



# Annual Review 2018

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# BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY AND OSTEOLOGY ANNUAL REVIEW

*EDITOR*

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## WELCOME TO THE ANNUAL REVIEW FOR 2018

*Diana M Swales*  
*University of Dundee*

Welcome to the 2018 BABAO Annual Review.

2018 proved yet again to be a strong year for the BABAO membership. Thank you to all of you who have contributed to this volume. It is a wonderful opportunity to share successes, news and the important projects being undertaken by individuals, professional organisations, museums and university departments.

I hope you all enjoy the review and are looking forward to the 21<sup>st</sup> BABAO Annual Conference hosted by the Natural History Museum in September.

The call for contributions for the review is typically in November with an end of December submission deadline. If you wish to submit content sooner, please feel free to email [d.swales@dundee.ac.uk](mailto:d.swales@dundee.ac.uk).

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## ASSOCIATION NEWS

### **Note regarding the President's Column**

2018 saw the election of Dr Jo Buckberry from the University of Bradford and long term BABAO member as the new President. Unfortunately, due to a period of unexpected and serious illness Jo has been unable to contribute a President's Report for this issue. All of the BABAO trustees wish Jo a full recovery and future good health.

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### **Report from the Membership Secretary**

*Anwen Caffell*  
*Durham University*

BABAO had 519 members at the end of 2018, an increase on the 477 members we had at the end of 2017. As last year, just over half our

members were employed (271, 52.2%), while most of the remainder were students (196, 37.8%). The remaining members were unwaged (37, 7.1%), or retired (13, 2.5%). We also have one institutional member, and one Honorary Life Member: Holger Schutkowski, who was awarded an honorary life membership at the 2018 BABAO Annual Conference in recognition of the contribution he has made to BABAO and the field of human bioarchaeology (see <http://www.babao.org.uk/grants-and-prizes/honorary-lifetime-membership/> for more information).

Those members who had specified an occupation were grouped into broad categories (see Table 1); note that these figures include some unemployed and retired members (e.g. working in a voluntary capacity). Members associated with academia (not including students) formed the largest subsection, and included lecturers, post-doctoral researchers, and other teaching/technical support staff. Seventy-five members (33.1%) were associated with the commercial sector, assuming that all members who defined themselves as archaeologists or osteologists/oste archaeologists worked in the commercial field. Smaller numbers of members worked as forensic specialists, in museums, or in medicine, and there were a diverse range of other professions represented. The overall composition of the membership was similar to 2017.

MEMBERSHIP CATEGORIES		
Academic	106	41.2%
Osteologist	41	16.0%
Archaeologist	34	13.2%
Osteologist/Archaeologist	10	3.9%
Forensic	22	8.6%
Medical	8	3.1%
Museum	10	3.9%
Other	26	10.1%

Table 1. Membership Categories 2018

We recruited 120 new members during 2018, including those re-joining, in comparison to 82 during 2017 (including those re-joining). Overseas members make up a quarter of the membership (128, 24.7%). The majority of

our overseas members come from Europe (73, 57.0%), but we also have members from North America (38, 29.7%) and the Antipodes (11, 8.6%). We also have a small number of members from elsewhere in the world (6, 4.7%). These proportions remain similar to those in 2017.

New 'new membership' and 'updating your details' forms were launched towards the end of 2018 with the aim of collecting data on occupation category and fields of interest in a more systematic and easy-to-compile way. An effort will be made during 2019 to gather the same information for existing members, though it is anticipated this will take time. If you are a longstanding member and have not completed an 'updating your details' form recently then you can help this process through completing one of the new forms available from the membership section of [www.babao.org.uk](http://www.babao.org.uk). Please do send me updates on changes in job titles, positions, affiliations, and personal details, and ensure you keep your postal address up to date. Please do not hesitate to contact me if you have any questions regarding BABAO membership: you can email me at [membership@babao.org.uk](mailto:membership@babao.org.uk).

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### **Report from the Grants Secretary**

*Sophie Newman  
University of Sheffield*

In 2018, the BABAO Board of Trustees awarded two academic research grants and three commercial research grants.

### **Project Summaries**

#### ***Academic:***

**Barbara Veselka (Leiden University) - £1,000**

*Radiological assessment of vitamin D deficiency prevalence in two post-Medieval populations Beemster and Hattem, Netherlands*

In the 19th century, vitamin D deficiency is known to have affected many individuals, in particular children. Rickets is generally

attributed to the effects of industrialisation, such as tall buildings, and air pollution. Recent research showed high vitamin D deficiency prevalence in rural and small urban centres, suggesting other factors to be at play. This project will radiologically assess dental defects to provide information on the age of rickets onset and the number of deficient periods per individual. With this research, our understanding of vitamin D deficiency development and its impact on past populations will be improved.

**Simone Lemmers (University of Kent) - £1,000**

*Bio-erosion as a tool for unlocking pre-cremation funerary practices in the Chalcolithic Perdigões enclosure, Portugal*

The practice of cremation is often interpreted as an alternative to inhumation, shortly taking place after an individuals' death. However, cremation could be a final stage in complex mortuary practices of bodily manipulation. At the Chalcolithic site of Perdigões (3rd millennium BC, Portugal), cremated remains of over 150 individuals were found and their pre-burning condition (fleshed vs unfleshed) is still one unsolved question since it cannot be undoubtedly assessed using currently available methods. This project employs a newly developed approach of cortical bone and dental histology to assess presence or absence of bio-erosion to investigate pre-cremation manipulation.

#### ***Commercial:***

**Katie Tucker (University of Winchester) - £1,500**

*Dissecting the Destitute: Investigating Anatomised Human Remains from the Armenfriedhöfe of Berlin*

The project will investigate a highly unusual assemblage of human skeletal remains excavated from two of the nineteenth century Armenfriedhöfe (poor cemeteries) of Berlin, that show evidence for modifications (cut, drill and saw-marks) consistent with medico-legal procedures (autopsies), surgical training

(dissection, trephination, amputation), and anatomical articulation (drill-holes and copper wire). The project aims to shed light on the different types of procedures that were being performed, how these changed over the course of the nineteenth century, and who the individuals were on whom the procedures were being performed.

**Lauren McIntyre (Oxford Brookes University) - £2,331.70**

*The All Saints Anchoress. An Osteobiography*

SK3870 was excavated at All Saints church, Fishergate, York, in 2007. Historical evidence, combined with archaeological evidence from this unusual tightly crouched burial in a large shallow grave in the church apse, suggests that this may be the skeleton of Lady Isabel German, a well-known medieval anchoress. This study will explore the possibility that SK3870 represents the remains of Lady Isabel. Detailed osteological analysis, integrated with evidence from thorough archaeological and historical research has the potential to provide a new perspective on this individual, and offer new insights into a recognised medieval practice rarely reflected in the archaeological record.

**Sharon Clough (Cotswold Archaeology) - £2,108.90**

*Solving the Mystery of the Bones from Cannington Park Quarry Cave*

Solving the mystery of the date of the bones will enable them to be placed within the correct context with the adjacent Roman cemetery which was excavated in the 1960s. This will be achieved through Radiocarbon dating the bones recovered from the cave at Cannington Park Quarry. The dates and osteological information can then be included in the wider area burial information, which has been identified by recent Cotswold Archaeology excavations.

## **2019 BABAO Grants Update**

The BABAO Grants application round for 2019 has now closed, and all applications are currently under review. The next application round will be announced in March 2020.

The application forms as well as further guidance and information on eligibility, how to apply, and what can be funded can be found at the following Web address: <http://www.babao.org.uk/about/researchgrants/>

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## **NEWS**

### **NEW: MSc in Professional Human Osteoarchaeology at the University of Reading**

The Department of Archaeology, Reading has launched a new MSc in Professional Human Osteoarchaeology (first intake Sept 2019) aimed at providing highly vocational training in human osteology to meet current demands in the sector, as well as preparing students for a research career in bioarchaeology and/or palaeopathology. In addition to advanced instruction on the methods and techniques used in human bioarchaeology, students will be introduced to what it is like to work with clients, construction companies, exhumation services, and the public, as well as working in a museum, or teaching and communicating with 'end-users' through our unique core module: 'In at the Deep End'.

This course is designed to allow students to study full-time, part-time and to leave at various stages (PGCert, PGDip). It also allows students who leave at PGDip level to complete their dissertation (and MSc degree) part-time, normally whilst already working as a professional osteologist. Modules are also available on an individual basis for continual professional development (CPD).

The Department is offering three £5000 International scholarships and £1000 Home/EU Scholarships (in the form of fee reductions) to the best applicants. Please feel

free to contact Mary ([m.e.lewis@reading.ac.uk](mailto:m.e.lewis@reading.ac.uk)) for any further details or check the website below.

<http://www.reading.ac.uk/archaeology/masters-courses/archaeology-scholarships.aspx>

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## PEOPLE

At the end of 2018 Malcolm Lillie confirmed he would be taking up his new post as Professor of Archaeology at Umeå University in Sweden on the 1<sup>st</sup> of April 2019.

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Jonny Geber also confirmed his new post as Lecturer in Human Osteology at the School of History, Classics & Archaeology at the University of Edinburgh, which he commenced in early 2019.

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## MUSEUMS AND OTHER INSTITUTIONS REPORTS

### **Centre for Human Bioarchaeology**

#### **Museum of London**

*Jelena Bekvalac*

*Curator of Human Osteology*

The year began with the first few days in January being the last days at Leeds City Museum of the final of the three Wellcome Skeletons: Our Buried Bones regional exhibitions. Over the course of the three exhibitions shown at the Hunterian Museum, University of Glasgow, MShed Bristol and Leeds City Museum we had the pleasure of working with many colleagues old and new, and would like to say thank you to them and all of the people who worked together in making the exhibitions possible and successful. It was a great opportunity and an enjoyable experience being able to be involved.

Following on from the touring exhibitions, the next one was closer to home with the excellent Roman Dead exhibition that was

shown at the Museum of London, Docklands. The exhibition ran from 25th May to 28th October 2018 and provided an opportunity for visitors to become better acquainted with ancient ancestors; learning not just about the dead and often complex burial rites but also about life in Roman London. The exhibition had a rich mix of fascinating archaeological discoveries excavated from Roman cemeteries, including some remarkable objects, skeletal remains from a range of burials and a rare Roman sarcophagus excavated from Harper Road in Southwark, shown to the public for the first time.

Integral components of the exhibition were the skeletal remains and all of the analysis and research carried out by Dr Rebecca Redfern and colleagues which enabled an enriched insight to life and death in Roman London. Of particular significance was the information revealed from the advances in ancient DNA and the resultant data in relation to individuals within the exhibition providing details not possible to determine only from macroscopic analysis of the bones. The combination of the archaeological and osteological information was presented in an accessible and engaging way that was suitable for a broad audience with a focus for being family friendly and which saw a programme of events based around the family. There were also a number of other events including specialist talks from Becky and other experts in the field of Roman studies, evening talks and a specialist panel session. The exhibition proved to be very popular and had high visitor attendance with excellent reviews.

The CHB was also able to contribute to the summer Wellcome exhibition Teeth (17 May 2018 - 16 September 2018) which was a chance to “Explore the highlights selected from over 150 objects, including ancient protective amulets and dental bling, dentures and drills, sketches and spittoons, tooth transplants and toothpaste ads.” Amongst the many splendid dental delights were two skulls from the curated Museum of London collections showing the dental intervention of a ‘Waterloo’ tooth with platinum wire in the mandible of a female from St Marylebone and

a female from St Bride's Lower Churchyard with a severe build-up of nodular calculus covering her maxillae and mandibular teeth on the right side.

The CHB was also able to contribute to the display for the Disease X installation in the Museum of London which uses a selection from the museum's collections to show the effect of historic epidemics on London. On show from 16th November 2018 to 1st February 2019 the display "questions how we might learn from the past by looking at past successes, such as the eradication of smallpox and cholera".

We have continued to be involved in school sessions ranging from the Written in Bone sessions, a learning workshop for Key Stage 2 based around the Romans led by Becky and which from the sessions has been the inspiration for the well-known children's author Caroline Lawrence; participating in sessions centred around selected individuals from the skeletal collection for linking in with Public Health Through Time for secondary school students studying History of Medicine; I had the pleasure of running more sessions at Wellcome as part of the Bodies of Knowledge for secondary school pupils as part of the Youth Engagement Programme and for meeting a new group of girls taking part in the Young Osteologist sessions from the City of London School for Girls, with a series of afternoon sessions for them to explore what can be learnt from skeletal remains about the individual and the time from which they once lived and died. As before, following on from the Young Osteology sessions the girls were able to participate in 'Take Over' Days at Charterhouse and Guildhall which had a theme around the Black Death. The girls and visitors all thoroughly enjoyed the days and had very positive visitor responses from the experience, with excellent feedback in relation to the osteological presentation.

The CHB again ran higher education study days and tours of the rotunda store utilising the CHB teaching collection for assisting student groups (undergraduate and master's) and overseas students, covering a broad scope

of topics but the Black Death always remains ever popular. We had the pleasure of engaging with students from London School of Economics, Queen Mary University of London, Kent University, Kingston University, Arizona State University, Colgate University, Furman University, Michigan State University and Portland State University Honors College. It is always interesting and enjoyable to have the opportunity to engage with students and to be able to share information from the skeletal collections.

We were fortunate at points in the year to be able to participate in conferences and events presenting about the skeletal collections, including the Skeletons, Stories, and Social Bodies Conference at the University of Southampton; Dead Images conference at Edinburgh University; After the Plague one day workshop in Cambridge Learning from Multidisciplinary Bioarchaeological Projects; London Archaeologist 50th anniversary conference; London Month of the Dead (talk on Red Cross Way/Cross Bones); Society of Apothecaries, London and U3A Ealing group. Becky was also able to join in with the BABAO session as part of the British Science Festival for 2018 held at the University of Hull. Unfortunately, neither of us was able to attend the 20th anniversary BABAO conference at Cranfield and we were very pleased to hear it all went so well. I would also like to say thank you to my osteological colleague Niamh Carty at MoLA who very kindly stepped in at very short notice in February to speak at the event Close to the Bone that I was unable to do due to a family situation, it was very much appreciated.

The museum is fortunate to have dedicated volunteers who generously give their time to the museum enabling it to share the collections with visitors and assist with the many school visits. In the summer the museum Volunteer coordinator organised a series of events at the museum as part of the National Volunteer Week. The Centre is very fortunate to have long term volunteers who have kindly supported the Centre for many years in its ongoing endeavours and all of their hard work is much appreciated. The

volunteers were all very kind and assisted when the CHB took part in the summer with Work Experience students and supported eight students over a two week period to have a better insight in to our roles as curators of the archaeological skeletal collections. The students who came to work with us were all very enthusiastic and enjoyed the time with us and the skeletons, with the skeletons undoubtedly being the most popular!

In October the CHB participated in the annual Museum of London event for the Society of Londoners group and was able to dedicate their involvement to sharing information about the Impact of Industrialisation on London Health funded project by the City of London Archaeological Trust (CoLAT). The presentation was made up of a power point showing visual aspects of the project including a number of the digital radiographs, a selection of some of the London skeletal elements radiographed and sites included in the project study. My interaction with visitors over the course of the evening was that they were fascinated by what they saw and very interested in the work of the project. Gaynor Western having completed the collation of data for all of the sites included in the project began the enormous task of writing up the project for publication with a site gazetteer and chapters investigating pollution, obesity, cancer and trauma. The project is in the last stages of writing up the final sections and with the anticipation of the project publication being completed for Spring 2019.

The majority of media outputs for the year focused around the Roman Dead exhibition with Becky and the exhibition team in the newspapers and on film which continued in the Roman theme with Becky filming for an episode of Digging for Britain with Professor Alice Roberts. My encounters with the media were in the rotunda store talking as part of a National Geographic programme looking at the Black Death and as a part of an episode for a Landmark History of London series looking at diseases. The rotunda store and the skeletal collections also formed a pivotal backdrop as part of a film based on a poem by Imtiaz Dharker, who was one of three poets

writing with the area of Smithfield as the central focus. The films and poems were shown as part of the Smithfield 150 Years celebratory event, an important link now with the location for the new museum and were the “culmination of Between the Storeys a collaboration between Poet in the City and Culture Mile using poetry and film to animate the stories, histories and experiences of different communities existing within the historical boundaries of Smithfield.”

Once again St Bride’s church was very generous enabling access for researchers to the important biographical collection retained at the church for which the CHB assists with the curation and application for research. A number of researchers through the course of the year had the pleasure of being in the warm crypt. Regular visitors now to the crypt were Dr Jaime Ullinger and students, joined this year by Dr Tracy Betsinger to continue with data collection for research projects. The skeletal collection was able to assist a number of student researchers including those from Kingston University collecting data from various elements for dissertation projects; a UCL Master’s student Chloe Surridge investigating the auricular surface and two UCL PhD students Christopher Silvester looking at changing diet in the 18th and 19th century using 3D modelling for investigating dental wear and Aaron Gasparik documenting temporal changes in the prevalence and distribution of rotator cuff disease in a number of skeletal collections from the UK.

St Bride’s also kindly allowed for a number of tours of the crypt and I had the pleasure of leading a number of tours in the crypt at St Bride’s for the City of London Archaeology Society (CoLAS), the RAC Club, Council for British Archaeology (CBA) and as part of the London Month of the Dead. The crypt and the rotunda are always very popular as ‘Behind the Scenes’ places to visit and including students visiting the rotunda we were also able to welcome a group from the Metropolitan Police Forensic Examiners to learn about the archaeological skeletal collection.

With the ongoing work and plans for the move to the New Museum we were still unable to support external research visits to the curated skeletal collections but were fortunately able to support researchers with the recorded osteological data from the database. We are always happy to help as much as we can with research using the data on the collections and if anything does not appear to be present on the CHB website in relation to sites, please do contact using the CHB email for us to assist. We look forward to 2019 being another interesting year and for the CHB to be able to support researchers and participate in an exciting mix of events.

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### **Museums of the Royal College of Surgeons of England (RCS)**

*Carina Phillips*

Both the Hunterian Museum and the Wellcome Museum of Anatomy and Pathology are currently closed for redevelopment of the buildings. Both museums are expected to reopen in 2021. During this time all the museum collections have been moved into storage. We are collaborating with the Natural History Museum, London to share some of their store and workspace.

Over the last year we have been working on the backlog of collections management work resulting from the redevelopment. We have also started planning the design of the new museum spaces. We have continued to run a curatorial enquires service and have been able to start providing research access again. We will continue to do this, but please be aware that our response may be a little delayed and that some parts of the collections are not accessible during closure. We are also continuing to run public events with our partners at the Museum of Life Sciences at Kings College London and the London Metropolitan Archives, details can be found on our website: <https://www.rcseng.ac.uk/museums-and-archives/hunterian-museum/>

If you would like to explore our collections, they can be searched via our online catalogue SurgiCat: <http://surgicat.rcseng.ac.uk>. Please be aware that this does not include Human Tissue Act (2004) licenced material. You can contact us via email: [museums@rcseng.ac.uk](mailto:museums@rcseng.ac.uk) if you do have an HTA specific enquiry or wish to discuss research access to any of the collections.

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### **EXCAVATION AND ANALYSIS OF HUMAN REMAINS IN 2018**

**Cotswold Archaeology**  
*Sharon Clough*

2018 has seen another busy year for Cotswold Archaeology and with recent fieldwork 2019 is looking to be a burial-filled year to come.

The work on the Anglo-Norman execution cemetery at Weyhill, Andover was presented at the BABAO conference in September. Work continues towards the publication.

Work for Foundations Archaeology at Lechlade, Gloucestershire was a particularly interesting site. Previous excavations (Boyle et al. 1995) had revealed two prehistoric burials in the immediate area and the construction of a skate park and new memorial hall required further excavation. The area where the skate park was going revealed a Bronze Age barrow with 5 inhumation and 4 cremation burials located within the barrow or the ditch. One further burial was near where the 1995 excavation had been. Radiocarbon dating revealed that the two more central burials were Early Bronze Age and the other three were Early Iron Age. The cremation burials were all dated to the Middle Bronze Age. The central inhumation burial (male) had a typical kit of wrist guard and strike-a-light along with head and hooves of cattle. The burial adjacent to this (male and also EBA) was buried in a what appeared to be an upright position, where the legs were straight and pelvis seated, with lower arms resting by the side. The top half was truncated, but was also probably

upright. Head and hooves of cattle lay at the side of the pit. No other parallel could be found to the upright/seated burial in the UK from the Bronze Age (see image)



And like buses, Bronze Age Barrows come along all at once, with the excavation of a site called Picket Twenty, Andover, where four barrows and a post-built funerary enclosure were excavated. Post excavation assessment suggests that burial (inhumation and cremation) spans the whole of the Bronze Age period.

The Bronze Age cremation cemetery (c. 38 burials) from near St Clears in Wales, will be published shortly please look out for the monograph in Spring 2019. “The prehistoric archaeology of the A477 St Clears to Red Roses road improvement scheme: 2012, by Alistair Barber, Alan Hardy and Andrew Mudd”.

### **Sites completed in 2018**

*Heatherstone Grange, Bransgore, Hampshire* – 18 cremation burials, urned and un-urned from in and around Bronze Age barrows. Published in Hampshire Studies 2018, Volume 73 ‘Excavation of four barrows, and a middle Bronze Age cremation cemetery, at Heatherstone Grange, Bransgore, Hampshire’ by Massey and Morris.

*Lower Road Aylesbury* – Middle Bronze Age cremation burial.

*Linton, Cambridgeshire* – Evaluation, cremation burial of a child, undated.

*Higher Nansloe farm, Helston, Cornwall* – cist burials, with little to no bone remaining.

*Rowden park, Chippenham* – crouched inhumation of child (EBA) and five deposits of cremated bone

*Evaluation Hinckley, Leicestershire* – Disarticulated human remains from ditch and Roman urned cremation burial

*Beggarwood Lane, Basingstoke* – Bronze Age, nine cremation burials (3 urned)

*Trevithick Manor farm, Cornwall SMS* – one un-urned cremation burial, undated.

*Land east of Mount Owen road, Bampton, Oxfordshire* – 7 Iron Age cremation burials

*Post Farm, Thornbury, South Gloucestershire* – 15 Roman burials and 2 cremation burials. Nails found in the mouth of two burials and one burial adult male, decapitated, with child laid prone on the legs.

*Riverton Road, Puriton, Somerset* – Late Iron Age inhumation and Roman cremation burial.

*Land south-west of Collingtree, Northamptonshire* – disarticulated human remains from ditch.

*Land East of Halstead road, Kirby Cross, Essex* – Evaluation, 1 cremation burial, undated.

*Land at Rotherdale Farm, Throckmorton* – Disarticulated cranium fragment.

*Kennel farm, Basingstoke PXA* – one inhumation and 8 cremation burials.

*Westham road, Barford PX* – Late Neolithic cremation burial and 3 inhumation burials mid-late Roman.

*Hatfield plot 5000, Hertfordshire* – 8 cremation burials mid-late Bronze Age

*Bear Inn, Alfred Street, Oxford* – Unexpected find of medieval human remains from the beer cellar of the pub, probably from the ‘lost’ church of St Edward.

*CABI Wallingford, Oxfordshire* - Bronze Age cremation burial.

*Ding's Crusaders, Bristol* – Roman villa site, 4 inhumations and 1 cremation burial relating to the villa.

*Rushden SUE, Northamptonshire* - 2 inhumation burials found during evaluation.

*Hinkley SPE1-7 publication* – Hinkley Power Station Sites (not cemetery) north Somerset, inhumation and cremated remains from Bronze Age to Post Roman period. Compilation of the work by Jonny Geber and Sharon Clough for publication. Work continues on the 6th-8th century cemetery from SPE 8.

Cotswold Archaeology deposit all their grey literature reports with Archaeology Data Service and in their own newly updated online library  
<https://reports.cotswoldarchaeology.co.uk/>

#### **Email**

[sharon.clough@cotswoldarchaeology.co.uk](mailto:sharon.clough@cotswoldarchaeology.co.uk)  
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**Oxford Archaeology  
Heritage Burial Services**  
*Helen Webb*

#### **Team**

***Oxford Archaeology South:*** *Louise Loe*  
(*Head of Heritage Burial Services*), *Lauren McIntyre* (*Osteoarchaeologist*), *Mark Gibson*  
(*Osteoarchaeologist*), *Helen Webb*  
(*Osteoarchaeologist*)

***Oxford Archaeology East:*** *Natasha Dodwell*  
(*Osteoarchaeologist and Head of Finds and Environmental*), *Zoe Ui Choileain*  
(*Osteoarchaeologist and Finds Assistant*)

***Oxford Archaeology North:*** *Stephen Rowland* (*Archaeology Project Manager*)

#### **Fieldwork**

##### *Buckinghamshire:*

Broughton, Glebelands, Milton Keynes

A cluster of seven probable Bronze Age cremation deposits were revealed during recent excavations at Glebelands. These include one urned and six unurned deposits, all found in earth cut pits. Excavation at the site is now completed and the post-excavation work is underway for the next six months.

##### *Cambridgeshire:*

Farriers Way, Warboys

Excavation is still ongoing at Farriers Way where, to date a total of thirteen inhumations and four unurned cremation burials have been excavated. Most of these are believed to be Roman, although there is some early Saxon activity on the site. Associated finds include carved bone hairpins and brooches.

Land south of Old School Lane, Upware

Several neonate burials associated with a Romano-British stone building and a double inhumation within a ditch, were excavated at Upware. Stone foundations are rare in this part of the country and the building is believed to have been be aisled barn. The post excavation work is on hold until the adjacent area has been excavated.

##### *Essex*

Guilden Way, Harlow

Two clusters of Romano-British cremation burials (predominantly urned) have been excavated adjacent to a scheduled villa; the groups are of 19 and 10 burials many with numerous accompanying vessels. The vessels are currently being excavated in the Unit and pins and brooches have been found with the cremated bone. This large, long running excavation also identified a further nine late Iron Age and Romano British cremation burials, isolated and in smaller clusters across the site. The excavation is due to finish at Christmas and the post excavation work will be completed in the next six months.

### *Northamptonshire:*

Land West of Boughton, Buckton Fields

Excavation is currently underway at Buckton Fields where, so far, a total of 33 inhumations and two cremation burials have been recovered. The burials are thought to be Late Roman, given their proximity to a nearby Late Roman settlement. The inhumations are characterised by a wide range of body positions and burial practices. Included are four decapitation burials (two prone, two flexed), supine and prone extended burials in both earth cut and stone-lined graves, and at least two with evidence for coffins in the form of nails. Finds from some of the burials include a copper alloy bracelet, a vase, and a piece of metal in the mouth of one individual. There is still potential for more burials to be revealed before the completion of the excavation in December.

As well as the above sites, individual or small numbers of burials were found at the following sites:

- M1 D Way Junction 16, Northants (4 inhumations, 2 cremations, ?Iron Age-Roman)
- Warth Park, Raunds, Northants (5 Romano-British inhumations and 1 cremation deposit)
- Denchworth Road, Wantage, Oxon (1 neonate inhumation, Romano-British)
- Little Wittenham, Oxon (1 cremation deposit, undated)
- Carterton East, Oxon (1 cremation deposit, Bronze Age)
- Kingsdown, Swindon, Wilts (1 cremation deposit, Romano-British)
- Spencers Park, Hemel Hempstead, Herts. (3 Romano-British cremation burials and a possible pyre site/pit pyre)
- Basing View, Basingstoke, Hants (1 neonate inhumation, Romano-British)
- Melbourn, Cambs (1 juvenile Beaker burial buried with flint knife and an unurned MBA cremation deposit)

- Hinxton, Cambs (1 cremation deposit, undated)
- Long Melford, Cambs (1 EBA cremation deposit)
- East Chesterton, Cambs (human skull fragments including a small, worked/polished fragment, from a probable Iron Age pit)
- Gunvil Hall Farm, Wymondham, Norfolk (6 deposits of cremated bone including two 'dumps' of ?pyre debris in the fill of a ring ditch. Awaiting C14 dates but thought to be MBA)
- Dorset Visual Impact Scheme, Dorset (4 undated inhumations, 1 urned Middle Bronze Age cremation burial)
- Otterpool, Kent (1 cremation deposit, ?Bronze Age)

### **Post-excavation analysis/reports**

#### *Gloucestershire:*

Farm Lane, Leckhampton

Human remains from Leckhampton included seven Early-Mid Roman inhumations. Burial positions were varied, including two supine extended, two flexed on their sides and three crouched. The legs of one of the crouched burials were extremely contracted, leading to the suggestion that the legs had been tied. Iron hobnails found with the foot bones of one of the skeletons indicates that they had been buried with shoes. The assemblage also included one urned and two unurned cremation deposits, thought to be contemporary. The assemblage was notable in that it represents a mostly male group, with no infants, young children or elderly adults. The range of pathological conditions observed was as expected for the date and type of assemblage, with dental and joint diseases predominating. The cremated bone deposits were notably small, possibly representing 'token' deposits, although interpretation of one of the unurned deposits was hampered by the fact that it had been truncated.

*Kent:*

Peugeot Garage, Canterbury (for Canterbury Archaeology Trust)

Osteological analysis of the 200 skeletons from a Late Roman urban cemetery at Peugeot Garage, Canterbury is now complete, and analysis of the osteological data is underway. Some of the pathological cases have undergone radiographic analysis to aid diagnoses. A possible case of chronic recurrent multifocal osteomyelitis (CRMO) has been identified, affecting both femora of a juvenile skeleton. Isotope analysis (by M Jay, J Montgomery, G Nowell and D Gröcke), undertaken on 10% of the assemblage, identified one immigrant (an adult of indeterminate sex), possibly having grown up somewhere in central eastern Europe, and a further three possible incomers from elsewhere in Britain. All of the other skeletons have strontium and oxygen values consistent with a local childhood. DNA analysis to explore ancestry, family groups and juvenile sex is ongoing.

*London:*

St Paul's Church, Hammersmith

This year, we started the post-excavation work programme on an assemblage of post-medieval skeletons from St Paul's Church, Hammersmith. A total of 649 skeletons were recovered during extensive archaeological excavations by OAS back in 2009-10. Most skeletons were recovered from grave stacks (331 graves in total) and had been buried in wooden coffins with metal fittings. A small number of burials were found in lead coffins. The 18-month programme of post-excavation work is currently underway and will involve the production of a published monograph.

*Nottinghamshire:*

Chapel Lane, Bingham

Excavations at Bingham earlier this year revealed a Late Roman cemetery, lying less than a kilometre to the south-west of the Roman small town of Margidunum and close to the line of the Fosse Way. A total of 55

inhumation burials and a single cremation burial were excavated alongside a boundary ditch. The distribution of graves included some clustering, which may represent family or extended-family groups. Many of the inhumation burials were found with evidence for wooden coffins and hobnail boots. One skeleton was also found with a shale bracelet. The human remains underwent post-excavation assessment and of particular note was a skeleton exhibiting rhino-maxillary changes consistent with leprosy. We are currently awaiting radiocarbon dating of this individual. A programme of full osteological analysis has just begun and will continue into the new year.

*Oxfordshire:*

Hook Norton

Post-excavation analysis of the Romano-British human remains from Hook Norton was completed in July. The remains include eight inhumation burials and an unurned cremation deposit. A variety of burial positions was observed amongst the inhumation burials, including four supine burials, two of which had been decapitated with the heads placed elsewhere in the graves, one flexed burial and two prone burials. The position of the other burial was unclear as it was heavily disturbed. Osteological analysis revealed that the individuals had poor dental health. Also of particular note was an individual who exhibited substantial healed trauma to the back of the cranium and possible hypertrophic osteoarthropathy, a rare pathological condition, which is typically associated with an underlying pulmonary condition.

Winterbrook, Wallingford

A total of eight skeletons, found in various burial positions along a boundary ditch at Winterbrook, underwent post-excavation assessment this year. The remains were radiocarbon dated to the Middle Bronze Age, a period for which there are few securely dated inhumation burials from the

Oxfordshire region. These skeletons are therefore an important addition to the existing body of data for this period. In terms of the osteological findings, the remains were those of adults/older juveniles, and a typical range of pathological conditions was observed (dental disease, joint disease, non-specific inflammation, metabolic disease etc.). A programme of full osteological analysis has been recommended.

#### *Somerset:*

##### **Bridgwater Gateway**

The post-excavation assessment on the burnt human bone from Bridgwater Gateway was completed this year. The remains comprise 68 contexts of burnt bone, of which 31 contained identifiable human bone. The deposits of burnt bone were recovered from small pit features surrounding a Bronze Age ring barrow ditch. Most of the burnt bone deposits are dated to the Middle Bronze Age, but a small number are thought to be Mid-Late Iron Age and Roman. Recommendations for full analysis, including radiocarbon dating, have been made.

#### *Yorkshire:*

##### **Willerby and Derringham, Hull**

A total of five adult skeletons were excavated at Willerby and Derringham, a flood alleviation scheme funded by East Riding of Yorkshire Council and the European Regional Development Fund. Two skeletons were recovered from Iron Age square barrows, one of which was found with a rare Middle Iron Age brooch, another skeleton was recovered from the base of an Iron Age ditch, and two others from the terminus of an Iron Age/Romano-British ditch. Osteological analysis revealed that four of the five skeletons were male (one was unsexed). Pathological lesions were limited to dental disease, slight joint disease and inflammation.

##### **Fromelles, Northern France**

In March, Oxford Archaeology re-convened with the Data Analysis Team at Australia

House, London, to continue efforts to identify soldiers who had fought and died in the Battle of Fromelles, 1916. As a result, the names of nine soldiers were recommended to and accepted by the Identification Board. This brings the total number of soldiers, identified to name, to 159 out of the 250 that were excavated by Oxford Archaeology in 2009.

#### **Selection of publications with significant funerary/osteology component**

Booth, P, and Simmonds, A, 2018 *Gill Mill: Later Prehistoric Landscape and a Roman Nucleated Settlement in the Lower Windrush Valley at Gill Mill, near Witney, Oxfordshire*, Thames Valley Landscapes Monograph Volume 42, Oxford Archaeology

Brown, R, Teague, S, Loe, L, Sudds, B, and Popescue, E, in press (due early 2019), *Excavations at Stoke Quay, Ipswich: Southern Gipeswic and the Parish of St Augustine*, East Anglian Archaeology

Gibson, M, and Loe, L, 2018 Human remains, in A Simmonds, E Biddulph and K Welsh, *In the Shadow of Corinium. Prehistoric and Roman Occupation at Kingshill South, Cirencester, Gloucestershire*, 173-189, Thames Valley Landscapes Monograph No. 41. Oxford Archaeology

Hayden, C, Early, R, Biddulph, E, Booth, P, Dodd, A, Smith, A, Laws, G, and Welsh, K, 2017 *Horcott Quarry, Fairford and Arkell's Land, Kempsford. Prehistoric, Roman and Anglo-Saxon Settlement and Burial in the Upper Thames Valley in Gloucestershire*, Thames Valley Landscapes Monograph No. 40, Oxford Archaeology

Loe, L, and Boston, C, 2018 Eighteenth- and nineteenth-century coffin furniture from St George's Crypt, Bloomsbury, and the churchyard and crypt of St Luke's, Islington, in H Mytum and L Burgess (eds), *Death*

*Across Oceans*, 129-164, Smithsonian Institution Scholarly Press, Washington D C

McIntyre, L, and Rose, A, 2018 Human remains, in A Simmonds and S Lawrence (eds), *Footprints from the Past. The South-Eastern Extramural Settlement of Roman Alchester and Rural Occupation in its Hinterland: The Archaeology of East West Rail Phase 1*, 231-8, Oxford Archaeology Monograph No. 28

### Teaching/outreach etc.

#### *Oxford Brookes University teaching*

For the third year running, Heritage Burial Services has delivered the undergraduate module on *Human Osteology and Palaeopathology*, during the Autumn semester.

#### *Oxford University Department of Continuing Education (OUDCE) teaching*

In May, Heritage Burial Services ran a practical workshop at OUDCE for students undertaking a certificate in archaeology. The workshop provided a broad introduction to the theory and practice of Human Osteoarchaeology and involved short tutorials and practical handling sessions.

#### *BABAO Commercial Grant*

Oxford Archaeology South Team member Lauren McIntyre was a recipient of one of the 2018 BABAO Commercial Grants. She has recently begun work on her project, *The All Saints Anchoress: An Osteobiography*. This study will explore the possibility that SK 3870 from the church of All Saints Fishergate, York, represents the remains of well-known anchoress Lady Isabel German. Detailed osteological analysis, integrated with evidence from thorough archaeological and historical research has the potential to provide a new perspective on this individual, and offer new insights into a recognised medieval practice rarely reflected in the archaeological record.

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## Wessex Archaeology

*Emma Robertson*

### Burial Archaeology Team

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### Introduction

This year the Burial Archaeology Team at Wessex Archaeology (WA) has been industriously working its way through an assortment of assemblages covering a wide temporal range, from a variety of sites across the country. The team have been engaged at all stages of works from excavation to publication, with assessment, archive and publication reports associated with projects of long standing and recently recovered materials. Public engagement activity took the form of filming for television programmes and interviews for newspaper articles, and the usual interactions with volunteers, work experience students and other visitors to the offices. Both Jacqueline and Kirsten are involved in the newly-formed Osteology Special Interest Group for the Chartered Institute for Archaeologists, and Jacqueline continues as a member of the Advisory Panel on the Archaeology of Burials in England (APABE).

Emma's training programme is well underway, with a number of sites allowing her to handle large quantities of diverse material. She has also been invaluable in undertaking and supervising on numerous sites with mortuary-related deposits, providing on-site expertise and advice.

Team members have attended various conferences and has continued to work collaboratively with various colleagues outside WA and institutions, and numerous community groups and charities.

The following summary excludes projects currently subject to client confidentiality.

### **Excavations**

*'Operation Beowulf' Barrow Clump, Figheldean, Wiltshire (85375)* (No team personnel on site this year)

<https://www.wessexarch.co.uk/our-work/barrow-clump>

*Breaking Ground Heritage* and *Operation Nightingale* (community groups enabling injured service personnel to participate in archaeology) were assisted by Wessex Archaeology to continue investigations at the Anglo-Saxon cemetery sited on and around a Beaker barrow later extended in the Early Bronze Age, which has been badly disturbed by badgers. The aim of the excavation was to assess the extent of any damage caused by an overlying military trackway (located to the SW of the barrow), record the exposed archaeology and excavate/recover any features and material at risk of loss or extensive damage.

The remains of a further 28 inhumation graves and three cremation-related deposits were recorded; the array of grave goods includes swords, shield bosses, spearheads and brooches. This takes the current number of recorded graves from the site to 110.

The cinerary vessels from this season's excavation have been micro-excavated. The bone assemblage is yet to be assessed. Publication regarding the previous excavations is expected in 2019.

Excavation complete.

*Bath Abbey Footprint, Bath and North East Somerset (T24199)* (KED, ELR, JMcK)

The first phase of excavations within Bath Abbey and associated vaults - as part of the 'Footprint Project' including floor repairs and improved facilities - have revealed extensive

archaeological remains dating from the Mesolithic through to modern times.

Below the Abbey, the remains of several *in situ* post-medieval burials and lead coffins (latter re-located in the 19th century) were excavated and recorded; the remains from two damaged coffins will be analysed in due course. Approximately 80 boxes of disarticulated bones from the same area and of similar date were assessed on site. All are/will be stored within a nearby mausoleum.

At the time of writing, the remains of 21 inhumation burials of Saxon date (possibly 8th–9th century) and a number of charnel pits containing similarly dated remains have been excavated and recorded in the vaults adjacent to the Abbey. Notably, four graves were largely filled with charcoal, adding to those recorded in previous excavations undertaken by Bath Archaeological Trust in 1993. Photogrammetry has been widely utilised as part of the recording process, allowing the creation of accurate digital 3D models.

*North Park Quarry, Kent (86772)* (JMcK, ELR)

Two Romano-British lead coffins were excavated, recorded, lifted, transported and conserved under laboratory conditions. Excavation of the intrusive sandy contents were undertaken within the laboratory and revealed highly degraded *in situ* remains (recording included photogrammetry).

### **Assessments**

*Axford-Ogbourne Pipeline, Wiltshire (111450/SWIMG:2015.076)* (JMcK)

The assessed bone, recovered from three areas of investigation along the pipeline, the remains comprise cremated and unburnt bone of probable Romano-British date. The fragment of unburnt adult skull (left frontal) has a 'polished' feel and appearance, possibly due to frequent handling. A longitudinal cut mark is suggestive of scalping.

The cremated remains represent a minimum (MNI) of five individuals, comprising one juvenile/subadult and four subadult/adults (one probable female). Iron nails and hobnails

were recovered (remains of pyre goods) along with fragments of unburnt animal bone; it is unclear if the latter was residual or represents a deliberate deposit.

*Berry Hill Farm, Taplow, Berkshire* (61058) (JMcK)

The remains of a possible Late Iron Age/Early Romano-British unurned cremation burial, MNI two, including an older adult male. The remains of a flexed burial of possible Iron Age date, a young adult male, were found within what may have been a grave or a reused pre-existing feature.

*Bulford, Wiltshire* (113930) (JMcK) (107945) (KED)

Excavations revealed features and deposits of Early Neolithic to Anglo-Saxon date, including a substantial Late Neolithic monument, and evidence for 20th century military activity. The remains of an Early Neolithic crouched burial of a young adult (possibly male) were recorded (C<sup>14</sup> dated). Evidence suggests that, following skeletalisation, the remains had been manipulated; a fragment of femur from another individual was found redeposited in a colluvial layer of a similar date. A small quantity of burnt human and animal bone was recovered from two post-pits (one Late Neolithic).

The assessment of the remains from the Anglo-Saxon cemetery is currently underway.

*Christchurch Visitors Centre, Christchurch, Dorset* (119070) (KED)

The remains of 27 *in situ* burials from over 40 identifiable graves from Early medieval to early 16th century the monastic cemetery at Christchurch Priory; the stratigraphic sequence shows four phases of burial activity. Evidence for coffins was recovered from 10 graves; several others had a stone lining of which some had a head-niche. Disarticulated bone from the cemetery soil gave MNI of 17, demographically mixed individuals, mainly older adult males (reburied following assessment). Pathological lesions were typically indicative of age-related complaints and several examples of DISH were observed.

*Larkhill, Wiltshire* (107947; 113931; 113936; 115984) (JMcK)

Bone was recovered from various prehistoric mortuary contexts distributed across a large excavation area. These comprise a minimum of two individuals found redeposited within two Chalcolithic/Beaker pits, a Beaker period triple inhumation burial (two juveniles and an infant) and four Late Neolithic-Middle Bronze Age inhumation burials. Cremated remains derive from three possibly Early/Middle Bronze Age unurned burials and three Middle Bronze Age urned burials.

*Ludgershall, Wiltshire* (202841) (KED)

Excavations revealed a small rural Romano-British cemetery, containing the remains of 14 adult inhumation burials. Coffin nails were found in ten of the graves and eight individuals had been interred wearing hobnailed footwear. The lack of any immature remains is of interest, as is an apparent male/female spatial division within the cemetery. The cemetery lay immediately to the west of a large enclosure ditch of prehistoric origin; a redeposited skull from a young adult female was recovered from its uppermost (Late Roman or later) fill.

*Riding Court Farm, Datchet, Berkshire* (106002) (JMcK)

Human bone recovered from a Causewayed Enclosure represents the articulated remains of a subadult (possible female), which had been deliberately manipulated in antiquity. A portion of cranium from an adult, probable male, was retrieved from an adjacent ditch segment, suggesting purposeful placement.

Further investigations at the site are ongoing.

*Sherford New Community, Plymouth, Devon* (107560) (JMcK)

Material from a portion of this long-running project derives from a possible nine Early Bronze Age urned and seven unurned cremation burials (situated close to a pair of ring-ditches), two possible Romano-British inhumation graves and a variety of contexts containing cremated bone and redeposited unburnt bone.

*Southern Strategic Support Main (SSSM), Barrow Gurney to Cheddar, Somerset* (110760; 110766; TTNCM 2016/83) (KED)

The *in situ* remains of a Romano-British adult male were found in a grave close to the southern corner of a large ditched enclosure. Observations include fractures to his right forearm and lower leg, advanced osteoarthritis and calcified thoracic lining. Fragments of lower limb from an additional adult were found within the enclosure ditch.

*Southam Road, Banbury, Oxfordshire* (79073) (JMcK)

Cremated human bone, representing the remains of an adult (possible female) and a subadult/adult, was recovered from two cremation-related deposits situated within a rural Iron Age/Romano-British landscape. Radiocarbon analysis returned mid Romano-British dates for the bone. Marked pitting probably due to localised irritation was observed on the female's cranial vault.

*Southend Airport, Essex* (110130) (JMcK)

Cremated bone was recovered from cremation-related deposits contained within four pits dispersed over a wide area of the site. Fragments of a heat-altered Early/Middle Iron Age vessel were recovered from the deposits. A MNI of one adult was recorded and the possibility that a single individuals remains were distributed between a number of features cannot at present be dismissed.

## **Analysis**

*New Covent Garden Market (NCGM), London borough of Wandsworth* (NNE16) (107902-3) (KED)

Analysis is underway on the human bone from the mid-19th-century cemetery, where the remains of around 100 men, women and children had been left behind after a clearance operation in the 1960s. Many of those buried in the churchyard would have been relatively poor, some at extremis, and many would have been exposed to the dirty industrial atmosphere and general poor living conditions typical of urban environments in this period. Documentary research was undertaken to set the findings in their temporal and spatial context.

All but a few individuals show pathological changes. Dental and joint disease was prevalent and there are indicators of metabolic disease, infection (including syphilis), trauma and activity-related modification to bones and dentition. Four individuals had been subject to cranial autopsy, of which one had also undergone thoracic investigation. Preserved fabric, soft tissue and hair were also recovered.

Some of the findings were presented at BABAO 2018, on *Digging for Britain* and in a number of national newspapers (see below).

Publication of the site report (WA Occasional Paper) anticipated late 2019.

*Kings of Wessex Academy, Cheddar, Somerset* (110970; TTNCM 91/2015) KLD and *Llangefni Link Road, Anglesey, Wales* (205640; T241174/2018) KLD

Disarticulated neonatal bone (MNI one individual per site), was found within various Romano-British demolition/domestic contexts. Such depositional circumstances are in keeping with the recognised common exclusion of the youngest members of the community from formal cemeteries, in favour of more domestic settings during this period.

*Amesbury Down Volume III, The Roman Settlement and Cemeteries* (66053) (JMcK)

Preparation of the monograph for the Romano-British stage of this project is near completion. Urned, unurned and combined deposits as well as various forms of *memento mori* and 'token' deposits are discussed. These Middle to Late Romano-British cremated remains, predominately from the cemetery seven assemblage, comprised a minimum of 20 (possible 24) burial remains.

This publication will form the third and final volume in the series; The Amesbury Archer and the Boscombe Bowmen (Volume 1, published 2011) and the second volume on other prehistoric mortuary deposits are due out this year.

## Collaborations, Conferences and Media

Several masters and PhD students, under the supervision of various team members, were given access to the assemblages stored at Wessex Archaeology. The team continue to select and provide samples for aDNA analysis carried out by Harvard University geneticist, Professor David Reich and his team, for their ongoing research into human bio-history. Soil samples from a number of sites have been sent for parasitological analysis by Hannah Ryan, DPhil student at Oxford University, to assist her in her current research project.

### Conferences attended:

- BABAO (Cranfield University) – Burial Archaeology Team; podium presentation (KED) *A glimpse of a ganger, a goose and some gardeners*
- The Material Body, 1500-1900 (Birmingham University) – KED
- Grave Concerns; Death, Landscape and Locality in Medieval Society (Durham University) – KED
- Grave Matters: Interpreting Objects and Death in Later Prehistoric Britain (University of Manchester) – JMCK

### Media:

- Digging for Britain (BBC 2) – New Covent Garden Market post-excavation work; excavation work at Barrow Clump and Bath Abbey (KED)
- Unearthed (Series 2) ‘Ghosts of Stonehenge’ (Windfall Films) – aDNA results from Early Bronze Age Beaker burials at Amesbury Down (JMCK)
- Legends of the Lost (Kanga 7) – Beaker triple burial from Larkhill and the Amesbury Archer (JMCK)

Reports on small assemblages are not listed. We have undertaken several churchyard watching briefs and assisted clients with cemetery excavations.

### *Archaeology Warwickshire, Flying Fields, Southam. Warwickshire, EPG*

Six Roman cremation burials each contained the remains of a single individual, including five adults, one of which was male, and one non-adult. DJC was observed in the cervical vertebrae of one adult.

### *Archaeological Services WYAS, Pocklington Flood Alleviation Scheme, The Mile, Pocklington, East Riding of Yorkshire, PP*

Five inhumations included a female, two male adults, one older juvenile and an adolescent. The juvenile had *cribra orbitalia*. The female had caries, dental abscesses, DJC in the spine, extra-spinal joints and Schmorl’s nodes. One male also had Schmorl’s nodes and congenital anomalies. The majority of individuals had calculus. DEH was observed in the young middle adult and juvenile.

### *Ferrey and Mennim, St Denys Church, Walmgate, York, KK*

A total of 646 post-medieval bone fragments represented at least eighteen individuals; fifteen adults, two older and one younger juvenile. Pathological lesions were noted in two bones, including a benign tumour on a cranial vault fragment and a healed fracture on a radius.

### *Levens Local History Group, Levens Park, Westmorland, Cumbria, EPG*

Four Bronze Age adults were analysed, three of whom were female and one was male. Two females had *cribra orbitalia*, and degenerative joint changes in the spine. The male had a healed radius fracture. Heavy deposits of calculus, AMTL, periodontal disease, and dental abscesses were observed.

### *MAP Archaeological Practice Ltd, Windmill Hill, Scarborough Rd, Driffild in East Yorkshire, MNC*

Nine skeletons dating from the Iron Age/Roman period included a younger juvenile and eight adults, including a female,

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## York Osteoarchaeology Ltd 2018

Malin Holst, Anwen Caffell, Máiréad Ní Challanáin, Katie Keefe, Paola Ponce & Elina Petersone-Gordina

and five males/possible males. Various pathologies noted included *cribra orbitalia* and periosteal reactions in most individuals. Four individuals suffered from chronic sinusitis, while one had a pulmonary infection. One individual had a healing/healed rib fracture. Six individuals suffered from Schmorl's nodes, while all adults were affected by DJC in the spine and axial skeleton. Dental pathology included caries, calculus, AMTL and abscesses.

*MAP Archaeological Consultancy Ltd, Mile End, Pocklington, East Riding of Yorkshire, PP*

Five inhumations dated the Iron Age consisted of a female, two males, an older juvenile and a late term foetus/perinate. The female and juvenile had *cribra orbitalia*. The males displayed evidence of trauma. One male sustained two nasal fractures and blunt force trauma to the frontal. The other had a broken rib, *spondylolysis* and *myositis ossificans traumatica*. DJC was noted in the mature adult male, who may have had osteoporosis. Calculus was common, and the young adults had DEH.

*Network Archaeology Ltd, Uttlesford, Great Chesterford, Cambridgeshire, EPG*

Six Anglo-Saxon inhumations and a Bronze Age cremated bone assemblage were analysed. Two of the individuals were male, two female, and one was a young juvenile. Most of the skeletons had joint disease in the spine and appendicular skeleton. A young middle adult male may have had hypertrophic pulmonary osteoarthropathy. DEH was recorded in three individuals. The Bronze Age cremation burial consisted of a young juvenile with endocranial woven bone.

*York Archaeological Trust for Excavation and Research, Newington Hotel, Tadcaster Road York, KK*

A total of 76 skeletons and two cremation burials from the Roman period consisted of 63 adults (31 males, 13 females, 19 unsexed), seven adolescents, one older juvenile, four younger juveniles and one infant. *Cribr*

*ra orbitalia* was common and a number of cases of rickets were observed, two individuals may have had scurvy. One individual had a peri-mortem fracture to their tibia and fibula and an unhealed amputation of the limb. Another individual had an unhealed blade trauma to a rib. A male exhibited signs of a peri-mortem incomplete decapitation. Respiratory infections were common as were infections of the lower limbs. Joint disease increased with age and OA was observed in males only. Higher than average levels of tooth decay and plaque observed, abscesses and ante-mortem tooth loss were lower than expected.

*York Archaeological Trust for Excavation and Research, Hungate, York, KK*

Analysis of 106 Roman skeletons included 72 adults (27 males, 24 females, 21 unsexed), four adolescents, eleven older juveniles, fifteen younger juveniles, one infant, one perinate and two juveniles. Adults were predominately old middle adults and males and females were considerably shorter than the average for the period. A third of the population had *cribra orbitalia*, and one individual had rickets. Blunt force cranial trauma was observed in five of the adults (four females and one male). Respiratory infections were common as were infections of the lower limbs, and joint disease. One individual may have had a paralysed right leg.

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## DEPARTMENTAL REPORTS

### Department of Archaeology University of Aberdeen

*Rebecca Crozier*

The Department of Archaeology, University of Aberdeen is thrilled to have officially launched their new MSc programme in Human Osteoarchaeology in September 2018. Our new lab and teaching facilities are housed in the Marischal College Museum in Aberdeen City, where we have transformed one of the old galleries into a vibrant research space. But perhaps the most exciting aspect of this development is the substantial skeletal assemblages, curated at Marischal Museum, that our students can now access for their own research projects. Our first batch of students

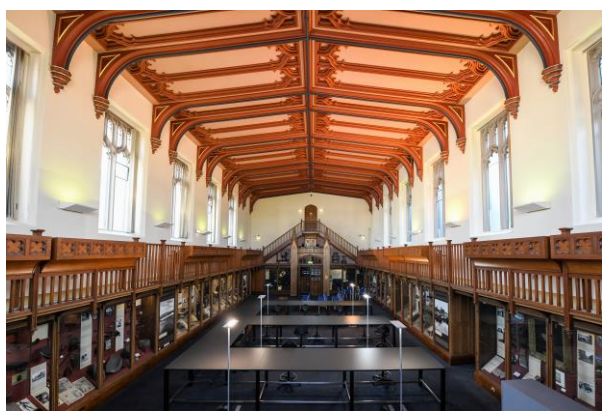
are already exploring the archives, and we are really looking forward to sharing our progress with the BABAO community.

In the meantime, if anyone wants to follow our activities, or learn more, you can find us via

<https://www.abdn.ac.uk/geosciences/departments/archaeology/msc-osteoaerchaeology-1196.php>

And/or on Facebook at:

[https://www.facebook.com/Osteoarchaeology-at-UofA-351487012313709/?modal=admin\\_todo\\_tour](https://www.facebook.com/Osteoarchaeology-at-UofA-351487012313709/?modal=admin_todo_tour)



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**Department of Archaeology and  
Anthropology  
University of Cambridge  
*Jenna Dittmar***

It has been another great year for archaeology at the University of Cambridge. Over the past year, the Department of Archaeology excitedly welcomed a number of new colleagues. Within the McDonald Institute for Archaeological Research, Professor Matthew Collins was appointed the McDonald Professor in Palaeoproteomics, Professor Marcos Martín-Torres was appointed as the George Pitt-Rivers Professor of Archaeological Science, and Professor Paul Lane was appointed the Jennifer Ward Oppenheimer Professor of the Deep History & Archaeology of Africa. Several new lecturers were also appointed: Dr Nikhil

Chaudhary was appointed as a Lecturer in Human Evolutionary and Behavioural Ecology, Dr Emma Pomeroy was hired as a Lecturer in the Evolution of Health, Diet and Disease, Dr Jason Hodgson was appointed as a Temporary Lecturer in Biological Anthropology and Dr Rachel Ballantyne was appointed as a Teaching Associate in Archaeobotany. Dr Andrew Turner was appointed as the Senior Curator (Archaeology) of the Museum of Archaeology and Anthropology.

Substantial progress has been made on the Wellcome Trust funded project entitled, 'After the Plague: Health in Medieval Cambridge'. Professor John Robb, together with Craig Cessford, Jenna Dittmar, Ruoyun Hui, Sarah Inskip, Toomas Kivisild, Piers Mitchell, Bram Mulder, Tamsin O'Connell, Alice Rose, Christina Schieb and Jay Stock have continued to integrate data from aDNA, stable isotopes, bone geometrics and palaeopathology to further understand the inhabitants of Medieval Cambridge.

Members of the Phenotypic Adaptability, Variation and Evolutions (PAVE) research group, directed by Jay Stock, continued various research projects within the themes of bioarchaeology, hominin paleobiology and human physiology ([@PaveCambridge](http://www.pave.arch.cam.ac.uk)). The members of the ERC-funded ADaPT project (Adaptation, Dispersals and Phenotype) ([www.adaptproject.eu](http://www.adaptproject.eu), @ADaPt\_Project) completed several projects that further our understanding of the origins of human variation in the past. Research led by Ail Macintosh revealed functional bone adaptation throughout the leg and foot in response to intensive terrestrial and marine locomotion patterns in living women and Jaap Saers continued to explore trabecular bone functional adaptation.

Piers Mitchell's Ancient Parasites Laboratory was given a new website this year (<https://www.arch.cam.ac.uk/research/laboratories/ancient-parasites-laboratory>). In 2018 journal articles were published on parasites

found in Greece and Turkey from the neolithic to the Roman periods. Research in the lab conducted by Marissa Ledger, Delaney Knorr, and Will Smith included projects on Bronze Age Britain, Roman Italy, Islamic period Spain, and the Near East over the last 10,000 years.

In 2018 the Mphil and PhD students in the department continued to undertake research on exciting topics hailing from regions around the world. Members of the department who have recently completed their PhD research, include Ting An, Sarah-Louise Decrausaz, Cynthia Larbey, Alexander Moerseburg, Steph Payne and Michael Rivera.

**PhD theses submitted by BABAO members include:**

*Sarah-Louise Decrausaz*

Bringing to bear: A biocultural examination of the developmental origins of the obstetric dilemma

*Steph Payne*

Phenotypic variation and thermoregulation of the human hand

*Michael Rivera*

Exploring diachronic changes in human activity, diet and health on the prehistoric Baltic coast

Both students and faculty members participated in numerous public outreach events in 2018. Laure Bonner, Departmental Outreach and Communications Officer, organized multiple public outreach and field school activities, including Big Biology Day, Prehistory and Archaeology Day and at London Anthropology Day. Members of the department were particularly well represented at the Cambridge Festival of Ideas. Talks and activities were held at which members of the public were able to explore heritage in extreme conditions, debate whether we have the right to exterminate all parasites, and even come face to face with the inhabitants of

Medieval Cambridge. The 'Face to Face with Medieval Cambridge' exhibition, created by Sarah Inskip, Alice Rose and Sarah-Jane Harknett, encouraged members of the public to discover more about the people who lived in Cambridge during the 12th to 16th century by interacting with character re-enactors based on skeletal osteobiographies.

For more information about the department and for research updates please visit our website (<https://www.arch.cam.ac.uk>). Research updates and information about public outreach events can also be found on facebook <https://www.facebook.com/archaeologycambridge/> and on twitter (@UCamArchaeology).

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**Cranfield Forensic Institute,  
Cranfield University,  
Defence Academy of the United Kingdom**  
*David Errickson*

This has been a great year for Cranfield Forensic Institute. The university hosted BABAO's 20<sup>th</sup> annual conference from Friday 14<sup>th</sup> – Sunday 16<sup>th</sup> September at the Bedfordshire campus. This was a very successful event that was thoroughly enjoyed by the association. Two Cranfield PhD students had further success at the conference with Emma Saunders and Hannah McGiven picking up the 'Bill White Poster Prize' awards. A huge thank you is necessary to the conference organisers, Dr Nicholas Márquez-Grant, Dr Charlene Greenwood, Prof. Peter Zioupos, Carrie Baxter, Emily Arnold, Emma Saunders, Stephanie Giles and Hannah McGivern.

The MSc courses have continued to successfully deliver quality academic practice to a good number of full-time and part-time enthusiastic students. These courses are continually accredited by the Chartered Society of Forensic Science, and uniquely Cranfield Forensic Institute offers a number of multi-disciplinary experiences with external partners. Further, the MSc courses have seen some positive changes to the

teaching personnel. First, Dr Nicholas Márquez-Grant was promoted to Senior Lecturer, and second, Dr David Errickson has joined the teaching team at Cranfield Forensic Institute from Teesside University as a Lecturer in archaeology and anthropology. We also welcomed this year as Visiting Fellows Drs Dario Piombino-Mascali (Vilnius University, Lithuania) and Francisca Alves Cardoso (Universidade Nova Lisboa, Portugal). The institute will continue to offer courses in Forensic Anthropology and Archaeology, Forensic Investigation, Digital Forensics, Forensic Ballistics, Forensic Engineering and Science, and Forensic Explosive and Explosive Investigation.

Dr Nicholas Márquez-Grant and Roland Wessling have been working hard on deployments to various European countries to assess WWI and WWII casualties for a number of organisations in the UK and abroad as part of the Cranfield Recovery and Identification of Conflict Casualties team (CRICC). CRICC provides professional and efficient recovery and identification services, but also provides huge experience opportunities to MSc and PhD students. With a team of our graduates, our deployments this year have taken place in Belgium, Germany and Italy. In addition, Dr Márquez-Grant has also been involved in a number of Spanish Civil War exhumations.

In 2017, funded through Conservation Stewardship Funding of the Defence Infrastructure Organisation (Ministry of Defence) the Cranfield Forensic Institute worked alongside on the Rat Island Project, under the direction of Richard Osgood. This project looked to recover a number of human remains for osteological analysis. Subsequently, the project has been awarded the MOD Sanctuary Award (The Heritage Award and The Silver Otter Award). This was presented to CFI at Whitehall, London on 20<sup>th</sup> November 2018.

To keep up to date with Cranfield Forensic Institute follow our blog (<https://blogs.cranfield.ac.uk/category/forensics/>), or follow us on Twitter (@CranfieldForSci).

## **Current PhD Students:**

*Arnold, E.:* Bone Disease, Integration of Nano and Macro Scale Studies.

*Brown, D.:* A re-assessment of the use of tanks at the Battle of Bullecourt, 1917.

*Cummaudo, M.:* Identification of Human vs Non-Human Bone (*sus scrofa*) in Forensic Anthropology: Historical perspectives.

*Davies, S.:* High Resolution Mapping of Bone: The Pathogenesis of Osteoarthritis.

*Lloyd, R.:* Forensic Toxicology in Embalmed Human Remains.

*Mcgivern, H.:* Investigating the Age Related Changes to the Mechanical and Structural Properties of the Ribs and Clavicle with Age.

*Rickman, J.:* The Formation and Differential Diagnosis of Conoidal Projectile Wounds in Flat Bones.

*Saunders, E.:* Femoroacetabular impingement and osteitis... contributions to bioarchaeology and forensic anthropology.

*Vachirawongsakorn, V.:* Environmental Taphonomic Processes and their Effects on Skeletal Trauma.

*Wessling, R.:* Forensic Anthropology: Virtual Skeletal Analysis.

*Willis, C.:* Burial Archaeology at the Royal Naval Hospital, Haslar.

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**Department of Archaeology**  
**Durham University**  
*Tina Jakob*

It's been a busy year in the Department for all of us. We were pleased to see another excellent group of Masters students complete their degrees in September, with some outstanding dissertations (see below). We look forward to watching them graduate in January 2019!

In addition, we enjoyed seeing a number of our PhD students graduate in June, including Elina Petersone-Gordina, Arianne Schulz, Lauren Walther and Claire Hodson. Graduation is always a special occasion, held in the inimitable venue of Durham cathedral, and this year we also enjoyed some beautiful sunshine! We already miss these talented ladies at Durham and we wish them every success in their future careers.

The Department has welcomed two new PhD students in Bioarchaeology this year - Ziyi (Asan) Li and Charlotte S. McElvaney, while our other PhD students are working towards the completion of their dissertation projects.

These are some of the projects we have been engaged with in 2018. In addition to directing the MSc in Palaeopathology Becky Gowland has also been working with the International Committee for the Red Cross and Tim Thompson at Teesside University to deliver training to forensic practitioners from Cyprus, Kosovo and Bosnia. Becky continues to work alongside bioarchaeology colleagues Janet Montgomery and Andrew Millard on the People and Place project (see below). Becky also now works one day a week as the Associate Editor for the journal *Antiquity* and she would encourage you all to consider submitting your best papers to the journal!

Charlotte Roberts was heavily involved over the last few years with co-developing Durham's Palace Green Library's exhibition "Bodies of Evidence: How science unearthed Durham's dark secret", which was open from June to October 2018. It received very positive feedback and ran alongside a host of events for the public. In addition, Charlotte Roberts was appointed to the REF (Research Excellence Framework) 2021 as a member of subpanel 15 (Archaeology).

Anwen Caffell and Tina Jakob continue to teach on the MSc in Palaeopathology (renamed to MSc Human Bioarchaeology and Palaeopathology in 2019) and the MSc in Bioarchaeology, our newly launched postgraduate course. Anwen continues her commercial work for Durham University

Archaeological Services and York Osteoarchaeology, while Tina is working on human remains from Al Khiday 2 and Mograt Island, Sudan.

Professor Marc Oxenham, School of Archaeology and Anthropology, Australian National University, Canberra, Australia, joined the Department from October to December as a Senior Research Fellow (COFUND Durham International Fellowships for Research and Enterprise).

Bioarchaeology staff and students have been busy presenting papers at conferences, seminars and courses all over the world. For example, one of our MSc in Palaeopathology students, Sharna Katzeff, has recently presented the results of her dissertation project at the 32nd

Annual Meeting of the Australasian Society for Human Biology in Queensland, Australia in two contributions:

- A poster: "Less destructive technique for ancient DNA analysis from the human temporal bone: A case study from Neolithic Catalonia, Spain". Sharna Katzeff, Tina Jakob, Manuel Edo-Benaiges and Eva Fernández-Domínguez

- A presentation: "A bioarchaeological examination of two Late Neolithic commingled skeletal assemblages from Marge del Moro cave and Can Figueres cave, Catalonia, Spain" Sharna Katzeff, Tina Jakob, Concepció Castellana-Perelló, Pablo Martínez-Rodríguez, Manuel Edo-Benaiges and Eva Fernández-Domínguez

Other contributions by members of staff and students include:

Eva Fernández-Domínguez: Ancient DNA from Neolithic populations of the Near East and Iberia. Course: Ancient DNA and Archaeology. Rewley House. Oxford University. February 2018 and Genètica i mobilitat de la població del Garraf durant el Neolític. Cicle de Conferències Divendres.Història. Collectiu per a la

Investigació de la Prehistòria i l'Arqueologia Garraf-Ordal (CIPAG). Begues, Barcelona. May 2018 as well as Uses and Abuses of ancient DNA. In: Can science accommodate multiple ontologies? The genetics revolution and archaeological theory. McDonald Institute for Archaeological Research, Cambridge. 11-12th June 2018. In addition to Ancient DNA in Neolithic and pre-Neolithic Iberia. Building bridges between Iberian and British Archaeology. 21st June 2018, Durham

Fernández- Domínguez E., DiRenno F., Robinson C., Towers J., Novell G., Molist M., Montgomery J. Dying in the Neolithic: an Isotopic and Palaeogenetic analysis of a Late Neolithic mass grave from Barcelona. 24th Meeting of the European Association of Archaeologists, Barcelona, Spain. September 2018.

Chris Gerrard, Andrew Millard and Eva Fernández-Domínguez. Future avenues of research on the Scottish Soldiers. October 2018, Durham.

Feldman M., Fernández E., Reynolds L., Bianco R., Posth C., Pearson J., May H., HersHKovitz I., Baird D., Jeong C., Krause J. The first Epipaleolithic Genome from Anatolia suggests a limited role of demic diffusion in the Advent of Farming in Anatolia. Poster at the Annual Meeting of the Society of Molecular Biology and Evolution. Yokohama, Japan. July 2018.

Charlotte Roberts took part at a seminar on The Evolution of Syphilis: A New Approach to an Old Debate at the School of Advanced Research in Santa Fe, New Mexico and was involved with a panel discussion representing BABAO at the Association of Social Anthropologists conference: Sociality, matter, and the imagination: re-creating Anthropology, at Oxford,

Charlotte held a broadcasted conversation with the artist Tal Adler at the opening of Dead images. Facing the history, ethics and politics of European skull collections, at Edinburgh College of Art, University of Edinburgh, and presented a paper at the

Health, Disease, and Lifestyle Global History of Health Asia Organizational Conference, at Jilin University, Changchun, China. She also gave invited seminars at the Centre for Research in Evolutionary, Social & InterDisciplinary Anthropology, University of Roehampton and at the Institute of the History of Medicine and Foreign Languages, Charles University, Prague,

Czech Republic, and gave seven public lectures, mainly to Women's Institutes.

## Projects

The project "People and Place: The making of the Kingdom of Northumbria 300-800 CE" aims to chart the emergence of one of the largest kingdoms in early Medieval Britain through a detailed analysis of skeletal and funerary evidence. The project has just completed its final year and we are in the process of analysing the vast data-set and preparing publications.

## PhD students (new and ongoing)

*Susan Aylard* (Does Parasitic Infection Correlate With Stress During Childhood? Exploring the Impact of Poor Living Environments on the Development of Skeletal Indicators of "Stress" and Parasitic Infection in the Bioarchaeological Record); supervised by Charlotte Roberts, Mike Church and Andrew K. G. Jones (York University)

*Anna Barrett* (The impact of sociocultural and environmental change on air quality and respiratory health in the 4th Cataract, Sudan: a bioarchaeological perspective). AHRC Collaborative Doctoral Award with the British Museum and Durham University; supervised by Charlotte Roberts and Penny Wilson (Durham University) and Daniel Antoine (The British Museum)

*Kayla Crowder* (Diet and mobility at the Jucu de Sus Necropolis, 4th – 12th Century, Transylvania, Romania); supervised by Charlotte Roberts and Janet Montgomery

*Kori Filipek* (Illness, Isolation, and Isotopes: Assessing leprosy stigma in late Medieval England (12th-16th centuries AD) and its impact on health and contemporary society); supervised by Charlotte Roberts, Becky Gowland and Janet Montgomery

*Simon Hughes* (Human Remains in a Museum Context: Storage, Study or Reburial?); supervised by Charlotte Roberts and Robin Skeates

*Ellen Kendall* (Breastfeeding as an Adaptive Strategy to Environmental Pressures in Early Anglo-Saxon England); supervised by Andrew Millard, Becky Gowland and Janet Montgomery

*Mocen Li* (Diachronic Changes in Health in Agricultural Population from Early Agriculture to Imperial China); supervised by Charlotte Roberts and Peter Rowley-Conwy

*Ziyi (Asan) Li* (Childhood health in Neolithic Henan, China); supervised by Tina Jakob and Becky Gowland

*Tessi Loeffelman* (supervisors Janet Montgomery and Sarah Semple) who will be investigating the potential of Sr and Pb isotopes in early Medieval cremated human remains at sites including the Viking cemetery at Ingleby remains in collaboration with Professor Julian Richards at York University, and Dr Philippe Claeys and Dr Christophe Snoeck at the Free University Brussels.

*Charlotte S. McElvaney* (Investigating proposed behavioural and social divergences between distinct Inuit hunter-gatherer groups using paramasticatory dental striae, linear enamel hypoplasia, trauma and wear); supervised by Tina Jakob, Anwen Caffell and Peter Rowley-Conwy

*Joanna Moore* (Environmental lead pollution in the Roman Empire: characterising its effects on juvenile exposure, health and geographic mobility.); supervised by Janet Montgomery and Becky Gowland

*Sarah Morrison* (supervisors Rebecca Gowland and Janet Montgomery) who will be undertaking an investigation of carbon and nitrogen isotope integrity in cremated bone.

*Aryel Pacheco* (Tuberculosis in Andean communities from the Tarapacá area (North of Chile) between 900 BC to 1450 AD); supervised by Charlotte Roberts and Andrew Millard

*Julie Peacock* (Disability and traumatic brain injury (TBI) in Britain: AD 1066-AD 1800); supervised by Charlotte Roberts and Pam Graves

*Bennjamin Penny-Mason* (Morbidity, Medicine & Maturation: A History of Paediatric Medicine & Childhood Disease in England AD 1450–AD1650); supervised by Becky Gowland and Stefano Cracolici

*Leslie Quade* (When in Gaul, do as the ‘Romans’ do? Shifting health in Gaul during late antiquity and the early medieval period); supervised by Becky Gowland and Robert Witcher.

*Samantha Tipper* (A Bioarchaeological approach to the analysis of Vertebral Fractures amongst the Ancient Nubians from 5000 BC to 1500 AD); supervised by Charlotte Roberts and Penny Wilson

*Joe W. Walser III* (joint with University of Iceland) (In between breaths: respiratory disease, skeletal pathology, volcanism and environmental health in historical Iceland); Supervisors: Becky Gowland, Steinunn Kristjánsdóttir (University of Iceland and National Museum of Iceland), Agnar Helgason (deCODE Genetics) and Claire Horwell (Earth Sciences)

### **MSc students 2017-18**

*Allen, H.* Stable isotope analysis of two Iron Age Skeleton from Burstwick, Yorkshire

*Anderson, J.* BMI and reproductive health of medieval versus post-medieval women

*Brindzaite, R.* (Not) growing up in the capital: a comparative study of health and development in urban and rural samples from post-medieval Lithuania

*Chickanis, C.* Ossification of the ligamentum flavum in the medieval collection of Fishergate House, York

*Cotter, A.* Health in Iron Age Britain: A study of Care, Disability and Disease

*Dury, G.* Stable carbon and nitrogen analysis of human bone collagen from the Coach Lane Quaker burial ground, North Shields

*Glanvill, E.* Towards a bioarchaeology of mental health in 19th century Britain

*Goessman C.* By the skin of their teeth: An investigation into dental trauma in two English medieval populations

*Katsimicha, M.* Kallithea Rampantania: A palaeopathological approach of social differentiation in a Late Bronze Age cemetery in Achaea, Peloponnese, Greece

*Liedl, H.* Leprosy and sinusitis in individuals from St. Leonard's leprosy hospital, Midland Road, Peterborough, Cambridgeshire

*Mongui, P.* Victoria Gate: the life course in the Leeds slums during the English post-medieval period

*Smith, C.* Health in Roman Britain

*Thompson, E.* Subperiosteal new bone formation on perinates and infants: A normal growth response or a pathological condition?

*Watters, J.* Misdiagnosis trauma: An examination of avulsion fractures and congenitally absent bone

*Whittaker, R.* Aethelfrith the fierce and the battle of Chester: osteological analysis of the Northumbrian battle

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**School of History, Classics and  
Archaeology (HCA)  
University of Edinburgh**  
*Linda Fibiger*

Kath McSweeney recently completed analytical work on the re-examination of the Early Bronze Age Umm an-Nar assemblage, housed in Moesgaard Museum, Denmark, to be published by Moesgaard Museum. She also continues her work on the Late Chalcolithic human remains from the prehistoric salt-production site of Provadia-Solnitsata, Bulgaria during the summer season. The monograph on the archaeology and osteology relating to the necropolis is currently in preparation.

Linda Fibiger, together with John Harris from Social Anthropology at Edinburgh and Joan Smith from the Edinburgh College of Art, continued her research into contentious heritage and skull collections as part of the EU-funded TRACES project (<http://www.traces.polimi.it/>). As part of the Dead Images Creative Co-Production (<https://dead-images.info/>) they prepared an exhibition at the Edinburgh College of Art, featuring a 30 metre photograph of 8,000 skulls held in the Natural History Museum of Vienna, accompanied by a video installation, as well as an Info Lounge which invited feedback and critical reflection. The exhibition ran from the 28<sup>th</sup> June to the 25<sup>th</sup> August and attracted over 1500 visitors. An extensive events programme included a panel discussion, an international conference, guided tours, lunchtime talks and workshops for schools and community groups (<https://www.eca.ed.ac.uk/event/dead-images-facing-history-ethics-and-politics-european-skull-collections>).

In September, Linda commenced work as a Research Scientist for 'The Fall of 1200BC: The role of migration and conflict in social crises at end of the Bronze Age in South-eastern Europe'. This project is funded through a European Research Council Consolidator Grant and will run from 2018 until 2023. It is being conducted at the UCD

School of Archaeology and the UCD Centre for Experimental Archaeology and Material Culture, and led by Dr. Barry Molloy (<http://www.thefall1200.eu/index.html>).

Linda's teaching and research during her 3-year involvement in the project will be covered by Jonny Geber, who will be joining the Edinburgh bioarchaeology team in February.

#### *Edinburgh Unit for Forensic Anthropology (EUFA)*

Elena Kranioti and EUFA completed their research project entitled *Polyphonic Murders: a holographic biography of trauma* with an event and exhibition with interactive activities held at the Ocean Terminal as part of the Leith Festival. Visitors had the opportunity to see a series of historical murders in different representations (holograms, animations, drawings), to attend scientific talks about the history, the forensic analysis and interpretation of the skeletal evidence, to see printed casts and weapons related in these cases and experience the forensic reconstruction in virtual reality. Visitors also had the opportunity to attend the event and try to find our "Time travelling assassins" in the Mall and to test the recognition skills by trying to identify "missing persons" in a pool of photographs by looking and forensic 2d reconstructions. The event and exhibition included an art exhibition on violence. Questionnaires were circulated to get people's opinion on violence, different representations and display options, art-science exhibition and the content of the event in general. Over 100 people responded very positively. All activities were sold out and about 1000 visitors are estimated to have joined the events: <http://www.polyphonicmurders.com/>. EUFA participated at the BBC Civilisation Festival. The Life and death of a Pictish Man. McManus Museum and Galleries, Dundee, March 10<sup>th</sup> 2018. The BBC Civilisations event is a partnership between The McManus: Dundee's Art Gallery and Museum, the Edinburgh Unit for Forensic Anthropology Research group (EUFA) and the University of Dundee's Centre for Anatomy and Human Identification (CAHID). Participants came to the museum to learn about how the Picts lived

and were invited to the Collections Unit to investigate the death of one Pictish man using the latest forensic technology. New evidence revealed injuries for the first time that may have been responsible for his death.

Elena Kranioti continues the collaboration with the Department of Forensic Sciences of the University of Crete and the Pathology Division of the Ministry of Justice, Transparency and Human Rights in Crete and the Edinburgh Forensic Radiology Imaging Center (EFRAIC) on two projects. 'Virtopsy.GR' involves post-mortem CT examination of forensic cases prior to autopsy and is happening for the very first time in Greece. The project is funded by the HCA seed-corn fund and the Division of Pathology Endowment fund of the University of Edinburgh. The second project, 'Towards establishing the first ever stable isotope ratio baseline in Crete (Greece) for forensic identification', is funded by the Humanitarian and Human Rights Resource Center of the American Academy of Forensic Sciences in 2018.

Elena also directed the Crete Field School, which was established in 2015 with the objective to offer students with an interest in physical anthropology the opportunity to put skills learned into practice, and to collect original data for their dissertations. In 2018 ten students participated in the field school which took place in Ammoudara, Heraklion in May.

Members of the Edinburgh Unit for Forensic Anthropology (EUFA) also participated in national and international conferences. Elena Kranioti, Andrea Bonicelli and Mara Karell presented original oral and poster communications at the Annual FASE Symposium in Marseille, France (September 17<sup>th</sup>, 2018). Elena gave an oral presentation at the pan-Cretan medical conference held in Chania, Crete in November 9<sup>th</sup>-11<sup>th</sup>, 2018. She was also invited by the International Red Cross to participate at the 2<sup>nd</sup> workshop for the "Identification of Human Remains in Greece" held in December 1<sup>st</sup> and 2<sup>nd</sup> 2018 in Heraklion Crete, and to give lectures on

forensic anthropology, postmortem computed tomography and craniocerebral injuries and practical sessions in forensic anthropology as part of a course on Forensic Pathology at the School of Medicine of the University of Crete in Greece.

Joanna Bonczarowska and Effrosyni Michopoulou were both awarded an MScR in Archaeology with distinction. Julieta Gomez Garcia-Donas was appointed as Lecturer in Biological and Forensic Anthropology at the University of Kent and Mara Karell has successfully passed the exam and obtained the FASE Certification Level II in Forensic Anthropology.

### **Ongoing PhD Research**

*Astrom, C.:* Comparative Projectile Trauma: An Examination of Skeletal Trauma Inflicted by Various Projectile Weapons

*Barlow, A.:* Cotton Town Blues. Investigating inequality in the 19th century cemetery population of St Peter's Parish Church Cemetery, Blackburn, Lancashire, UK, through stable isotope analysis.

*Bonicelli, A.:* Investigating rib biomechanical properties and their potential for Forensic applications

*Boyle, A.:* An osteoarchaeological study of peri-mortem trauma in Medieval Britain

*Espinosa Rosero, S.:* Forensic Anthropology techniques of positive identification through anomalies in the human bone registry

*De Pace, M.:* An investigation of the survivability and mortality of Medieval Mesambrians through physiological stress markers and dietary reconstruction

*Evatt, A.:* A bioarchaeological investigation of European Mesolithic burial practices and taphonomy

*Girdwood, L.-K.:* A Comparative Analysis of the Evolution of Oral Health Pathologies and Stable Isotope Ratio Dietary Indicators through the Historic Period in Two

Contrasting Medieval Populations from Scotland, UK, and Ibiza, Spain.

*Karell, M.:* Identifying the Disappeared: Testing a Novel Method for the Sorting of Commingled Human Remains

*Lill, C.:* Decreased bone mineral density related to chronic alcohol abuse and its effect on histological ageing methods

*McMath, P.:* An osteoarchaeological investigation into Byzantine human health on the Black Sea Coast of Bulgaria

*Reeve, I.:* Morbidity and mortality in relation to the environment: a comparison of British urban and rural skeletal populations

*Shupe, C.:* Juvenile health in skeletal remains from Islamic Andalucía

*Waters, E.:* Zoological analysis of the Unicorn

*Zhang, W.:* Violence and conflicts along the ancient Silk Road: A bioarchaeological research on the human remains unearthed from cemeteries in late Bronze Age to Han (1000 BC-200 AD), northwestern China.

### **Completed PhD research**

*Dyer, M.:* Assessment of blunt force trauma in the British and European Neolithic utilising a skin-skull-brain model

Garcia-Donas, J.G.: Age estimation using thin sections of ribs from a modern Greek autopsy sample

### **Dissertations Submitted for the MSc Human Osteoarchaeology, 2017/18**

*Evans, I.:* Sexual dimorphism of the femur in four contemporary European populations: a method for sex assessment

*Gee, F.:* Artificial cranial modification in prehistoric Scotland

*Goodfellow, L.:* An assessment of diet from dental pathological prevalence in adult males and females from two Medieval populations.

*Hopko, R.:* An examination of sharp force trauma and the use of synthetic bone models through the analysis and presentation of Pictish specimen LL3

*Karydi, K.:* Estimation of age-at-death using cortical bone histomorphometry of the rib and femur: A validation study on a British population

*Marker, L.:* Investigating early childhood diet at the chalcolithic site of Camlibel Tarlasi, Anatolia, utilising stable isotope analysis

*Martin, S.:* A dietary reconstruction of ancient Mesembria using carbon and nitrogen stable isotope analysis

*McKittrick, Z.:* Exploring the functionality of mesh-to-mesh value comparison, an innovative three-dimensional pair-matching method, and the implications for re-associating commingled and disarticulated remains

*Pickerton, K.:* Macroscopic analysis of Synbone as a proxy for human crania

*Walter, K.:* Ontogeny and facial approximation: A multifaceted application and analysis

*Yon, V.:* Pair-matching first ribs in commingled remains using mesh-to-mesh value comparison

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**School of Anthropology and Conservation**  
**University of Kent**  
*Jessica Small*

## **News**

This year the School of Anthropology and Conservation (SAC) continued to grow. We welcomed a new lecturer of Biological and Forensic Anthropology, Dr Julieta G. Garcia-Donas, post-doctoral researcher Dr Gina McFarlane, and several new PhD and MSc

students to the School. In September we had the opening of our newly refurbished teaching laboratory; the Charles Darwin Lab provides an improved space for students and researchers alike.

We are happy to announce the newly revamped MSc in Biological Anthropology is now open to applications for 2019 entry. The programme now offers two routes for students: (1) Human and Primate Behaviour in combination with Psychology and (2) Human Evolutionary Anatomy.

On 13<sup>th</sup> September the Skeletal Biology Research Centre (SBRC) hosted its inaugural annual lecture: 'Teeth and Life History' was given by none other than Professor B. Holly Smith of George Washington University. Members of both the Skeletal Biology Research Centre and Living Primates Research Centre delivered several workshops and guest lectures over the course of 2018, notably, Dr Ameline Bardo, Dr Alastair Key, and Chris Dunmore organised a workshop for London Anthropology Day (9<sup>th</sup> July 2018) at the British Museum on "Evolution of the human hand over 5 million years".

Another highlight of 2018 was Kent's very first Soapbox Science event. For the first time on 23<sup>rd</sup> June 2018 Prof. Tracy Kivell and Prof Zoe Davies, alongside Dr Ameline Bardo and Dr Gail Austin, hosted a successful Soapbox Science that featured twelve female scientists and volunteers from all subjects within the University of Kent.

## **Research**

During 2018 research continued in all our sub-fields of biological anthropology: osteology and forensic anthropology, primatology, and hominin evolution and behaviour. Dr Chris Deter and Dr Patrick Mahoney have continued their work on enamel formation and biorhythms. Prof. Tracy Kivell and Dr Matthew Skinner have been furthering their research on the functional morphology and evolution of the post-cranial skeleton, and Dr Skinner has also been examining the evolution of tooth morphology. Dr Sarah Johns continued her

work on the evolution of life-history events and sexual behaviour. Everyone has had a positive year in publishing.

2018 was a highly successful year for grant applications within SAC. Dr Mona Le Luyer was awarded a Marie Skłodowska-Curie Postdoctoral Fellowship with the project 'Evolution of cell mechanisms underlying dental human reduction in Europe'. Dr Matthew Skinner was awarded an ERC Consolidator Grant (£1.8 million) with the project 'NewHuman'. Dr Patrick Mahoney was awarded £300,000 from the Leverhulme Trust for his project 'Biorhythm of childhood growth'. The project runs for three years from January 2019 and involves co-investigators in the USA, France, and New Zealand. Dr Gina McFarlane joins the project as a post-doctoral researcher. Finally, Dr Ameline Bardo had a successful Researcher Development Fund application.

Dr Sarah Johns was awarded a grant to develop Kent-Ghent links with the project 'Adolescent pregnancy & motherhood: Synergies between the developed and developing context'. Additionally, Dr Johns and Dr Sarah Meyers received worldwide media exposure for their research on postnatal depression.

Within the Living Primates Research Group (LPRC) Prof. Tracy Kivell, Dr Tatyana Humle, Dr Nicholas Newton-Fisher, and Dr Brandon Wheeler continued their research into the ecology and behaviour of living non-human primates. Dr Wheeler was awarded a Professional Development Grant from the AAPA, for the project 'evolutionary origins of primate sociality: finding a missing piece of the puzzle'. Students and staff from all disciplines within the department have presented their research at international and national academic conferences during 2018, including the AAPA, ESHE, SSSB and BABAO.

#### Visit us here:

<https://www.kent.ac.uk/anthropology-conservation/>

Twitter: @KentSAC

#### Ongoing Post-Doctoral research

*Bardo, A.:* Evolution of human dexterity, precision grip and stone tool-making (Fyssen Foundation)

*Bocaeye, E.:* A micro-evolutionary perspective on tooth size at the origins of agriculture in the Levant (British Academy Postdoctoral Fellowship)

*Key, A.:* In the palm of your hand: A biomechanical study of stone tool design, use, and ergonomics throughout early human evolution. (British Academy Postdoctoral Fellowship)

*Le Luyer, M.:* Evolution of cell mechanisms underlying dental human reduction in Europe. (Marie Skłodowska-Curie Individual Fellowship).

*McFarlane, G.:* Biorhythm of childhood growth (Leverhulme Trust)

#### Ongoing PhD research

*Aris, C.:* An examination of enamel microevolution over the last 2000 years of human history

*Chapple, S.:* Assessing variability and complexity of occlusal tooth patterning in primate enamel-dentine junction morphology as it relates to current systems of tooth crown nomenclature

*Deckers, K.:* The ontogenetic trajectory of trabecular bone formation in the upper limb and hand of the great apes.

*Dolding-Smith, J.:* Researching human life history and the link to an underlying biological rhythm

*Dunmore, C.:* Skeletal form and function of the primate hand.

*Howlett, C.:* Expression of the 2D:4D digit ratio across the Primate Order.

*Pitfield, R.:* The biorhythm of human juvenile skeletal growth

*Small, J.:* The Forensic Anthropology of Burnt Teeth: a histological approach.

*White, T.:* Health Analysis of Medieval Canterbury's St. Gregory's Priory and Cemetery

### **Submitted PhD research**

*Curto, A.:* The impact of diet and health on bone stable isotope ratios: a comparative study

*Georgiu, L.:* Functional morphology of the hip and knee joints in apes and humans.

*Lowe, A.:* Infant killers of Budongo revisited: infanticide and counterstrategies in wild, Eastern chimpanzees

### **Ongoing MSc by research projects**

*Ruhland, S.:* The reasons and impacts of sexting: sending of unwanted graphic images

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## **Department of Archaeology University of Sheffield** *Sophie Newman*

Over a year on from our move into new office (Minalloy House) and lab (Ella Armitage Building) facilities, we are feeling happily settled into our new home. The teaching team remains unchanged, led by Pia Nystrom (primatology/human osteology), Lizzy Craig Atkins and Katie Hemer (human osteology/funerary archaeology), and Kevin Kuykendall (palaeoanthropology).

In March 2018 the Human Osteology Short Course was reinstated, and was led by PhD students Sarah Poniroos and Tegid Watkin. The event was very successful, with 18 eager participants from a range of backgrounds. The Short Course will run again in April 2019.

In the past year we have had the pleasure of hosting two guest lecturers. Dr Anna

Williams (University of Huddersfield) gave an informative session on Forensic Taphonomy to our current students in November 2018. Dr Claire Hodson also gave the biannual lecture for the Society for the Study of Childhood in the Past (SSCIP) focusing on 'The Role of Bioarchaeology in Fetal, Infant and Childhood Studies of the Past'. This lecture was given in conjunction with the Sheffield Centre for the Archaeology of Childhood (see link for further updates and upcoming events - <https://www.sheffield.ac.uk/archaeology/research/centres/childhood>).

The department has also participated in a number of public outreach events, including the Being Human festival in November where students ran a family-friendly event on the 'Original of the Artificial Ape' at Western Park Museum.

Many thanks and congratulations to our outgoing cohort of masters students (including Aimee Barlow, Hannah Lee, and Ben Wigley who all received distinctions), and we welcome in the new MSc intake of 16 HOFA, 7 Osteoarchaeology, and 7 Palaeoanthropology students.

Congratulations also to Laura Baiges-Sotos who submitted her PhD thesis in December 2018 entitled 'Degenerative joint disease in non-human primates and its relationship to locomotor adaptation and substrate use', and to Emma Green who passed her viva in June.

### **Updates**

Lizzy Craig-Atkins has published papers from three ongoing projects this year in AJPA. The first, with Chris Aris (Kent) and Pia Nystrom examines the potential of sex assessment in immatures from the permanent M1. The other two are based on collaborative work with Julia Beaumont (Bradford) and focus on methodological issues and interpretive analysis of incremental isotope data from early medieval infants. The AHRC-funded network on the Archaeology of the Norman Conquest resulted in a trip to North Carolina for the Haskins Conference, and a paper

concerning change in diet and foodways during the 11th century using a range of archaeological science approaches, including skeletal and isotopic analysis, is in progress. During the summer, the British Academy-funded Material Body project (with historian of the body, Karen Harvey) ran a very successful conference in Birmingham, and there are plans for an edited volume collating work of archaeologists and historians on 18th- and 19th-century bodies over the next few years. She also spent three days in September in a factory basement, having converted it into a medieval charnel house with the help of a team of event managers, set designers and a photographer for the 'Festival of the Mind'!

Over the summer Katie Hemer led a field school alongside Dr Hugh Wilmott at Scremby, Lincolnshire. International volunteers, students from the University of Sheffield, and members of the RAF from nearby stations took part in the excavation which is the first to have been extensively investigated since the 19th century. The excavation revealed more than 20 burials from a late 5<sup>th</sup> to mid 6<sup>th</sup> century cemetery, and was featured on Digging for Britain in November 2018. The human remains will undergo a complete osteological assessment and stable isotope analysis. Katie has also now taken on the role of President of the Society for the Study of Childhood in the Past.

### **Ongoing Doctoral Research Projects**

*Ford, J.:* Hyenas and Neanderthals in the British Middle Palaeolithic.

*Haywood, R.:* The perennial or occasional 'Nutcracker Man'? Does dietary adaptation explain the derived craniofacial morphology of *Paranthropus*?

*Hook, E.:* An archaeological and osteological investigation of the medieval hospital cemetery in England and Wales.

*Massey, S.:* Investigating the lifestyle and activity of the communities discovered at

Fishergate Bar, York (The Barbican).

*McAfee, I.:* Osteoarthritis in past populations: risk factors and comparative analysis of clinical diagnoses and treatments.

*Monaco, M.:* A critical examination of social stratification in prehistoric Cyprus using skeletal and funerary data.

*Oleman-Grace, K.:* *Homo erectus* life history: revisiting regressions in the light of recently recovered smaller-brained individuals.

*Poniro, S.:* Roman migration patterns based on skeletal, archaeological, and written evidence.

*Purchase-Manchester, S.:* A Radiographic Analysis of Middle Ear Infection in Human Skeletal Remains.

*Shiner, M.:* Transient relations: non-adult funerary practices in 1<sup>st</sup>-10<sup>th</sup> century AD Wales and Ireland and the origin of separate infant burial grounds.

*Strati, V.:* The effects of industrialization on the state of health and disease of a Victorian urban population: a case study from St. Hilda's Church, South Shields (Newcastle).

*Triozi, B.:* A biocultural study of the Vestini population of Loreto Aprutino: diet, health, status, and identity in the 6th- 4th Centuries BC in Central-Southern Italy.

*Waller-Cotterhill, C.:* One foot in the grave: an experimental examination of the effectiveness and development of the Anglesey Leg and an analysis of prostheses during the long Nineteenth Century.

*Watkin, T.:* 3D geometric morphometric analysis of phalangeal torsion and rotational capacity in humans, primates and fossil hominins, and their application in stone tool use.

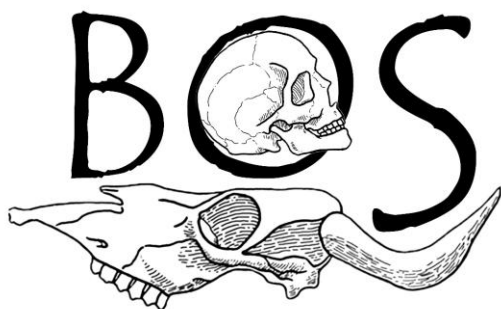
## Online Activities

You can find regular updates regarding research projects and upcoming events via personal and project pages on our departmental website. The Department of Archaeology is also active on Facebook (<https://www.facebook.com/ArchaeologySheffield>), Twitter (Shef Archaeology @UniShefArch), and YouTube (Archaeology Sheffield). Elizabeth Craig-Atkins is on Twitter at @ecraigatkins.

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## Bioarchaeology & Osteoarchaeology at University of Southampton (*Bos*)

*Sonia Zakrzewski*



I feel as if I start each year's report with the same sentence! The last year has been another busy year for both staff and students at Southampton.

Most of the *Bos* staff are based in Archaeology – but we also spread into Anatomy, Anthropology and Bioengineering. Dr **Andrei Soficaru** has joined us as a Marie Skłodowska-Curie post-doctoral fellow, and is working on the Women at the Edge of Empire project during his time in Southampton. This project draws together human osteology, stable isotopes, mortuary behaviour, material culture and epigraphy to examine how the identities of migrant women, and local women married to migrant men, responded to intercultural contact at the eastern border of the Late Roman Empire (4-6th centuries AD).

Professor **Joanna Sofaer** is busy with her position as Humanities in the European Research Area (HERA) Knowledge Exchange

(KE) and Impact Fellow for the period December 2017–April 2020. Dr **Sonia Zakrzewski's** collaborations with Engineering are continuing with **Alex Dickinson**, **Markus Heller** and **Martin Browne**, studying stress and structural integrity in teeth and long bones through microCT ( $\mu$ CT). **Jaco Weinstock** has been continuing his zooarchaeological study of the faunal remains from Amara West in Sudan (with Ellie Williams [Canterbury Christ Church] & Neal Spencer [British Museum]). Professor **Alistair Pike** has been continuing a series of isotopic studies of skeletal remains from a wide range of time periods – but still retaining his focus on early hominins.

Over in Anatomy, the team now comprises **Scott Border**, **Ian Jenkins**, **Jenny Skidmore**, **Stuart Morton**, **David Walker** and **Amgad Sbayah**.

We have said goodbye to some colleagues who have moved on to pastures new... Tomasz Cecot has moved from Anatomy to Hong Kong University School of Biomedical Sciences. And Sarah Stark has started working for a medical research company. They are very much missed!

Our first cohort of integrated Masters students has now graduated. These students, who obtained either MARc or MSciArch, were able to continue their studies for a fourth year, following a Masters level programme of modules and research.

### Current Research Students

*Sarah Stark* successfully defended her PhD thesis entitled “The shape of childhood: a morphometric growth study of the Anglo-Saxon to Post-Medieval Period” earlier this year. Around her new job, she is working on writing up papers derived from it.

*Kaylea-Ann Raczkowski Wood* has started her doctoral research looking at neanderthal mobility and locomotion, using a mix of CT and other methods of analysis.

Continuing Research students:

*Caroline Armstrong* – Osteobiographical and isotopic histories of Barton-on-Humber

*Mike Burgess* - Neolithic zooarchaeological and human assemblages to evaluate changing ecology.

*Steph Evelyn-Wright* – Attitudes to and recognition of disability in Roman bodies and their representation and burials in cemeteries

*Carolyn Felton* – Markers of occupational stress in the spine

*Christianne Fernee* – Intra-individual variation and patterning of dental (especially root) morphology using  $\mu$ CT

*Sammy Field* – Improving methods of analysis of dental wear for age estimation.

*Nina Maaranen* (through University of Bournemouth) – Bioarchaeological identification of the Hyksos.

*Emily Mitchell* – healing and treatment of trauma on board the Mary Rose

### **Dissertations Approved for the MA in Osteoarchaeology 2017-2018**

*Ellie Brown* – A skeletal and isotopic study of a small Romano-British cemetery at Fladbury, Worcestershire.

*Elizabeth Carmichael* – Rites of Childhood: Exploring Childhood and Identity through Bioarchaeology.

*Katrina Vincent-Forbes* – A Study Examining the Osteological literature for Evidence of pregnancy in Skeletal Remains Using a Multivariate Approach.

### **Other Relevant Dissertations (2017-2018): MA in Maritime Archaeology:**

*Lauren Cowie* – Disability, Social Context, and Seafaring.

*Catherine Gould* – *A mare ad mensam*: An Investigation of Social Status through Fishing

and Fish Consumption in the Roman Mediterranean.

### **Integrated Masters Courses (2017-2018):**

#### **MSci Archaeology:**

*Kaylea-Ann Raczkowski Wood* – Reconstructing Neanderthal Ecologies between ~130 to 40ka.

#### **MArc:**

*Jonathon St-Clair Smith* – In Body and Spirit: The Relationship between Physical Impairment and Mortuary practice at the early Anglo-Saxon Cemetery of Great Chesterford

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### **POSTGRADUATE RESEARCH ABSTRACTS**

#### **Creating calculus: Experimental dietary research on a model calculus system.**

*Bjørn Peare Bartholdy*  
*Leiden University*

#### *PhD Abstract*

This is a two-part PhD project that will focus on the recovery of dietary markers from dental calculus. The main part will involve developing a model calculus system, which will allow experimental research to be conducted on *in vitro* calculus. The bacterial and mineral composition of the model calculus will be determined in order to assess its similarity to *in vivo* calculus. Model calculus grown in the presence of starch solutions (mimicking meals) will be buried for intervals of 3, 6, 12 and 24 months, to track the preservation of starch grains contained within the mineralised calculus matrix, and document the extent of external contamination from the soil.

The second part will attempt to provide direct evidence of disease treatment, whether dietary or medicinal, in a 19<sup>th</sup> century Dutch skeletal population. This will involve extraction of starch grains and detection of medicinal compounds from the dental calculus. The diet of 'normal' and pathological skeletons will be compared to determine if the diet of (potentially) chronically diseased individuals

differed from individuals with no apparent skeletal manifestations of disease ('normal'). In addition to the detection of dietary markers, the calculus samples will be analysed for medicinal compounds, specifically opioids and cannabinoids, which were widely available in the Netherlands during the 19<sup>th</sup> century.

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**Investigating proposed behavioural and social divergences between distinct Inuit hunter-gatherer groups using paramasticatory dental striae and dental health**

*Charlotte S. McElvaney,  
Department of Archaeology, Durham  
University*

*PhD Abstract*

The research project analyses Inuit human skeletal remains, particularly the dentition, and focusing on Native Alaskan and Aleutian populations. The aims are to study cultural distinctions and divergences between Inuit populations. This will be achieved by covering three elements; dental health, paramasticatory dental activities and physiological disturbances afflicted during juvenility. To discover if any deviations are present intra- and inter-populations, a multifactorial scoring and recording system has been devised. Dental health will be scored by analysing dental wear (direction and extent), carious lesions, antemortem tooth loss, antemortem damage (enamel chipping and fracturing), calculus, periapical lesions and periodontal disease. Paramasticatory activities will be recorded using the presence/absence of paramasticatory striae, and interproximal grooves. Physiological disturbances will be analysed using linear enamel hypoplasia. Any prevalence of the aforementioned would then be analysed to establish social divides (e.g. age, sex, social status) is evident, and whether this itself changes over geographic regions and temporality. Additionally, the study will incorporate both adult and subadult remains, so as to ascertain when paramasticatory

activities began, and compare adult and subadult dental health.

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**Fire as a taphonomic agent**

*Pilar Mata Tutor*

*Laboratorio de Antropología y Odontología  
forense de la Escuela de Medicina Legal,  
Universidad Complutense de Madrid*

*PhD Abstract*

Fire is a highly destructive agent that can alter, damage and destroy human remains and reduce a full body to bone fragments. It is essential to interpret these post-mortem changes in forensic and archaeological contexts to discover the circumstances surrounding the fire.

To do so, firstly, several archaeological cremated remains from different pre-Hispanic populations -pre-roman to late-roman period- will be examined using a combination of funerary archaeology and forensic anthropology methods to (1) establish the body position during cremation using the overall weight and the presence or absence of the anatomical regions, as well as the colour, (2) calculate the maximum and temperatures using the correlation between the observable changes in bone and the temperature reached, (3) determine the state pre-combustion of the body through a combination between colour and the fire induced fractures, to ascertain if the bones were cremated when fresh, defleshed or dry, and (4) thoroughly study the heat induced fractures using cutting-edge techniques such as micro-CT and SEM.

Afterwards, planned experiments using donated remains will be conducted to (1) verify the correlation between curved transverse fractures and bluish/grey colours and (2) presence of tissue and patina fractures, (3) study the patterned thermal destruction in different situations, and (4) quantify the differences between sharp-force-trauma in fresh bone, dry bone, cremated bone and transverse fire induced fracture.

In conclusion, the combined analysis of archaeological cremated remains and experimental studies can help both the forensic and archaeological fields to understand the taphonomic effects of fire on

bone and the circumstances surrounding the process.

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**Epigenetic variation in forensic anthropology: incidence and geographical distribution within the Spanish territory**

*Catherin Villoria Rojas*  
*Laboratorio de Antropología y Odontología forense de la Escuela de Medicina Legal, Universidad Complutense de Madrid*

*PhD Abstract*

Epigenetic variants or non-metric characters are defined as: “*morphological variations characteristic, traits or anatomical marks that may be located in any organ or tissue*” (Saunders Rainey 2008). These non-metric characters have a hereditary component, but their expression may arise sporadically with age, sex, or be influenced by non-genetic factors. More than 400 non-metric traits have been described in cranial and postcranial bones.

The aim of this study focuses on establishing the incidence, presence or absence of non-metric traits described in the literature and their distribution within the Spanish territory. A descriptive cross-sectional study of the human osteological collection of the Forensic Medicine School will be carried out, consisting of 223 individuals of both sexes, in which the skull, scapulae, scapular girdle and vertebrae of adult individuals will be analysed, whose death does not exceed 50 years.

Inclusion criteria: adult individuals with full registration of sex, age and place of origin are in good state of conservation. Exclusion criteria: archaeological samples of juvenile individuals of less than 20 years of age, in conservation poor condition, with pathologies, metabolic alterations or evidence of trauma.

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**The Lifeways of Enslaved People in Curaçao, St Eustatius, and St Maarten/St**

**Martin: A Thematic Analysis of Archaeological, Osteological, and Oral Historical Data**

*Felicia Fricke*  
*University of Kent*

*PhD Abstract (Submitted)*

Archaeology has shown itself to be an effective way of reaching ‘silenced’ or ‘subaltern’ groups, who often did not leave written records behind them. It can help to deconstruct colonial narratives and develop new ones which are more nuanced and sensitive to stakeholders. This is particularly necessary in the Dutch Caribbean, where the dominant narrative can be damaging to local communities and hinder relations between the islands and the Kingdom of the Netherlands.

In this study, the data sources of material culture from excavated enslaved villages, human remains from excavated enslaved cemeteries, and oral historical narratives from participant interviews, were used to construct narratives of the lifeways of enslaved people on the Dutch Caribbean islands of Curaçao, St Eustatius and St Maarten/St Martin. These qualitative data in a thematic analysis facilitated nuanced understandings and allowed comparisons between islands and datasets as well as between the study area and other regions of the Caribbean and the wider Americas.

The research provided perspectives lacking in the existing literature. For example, in St Maarten/St Martin enslaved people here had highly complex spiritual, cultural, and communal lifeways which were intricately linked with the island landscape; in St Eustatius enslaved people experienced high levels of stress despite periods of economic and material wealth; and in Curaçao the social structures of Atlantic slavery persisted well into the 20th century. Overall, it demonstrates that narratives describing slavery here as ‘mild’ have neglected many of the physical and psychological stresses of enslavement for which there is ample evidence.

REVIEW OF THE 20<sup>th</sup> ANNUAL BABAO  
CONFERENCE, 2018  
*Diana Swales*  
*University of Dundee*

From the 14<sup>th</sup> to the 16<sup>th</sup> of September 2018 the 20th Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology was hosted by Cranfield University. The event was held at the Vincent Centre and the Cranfield Management Defence Centre (CMDC). It was attended by 160 delegates.

The conference was a fabulous success and the quality of all of the presentations and posters was exceptionally high. This review summarises and includes some of the key highlights of the conference. A more detailed description of the sessions can be found in the conference programme on the Cranfield University website (<https://www.cranfield.ac.uk/events/events-2018/babao-2018>).

The conference commenced on the Friday afternoon with a warm welcome and a history of BABAO by President Professor Charlotte Roberts.

The first poster and podium sessions were 'open' with a broad array of topics considering ethics and diet from both university and professional sectors.

The podium presentations progressed with the theme of 'Forensic Anthropology' opened by a key-note presentation by Dr Julie Roberts on the role of the forensic anthropologist in the 21<sup>st</sup> century. During this session Ryan Austin (University of Lincoln) presented his research on the use of strontium isotopes for geolocation in Guatemala. Ryan was awarded one of the two Jane Moore prizes for podium presentations, which was very well deserved (congratulations Ryan).

The day drew to an end with a very pleasant drinks reception at the CMDC.

'Funerary Archaeology' was the theme for the start of Saturday morning. A good mix of interesting presentations kept everyone

focussed until the coffee and poster sessions 2 (Forensic Anthropology) and 3 (Funerary Archaeology) at 11.00. Unfortunately, the keynote speaker (Dr Eline Schotsman) could not attend so Nicholas Marquez-Grant presented the PowerPoint presentation on her behalf. Nicholas and Julie Roberts did a sterling effort of chairing a debate about human taphonomic facilities in the UK. This session included the second Jane Moore prize winning podium presentation by Anna Bloxam on burial practices of the British Beaker People (well done Anna).

The post-coffee podium presentations (Palaeopathology 1) were an excellent demonstration of the global scope of research by our membership, with wonderful talks from far and wide covering Europe as a whole, Orkney, Norway, China, Slovakia and Japan.

A very lovely lunch was served with some fabulous weather.

The afternoon continued with a general biological anthropology session. Simon Underdown gave a very impressive key note talk, especially considering his last minute arrival from fieldwork and recent period of illness. This session encompassed both children and the elderly and sex in consideration of trauma, development, mobility and health.

The 'Palaeopathology' poster session was accompanied by refreshments. To celebrate 20 years of BABAO cupcakes were provided arranged as 'BABAO 20' and accompanied by a short speech by Charlotte Roberts. Thank you to all who volunteered to bake the cupcakes and credit for getting them to the conference via many modes of transport.

The closing podium session for the day was 'Palaeopathology II'. This was followed by the BABAO AGM, which included the handing over of the Presidency to Jo Buckberry, University of Bradford.

The Annual Conference Dinner was hosted at the CMDC and followed by the famous BABAO quiz, which included a genius music

round. Entertainment continued further by dancing and live music provided by the very impressive Divalution.

The final day of the conference opened with a session on 'Advances in biological anthropology and osteoarchaeology'. Dr Dario Piombino-Mascali led the presentations with his keynote speech on mummies as a bioarchaeological resource. This was a fascinating session which kept even the most tired from the previous days and evening activities engaged.

After the break and poster session on the same theme the final session was a series of presentations in honour of Professor Holger Schutkowski who was awarded the Honorary Lifetime Membership award (<https://www.babao.org.uk/grants-and-prizes/honorary-lifetime-membership/>). The session was led by Jo Buckberry and Sonia Zakrzewski who nominated him. The presentations were of very high quality and were accompanied by a very moving series of testimonials from students and colleagues past and present about their experiences of working with Holger who shared some words at the end of the session. It is sessions such as this that celebrate the achievements of the members that make the BABAO conferences so special.

The conference came to a close with the awards. The Jane Moore prize for best student podium presentation went to Anna Bloxam (University College London) and Ryan Austin (University of Lincoln). The Bill White prize for best student poster was awarded to Emma Saunders (Poster Session 1) and Hannah McGivern (Poster Session 2). Each one was very well deserved amongst very strong competition so I hope all four are very proud of their achievements.

A lovely lunch was provided for everybody to see them on their way home.

Thank you to the organising committee for such a successful and enjoyable conference.

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## FORTHCOMING CONFERENCES, COURSES AND WORKSHOPS

### **20th Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology**

BABAO's 2019 conference will be held by the Natural History Museum, London on the 13th - 15th September.

More information is available at:

<https://www.babao.org.uk/conferences/babao-annual-conference-2019/>

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## MEMBERS' PUBLICATIONS – 2018 –

Afshar, Z., Roberts, C.A., Millard, A. 2018. Interpersonal violence among the Chalcolithic and Bronze Ages inhabitants living on the Central Plateau of Iran: A voice from Tepe Hissar. *Anthropologischer Anzeiger* 75: 49-66.

Alaika, A., Schalburg-Clayton, J., Dalton, A., Kranioti, E.F., Graziani Echávarri, G., Pickard, C. 2018. Variability along the Frontier: Stable carbon and nitrogen isotope ratio analysis of human remains from the Late Roman-Early Byzantine cemetery site of Joan Planells, Ibiza, Spain. *Archaeological and Anthropological Sciences*: 1-14. <https://doi.org/10.1007/s12520-018-0656-0>

Anastasiou, E., Papathanasiou, A., Schepartz, L.A., Mitchell, P.D. 2018. Infectious disease in the ancient Aegean: intestinal parasitic worms in the neolithic to Roman period inhabitants of Kea, Greece. *Journal of Archaeological Science Reports* 17: 860-64.

Aris, C., Nystrom, P., Craig-Atkins, E. 2018. A New Multivariate Method for Determining Sex of Immature Human Remains using the Maxillary First Molar. *American Journal of Physical Anthropology* 167 (3): 672-683.

Baten, J., Steckel, R.H., Larsen, C.S., Roberts, C.A. 2018. Multidimensional patterns of European health, work, and

violence over the past two millennia. In: Steckel, R.H., Larsen, C.S., Roberts, C.A., Baten, J. (eds) *The Backbone of Europe. Health, Diet, Work and Violence over Two Millennia*. Cambridge, Cambridge University Press. 381-396.

Beaumont, J., Craig-Atkins, E., Buckberry, J., Haydock, H., Montgomery, J., Horne, P., Haydock, H., MacKenzie, K. 2018. Comparing apples and oranges: why infant bone collagen may not reflect dietary intake in the same way as dentine collagen. *American Journal of Physical Anthropology* 167 (3): 524-549.

Bonczarowska, J.H., Bonicelli, A., Papadomanolakis, A., Kranioti, E.F. 2019. The posterior portion of the ilium as a sex indicator: A validation study. *Forensic Science International* 294: 216.e1-216.e6. <https://doi.org/10.1016/j.forsciint.2018.10.031>

Craig-Atkins, E. 2017. Commentary: interdisciplinary approaches to the study of disease and deformity in past populations. In Parkinson, E. and Talbot, L. (eds.) *In sickness and health: Interdisciplinary approaches to the study of disease and deformity in past populations. Archaeological Review from Cambridge* 32(1): 106-111.

Craig-Atkins, E., Towers, J., Beaumont, J. 2018. The role of infant life histories in the construction of identities in death: An incremental isotope study of dietary and physiological status among children afforded differential burial. *American Journal of Physical Anthropology* 167 (3): 644-655

Crozier, R. 2018 A taphonomic approach to the re-analysis of the human remains from the Neolithic chamber tomb of Quanterness, Orkney. *British Archaeological Reports British Series*, Hadrian Books. ISBN: 9781407315713

Dotsika, E., Diamantopoulos, G., Lykoudis, S., Poutoukis, G., Kranioti, E. 2018. Isotopic Composition of Spring Water in Greece: Spring Waters Isoscapes. *Geosciences* 8: 238. doi:10.3390/geosciences8070238

Egging Dinwiddy, K. 2018. Human Bone, in Mason, C. *A Romano-British Roadside settlement at Beanacre, Wiltshire*. Wessex Archaeology Occasional Paper, Salisbury, WA. 75.

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