In addition, Siebe Boersma joined to draw finds from the first season, and two students from Leiden to study the Byzantine to Early Modern finds. Prof. Sofia Voutsaki, co-director of the survey project together with mrs Adamantia Vasilogamvrou, was also present for a week to contact the local farmers and visit the Greek archaeological departments.

During the three weeks of the campaign, a large area of the northeastern hill range, on which the settlement of Ayios Vasilios was located, has been surveyed. Three teams worked side by side and surveyed in 10x10m or 20x20m grid units. Compared to the previous year, fewer finds were present on the surface, and comparatively little Mycenaean material. Remains of a quarry (of unclear date) were found in the area south of the excavations.

The students visited the nearby site of Vapheio Palaiopyrgi, where also an intensive survey was taking place. Here they saw the large tholos tomb and remains of a Bronze Age quarry. In the last week they visited the Byzantine site of Mystras.
Thāj Archaeological Project
The excavations and surveys at Thāj in northeastern Saudi Arabia are carried out under the aegis of the Saudi Commission for Tourism and National Heritage (SCTH) and the Leiden Center for the Study of Ancient Arabia (LeiCenSAA). Ancient Thāj is a walled city of the Hellenistic era (3rd-1st c. BCE), located ca. 95 km inland from the coast and on the intersection of two important trade routes crossing the Saudi desert. Its material culture illustrates that the inhabitants of the site had strong connections with the Hellenistic kingdoms, as well as with Mesopotamia and the southern Arabian Peninsula.

The project concentrates on reconstructing the urban plan and surveying the immediate surroundings of Thāj. Lidewijde de Jong of the GIA was invited to investigate the extensive burial grounds. Preliminary survey undertaken in November has revealed around 500 burial mounds, ranging from earth-covered cist-graves to large tumuli surround the ancient site. Their spatial arrangements suggest zoning according to tomb types. Work on the cemeteries will continue in the next seasons, as well as a study of the funerary inscriptions.

Survey car at the bottom of a burial mound to the south of Thāj (source: L. de Jong).

Activities
Mortuary Variability and Social Diversity in Ancient Greece

Nikolas Dimakis (Athens) and Tamara Dijkstra (GIA) have organized the international workshop ‘Mortuary Variability in Social Diversity in Ancient Greece’ at Athens on 1-2 December. The event was generously hosted by the Netherlands Institute at Athens and was funded by the Research Centre for the Humanities. The workshop brought together young researchers from various European universities and archaeologists of the Greek Archaeological Service working on various aspects of mortuary practices in Ancient Greece, from the Early Iron Age to the Byzantine period.

The aim of the workshop was to explore theoretical and methodological approaches to funerary customs and to discuss how interdisciplinary analyses can be fruitfully applied to provide insights into ancient communities, social groups, and individuals. The opening lecture of the event ‘Classical Archaeology, Archaeological Theory, Archaeological Science, and the Study of Death’ by Professor Sofia Voutsaki (GIA) set out the framework of the workshop. Central issues in the presentations and the discussions that made up the rest of the varied programme included the identification of social identities and social roles, dietary and health studies, questions of migration and territoriality, and the impact of major historical phenomena such as wars, famine, urbanization or synoecism on the way the people of the past treated their dead.

Tamara Dijkstra introduces Eleni Panagiotopoulou, fellow PhD-candidate at the GIA, who presented her research on isotopic analyses of human remains in Protogeometric Thessaly.

Urban Survey Workshop

On Wednesday December 7, a small urban survey workshop was organized by Prof. Sofia Voutsaki and Dr. Corien Wiersma. The workshop took place...
in conjunction with the Capita Selecta lecture of Prof. Yiannis Lolos, of the University of Thessaly entitled ‘Surface survey and urban archaeology’, discussing his survey work at the site of Sikyon.

Presentations were given by Dr. Wieke de Neef on the hilltop settlement of Montarice, Dr. Corien Wiersma on the survey at Ayios Vasilios, Prof. Vladimir Stissi on the study of pottery from Boeotian cities, and Dr. Christina Williamson on the DAI survey at Elaia.

![The gridded survey at Sikyon.](image)

**Strategies of Remembrance in Greece under Rome**

From 19-21 October the Netherlands Institute at Athens hosted the International Workshop ‘Strategies of Remembrance in Greece under Rome’, organized by Tamara Dijkstra (GIA), Inger Kuin (Ancient History, RUG), Muriel Moser and David Weidgenannt (Ancient History, Frankfurt a.M.). The aim of this workshop was to examine the ways in which communities and individuals mobilized the past in Greece in the 1st century BCE and the 1st century CE. The workshop examined the conscious use of memory not just as a cultural phenomenon, but as an instrument to deal with present concerns, or to pursue particular political or social aims.
The participants included PhD-students, Post-Doctoral researchers and senior scholars from various universities in the Netherlands, Germany, the UK, Switzerland, Greece, Italy, and the US. Themes that were discussed include the use of funerary monuments as media for the expression of local identity and integration by a minority group; the ideological value of hero cults for local benefactors; honorific monuments erected by the cities and the political strategies that these could serve; and the re-institution of ancient Greek games and traditions. In the poster session several younger scholars, including ReMa students, presented their work on similar topics.

The proceedings of the workshop will appear in the series *Publications of the Netherlands Institute of Athens*.

**Workshop 'Tra Appia e Latina'**

Agnese Fischetti, external PhD at the GIA and working in Rome, organises the workshop ‘Tra Appia e Latina: dinamiche insediativ e sviluppo del territorio alle pendici dei Colli Albani’ (Between the Appia and Latina: settlement dynamics and territorial development on the slopes of the Alban Hills) at the [Royal Dutch Institute at Rome](http://us11.campaign-archive1.com/?u=e8b740dde897a6e932b5f2efe&id=e44893081d) on the 9th of February.

**Fieldwork**

**Fieldwork Spitsbergen**

Last August a multidisciplinary team under the supervision of Frigga Kruse (Arctic Centre Groningen) undertook fieldwork at the coalmining settlement of Advent City on Spitsbergen. Advent City was founded in 1904, at its peak it consisted of several public buildings, barracks, stables, and an engine house. The local coal soon proved to be of inferior quality, this sealed the settlements fate and mining activities came to an end in 1908. In 1916 the buildings were moved to the new coalmine of Hiorthhamn in the vicinity.

The multidisciplinary research focused on the ecological impact of the settlement and its environs. Two middens and an ash deposit were targeted and partially excavated, botanical investigation examined the surrounding flora to assess the impact early 20th century habitation has had on the area. In addition, the buildings in Hiorthhamn were documented through 3D photogrammetry to be able to digitally relocate these buildings to their former position in Advent City.

After a fruitful week of fieldwork two polar bears, a mother and cub, took an interest in the site. They were possibly attracted by the smell of thawing horse dung from the midden. The bears were well behaved; damage was confined to some ripped finds bags. Unfortunately the bears remained in the close vicinity of the site and fieldwork could not be continued. The excavation was cleared, trenches were backfilled and the
camp evacuated. Due to the abrupt ending of the fieldwork no drawings were made. This will be compensated with photo and 3D documentation of the trenches. Also, less samples were taken than planned but a first scan of the samples proves that these will yield a lot of information which will help answer most of the research questions.

3D model of one of the houses that was moved to Hiorthhamn (by Gary Nobles).

Polar bears visiting the excavation (photo Elisabeth Kaddan).
New excavation started by GIA in Etruria on a Final Bronze Age saltern near the Etruscan site of Populonia

Within the framework of the PhD thesis of Maria Rosaria Cinquegrana the GIA has started a new fieldwork project in Etruria on marine exploitation in collaboration with the University of Naples and the Archaeological Service at Florence. Luca Alessandri, Peter Attema, Maria Rosaria Cinquegrana Wieke de Neef and associated GIA researcher Jan Sevink carried out fieldwork in October at the site of Puntone Nuovo where GIA earlier had carried out geophysical prospecting to reveal structures and remains likely to be interpreted as part of salt production know as ‘briquetage’. This particular way of salt production involves the boiling of brine in ceramic containers places in furnaces to obtain salt cakes. The excavators targeted various anomalies visible in the magnetic mapping that had been carried out by the geophysical prospecting company Eastern Atlas. This revealed various pits, ceramic debris heaps and other interesting features related to the production process. On the basis of the results of the first campaign an interdisciplinary research programme has been established involving palaeoecological research (impact of briquetage industry on the local environment), residue analysis and gas chromatography on pottery and other scientific techniques to reconstruct the chaîne opératoire of salt production including its environmental impact. A subsidy has been applied for with the KNAW ecology fund for he environmental work. Fingers crossed!

Grants - awards - prizes

"W.A. van Es" prize for Annet Nieuwhof
In their report the jury stated “remarkable is her courage to construct a new theoretical framework with which she tackles a substantial dataset. The result is a clear, analytical piece of work written in a sympathetic style guiding the reader through a convincing analysis and argumentation going beyond sheer regional importance”. The thesis is characterized by the jury as “an impressive, well-wrought and audacious study assigning a prominent place to the careful study of ritual within the archaeological discours”.

NWO grant for international dissemination of Neolithic burials from Dalfsen (the Netherlands)
In 2015 a large suprise find was made as part of a developer-led archaeological project in Dalfsen, near Zwolle. To everyone's suprise a
burial area with c. 140 individual burials was recovered, dating to the period of the megalith tombs (*hunebedden*), c. 3000 cal BC. The find is exceptionally significant thanks to this large number of burials - till this find the largest groups of burials from this period in the Netherlands was only eight graves large. The number of burials also makes it stand out internationally within the North European distribution of the Funnel Beaker Culture. The NWO grant will allow for a detailed catalogue, including 3D reconstruction of the burial pit and deposition history, and a monograph on the interpretation of the burial area. Thanks to the abundance of material, the publication will allow studies on normative behaviour (and deviation from it), studies on gender and hierarchy, temporal and spatial analysis (thanks to the decorated pots recovered in many pits) and relations with the central earthen mound and nearby settlement remains.

**Second place for Video Pitch 'Zodenhuis' (Daniël Postma)**

Daniël Postma's video on the 'Zodenhuis' won a second place in the Sustainable Society Impact Award. The video was made by Timescale, using images from the documentary broadcasted by Omrop Fryslân.
2 grants from Svalbard Environmental Fund

Frigga Kruse and Frits Steenhuisen of the Arctic Centre both successfully applied for a grant from the Svalbard Environmental Protection Fund. SEPFs purpose is to ensure that Svalbard's distinctive wilderness character and the unique cultural heritage is preserved as the basis of experience, knowledge and wealth creation. Visitors to Svalbard pay an environmental tax and the revenue from the fee goes to Svalbard Environmental Protection Fund. The fund also get their income from fees for hunting and fishing licenses and fees and fines under the Svalbard Environmental Protection Act.

Frigga Kruse will use her grant to make a 3D reconstruction of Advent City (Spitsbergen/Svalbard).
Frits Steenhuisen will use his grant to measure Mercury and PAH (polycyclic aromatic hydrocarbons) in the Kongfjorden ecosystem.

See the university website for more information on the projects.
Grant for radiocarbon dating
Evelien Witter received 3000 € from the 'Fundatie van Renswoude', enough for seven radiocarbon dates of augerings done within the framework of her research master thesis on the sedimentation history of the Astura valley near Satricum (Central Italy). Evelien studies human impact on the landscape of the Pontine region during protohistory. The fieldwork for the Astura project was carried out in 2016 together with Jan Sevink, Peter Attema and Nikolaas Noorda.