



# Annual Review 2013

February 2014

Issue 15

# BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY AND OSTEOLOGY ANNUAL REVIEW

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## WELCOME TO THE ANNUAL REVIEW FOR 2013

*By Jo Appleby*

Welcome to the BABAO Annual Review for 2013. More of you than ever have contributed this year, and it's a pleasure to welcome new faces (in particular the University of Derby) and to see reports from some who have been unable to contribute for the last few years due to time constraints (Wessex Archaeology). The variety of research and outreach activities represented in the Review seems to get more impressive each year.

I'd like to thank the organisers of 2013's conference in York for all of their hard work. Despite the record numbers, everything ran without a glitch, setting a high standard for this year's conference in Durham!

Finally, this will be my last year editing the Annual Review. It's been an enjoyable five years and it's been good to have the excuse to keep in touch with so many of you about your research and analysis. In the time I've been editor, we've moved from a print to an electronic Review and the length has increased from 70 to 85 pages, surely a sign of a flourishing organisation (although making a little extra work for the editor!). I'd like to wish my successor the very best of luck for next year.

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### ASSOCIATION NEWS

#### **President's Column**

*By Piers Mitchell*

Having now completed my first full year as president I am gratified to see that the association remains financially solvent, membership is healthy at around 500 members, and we are continuing to expand the services and benefits we provide to you all. With the great team we have on the committee it is just possible they might keep me on the straight and narrow for the next couple of years until my time at the helm expires.

BABAO is in the final stages of becoming a charity. We already do plenty of outreach and educational activities with the public (see below) that justify charitable status. This will allow us to avoid paying tax on some aspects of our income and so make us as cost efficient as possible. Many thanks go to our treasurer Gundula Müldner for her hard work on this.

On 3<sup>rd</sup> July this year BABAO ran a workshop and held a stall at the London Anthropology Day in the British Museum, an event organised by the Royal Anthropological Society. Thanks go to Jelena Bekvalac, Tim Thompson and Stefanie Vincent for their hard work on the day. The aim of the workshop was to guide the A-level students attending as to the options and opportunities for study in the field of biological anthropology, without having any vested interest ourselves in where to study, or what fields to study. We will return next summer to fascinate and inspire a new cohort of school leavers, and hopefully entice them into biological anthropology courses at university.

The RAI Northern Anthropology Day was a new event started this year, to complement the London day and increase access to information on anthropology for A level students living in the north of the country. Thanks to Tim Thompson for representing BABAO with our stall at that event in Durham on 11<sup>th</sup> July.

The British Science Festival was held this year in Newcastle from 7-12<sup>th</sup> September and BABAO was represented for the first time. The festival aims to bring science to the general public and the media through a range of educational events. BABAO hosted a debate entitled 'Plague and Pestilence: Which was the Most Important Infectious Disease to have Affected People in Britain in the Past'. Many thanks to Jelena Bekvalac, Jo Buckberry, and Charlotte Roberts, who joined me to present and debate at this session. We had a packed lecture theatre, as the tickets sold out and there was a waiting list of people queuing outside. Clearly the general public are really interested in biological anthropology, and we must do

our best to educate and entertain those outside academia if we are to enhance awareness of our field. Next year we are preparing a debate entitled 'What was the Bloodiest Period in Britain?' where trauma and violence will be explored since our species first settled in the British Isles.

*Trends in Biological Anthropology* is the new BABAIO book series to be published by Oxbow. This will be comprised of papers presented at the previous year's BABAIO conference. All papers will be peer reviewed to ensure a high standard publication. The volume will be sent out to members as part of their subscription. The Bournemouth conference (2012) papers have now been peer reviewed and formatted for publication. Once the Edinburgh conference (2011) papers have been made ready the combined volume can be published. Papers from the York conference (2013) are currently undergoing peer review.

BABAIO now funds the Database of UK Human Skeletal Collections. When complete, it will be available to all members. It is based upon the personal databases of members such as Charlotte Roberts and Simon Mays, augmented with information from past BABAIO Annual Reviews and other sources. Thanks so much to Charlotte and Simon for selflessly donating these. At present it is hosted at Durham University and is being updated and checked by Tina Jacob. I am told it should be ready for use very soon.

Three BABAIO grants were awarded to members from the 13 applications received last May. The winner of the commercial grant was Don Walker of Museum of London Archaeology, and of the two academic grants were Claudia Garrido Varas from Chile and Ross Kendall of Durham University. We look forward to their presentations at the 2014 conference.

We are in the process of setting up a better system for the on-line availability of osteological reports in the grey literature. Our publicity secretary and web-master Tim Thompson has been liaising with the

archaeology data service (ADS) so they can host these reports as downloadable PDFs, but also have an effective keyword search system to allow us all to identify reports of interest more easily.

Together with the Human Remains Subject Specialist Network, we are organising some educational workshops for museum curators who may have limited expertise in how to care for and manage human skeletal remains. This need has come to light following the publication of a report by the Society for Museum Archaeologists. We are also creating a panel of experts within BABAIO who can act as advisors to museum curators in their area. Thanks go to Margaret Clegg, Jelena Bekvalac and Charlotte Roberts for setting this up.

Our Cambridge University Press book series is progressing well. It is aimed a masters level students, with volumes of around 60,000 words, and will be priced so as to be affordable to students and waged members. We have four books being written currently, which we hope will be published in the next year or two. The series will gradually increase in size to 10-15 volumes over the first decade. It will have the BABAIO logo on the title page and the price will be discounted for BABAIO members.

Now for conference news. Many thanks to Malin Holst and the Archaeology Department at the University of York for hosting the 2013 annual conference from 13-15<sup>th</sup> September. This had 220 people registered, which is the largest ever attendance for one of our annual conferences. The result was the last minute transfer of the conference to larger facilities to accommodate everyone, but despite this the event went very smoothly. This year we introduced conference bursaries for those on low income who wish to present. It is hoped that next year applicants will be even clearer as to why they feel their circumstances justify waiving of the registration fee. The 2014 conference is to be hosted at Durham University by Charlotte Roberts, Becky Gowland, Andrew Millard, and Tina Jakob from 12-14<sup>th</sup> September. The 2015 conference will be hosted at the University of Sheffield by

Dawn Hadley, Pia Nystrom and their team. The 2016 conference will be held at the University of Kent by Patrick Mahoney. It is great to see members queuing up to host our flagship event of the year.

In recent years we have tried hard to hold conference sessions on all aspects of biological anthropology in order to make the association as inclusive as possible. While osteoarchaeology and palaeopathology are particular strengths of the organisation, at recent conferences we have also held sessions on primatology, evolutionary anthropology, DNA and biomolecules, isotopes, and forensic science. The committee is keen to continue this theme of proactively inviting experts from every field of biological anthropology to present their work at the annual conference. In this way, the content of our conferences will genuinely start to reflect the title of our organisation.

This year 11 members stood for election for the 4 committee posts that had become available. Simone Lemmers was elected Student Representative, Simon Mays re-elected Representative from a Professional Organisation, Rebecca Redfern elected Representative from a Museum, and Tim Thompson re-elected Publicity Secretary. It is great that so many members put themselves forward this time, as it is key that we are given a good choice from which to elect our representatives.

BABAO recently submitted a contribution to the English Heritage consultation exercise regarding their new policy document on Human Remains from Wreck Sites. It is hoped that this will result in better handling of the excavation, curation and study of the remains of those who died around the coast of Britain in archaeological time periods.

We also added a position statement on our own website regarding the reburial of human skeletal remains. Members seeking further advice as to if/when/how this might best be performed can contact the committee for help.

In 2014 we will hold our first joint symposium with the Human Biology Association. The theme will be Age Estimation, and Nicholas Marquez-Grant is co-ordinating the BABAO contributions. A call for papers from members of the association will go out in due course. It is anticipated that papers from the workshop will be published in an edited book.

I am sure you can see that the committee is working hard to provide the best service we can to our members. We are always open to helpful suggestions if you have any ideas to improve our association further. The gradual increase in the length of the president's column really reflects how the association has significantly increased its range of activities and services, which has to be a good thing.

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

*By Stefanie Vincent*

Membership numbers stood at 500 at the end of 2013, continuing the small but steady increases seen in previous years. The breakdown of our membership is broadly the same as previous years, although for the first time the number of student members overtook the number of working members. A detailed breakdown of our membership can be obtained from the table below (please note, members can be in more than one category).

MEMBERSHIP CATEGORIES	
Students	240 (48%)
Academics	87 (17.4%)
Work in commercial sector	35 (7%)
Anthropologist/archaeologist	17 (3.4%)
Osteologist	46 (9.2)
Unemployed	44 (8.8%)
Forensic specialists	21 (4.2%)
Work in Museums	7 (1.4%)
Medical	7 (1.4%)
Retired	7 (1.4%)
No information supplied	4 (0.8%)
Other occupations	9 (1.8%)

The largest change in the membership breakdown is the increase in unemployed

members from 28 to 44 individuals. 'Other occupations' covers a varied range of professions providing us with a dynamic and interesting membership. I would like to take this opportunity to encourage members to use the 'change of details' form available on the membership section of [www.babao.org.uk](http://www.babao.org.uk) to track changes in job titles, positions and affiliations in addition to personal details.

We recruited 61 new members during 2013, in comparison to 78 during 2012. The majority of these were UK residents (80.4%), with the remaining 19.6% representing overseas members. In 2011 we introduced an introductory free membership for those joining late in the year (from October onwards, applicable to new members only). In addition to the new members detailed above 28 individuals joined during this trial period, in increase from just 11 in 2012.

We currently have 109 overseas members who make up 21.8% of our total membership. The majority of our overseas members come from Europe (n=66), but we also have members from the Americas (n=33) and other areas including Australia, New Zealand and Japan (n=10).

During 2013 we were unfortunately unable to accept online payments via our Pay Pal service. This method of payment has been popular in the past (77% of members paid online in 2012), especially with our members who do not have UK based banking. We are working on this issue and hope to get it resolved soon.

Please do not hesitate to contact me if there are any questions regarding BABAO membership; either at the address inside the front cover of the Annual Review or through our website at [www.babao.org.uk](http://www.babao.org.uk).

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### **Report from the Student Representative**

*By Simone Lemmers*

A few words from your new student representative. The more of our student

members I get to speak and hear from, the more I see us as a tight community, but diverse none the less. I find it an honour to be part of it! I'd like to draw your attention to some of the words that were spoken at the last BABAO meeting in York, in which Piers stressed that we are not only an association for Osteoarchaeology, but for a broad range of fields, including Biological Anthropology, Forensics, Evolutionary studies, and so on. I completely agree with his opinion on this. The Human Osteoarchaeology side of our field seems to be very well represented among our student members and input, and I'm very happy with all the interesting posts, fieldwork suggestions and top tips that are being circulated through our social media. Thanks everybody for sharing ideas and suggestions with our community, and please continue to do so. But apart from the Human Osteoarchaeologists, it is good to realise that there are more BABAO-ers out there. Although researchers and students might not be in your exact field, you'll be surprised how many interesting new insights you will get into your own research when hanging out with each other. So do go and have a coffee with a primatologist, grab a beer with a forensic student, and do join in on an evolutionary anthropology seminar once in a while. Although it is important for postgraduate students to find your research focus, moments of reflection on the wider implication of our field and broadening your perspective are worthwhile as well. To stimulate this multidisciplinary nature of BABAO among the student community, ideas are buzzing around for organising an annual BABAO student day, of which I will inform you as soon as more is set on paper, and I'll ask you all soon to get in touch if you want to be involved in this. Also, if you want to write a review on interesting conferences, seminars or workshops you've been to, please do get in touch, and we can make a section on the student forum for this as well. Other ideas are welcome too! Do not hesitate to contact me with any questions or suggestions regarding any student-related matter. Hope to hear from you, and best wishes, Simone



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## PEOPLE

In Spring 2013, Nivien Speith joined the School of Applied Sciences (Faculty of Science and Technology) at Bournemouth University as Demonstrator in Anthropology and Curator of the Human Remains Collections held at BU.

Nivien also has taken over the post of Newsletter Editor of the Palaeopathology Association (PPA). Considering many joint research interests of both associations, BBAO members are strongly encouraged to submit any news about activities in palaeopathology that they would like to see distributed in the PPA quarterly newsletters, including research opportunities, projects, field schools, exhibitions or meetings, to: [nspeith@bournemouth.ac.uk](mailto:nspeith@bournemouth.ac.uk).

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Natasha Powers now holds an official role as Head of Osteology and Research Coordinator at MOLA. As Research Coordinator she is the first point of contact for all student enquiries and requests to access the collections and data held by MOLA, not just those relating to human remains. More details on MOLA's research strategy and information on how to make an application can be found on the MOLA website: <http://www.museumoflondonarchaeology.org.uk/Research/>

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## NEWS AND PROJECT UPDATES

### **Digitised Diseases: informing clinical understanding of chronic conditions affecting the skeleton using archaeological and historical exemplars**

*By Emma Brown, Jo Buckberry and Andrew Wilson, University of Bradford.*

The two year JISC-funded project *Digitised Diseases* was a partnership between the University of Bradford, The Royal College of Surgeons of England and Museum of London

Archaeology to develop an online 3D resource of pathological bone specimens. The project reached a climax in December 2013 with the launch of the beta version of the *Digitised Diseases* web resource at the Royal College of Surgeons in London. The web resource currently contains a selection of photo-realistic digital models, each with detailed pathological descriptions produced by teams of researchers in Bradford and London using 3D laser scanning and high-resolution digital photography. To help the user place the specimen they are viewing into a wider clinical context we have included clinical synopses for different disease categories.

Over the coming months we will continue to upload further digital models, pathological descriptions and other supporting data, including CT, micro-CT and radiographs. We will also enable a download function under a creative commons agreement.

Pathological bone specimens were selected for digitisation from the BARC osteological collection at the University of Bradford, and from our project partners Museum of London Archaeology and the Royal College of Surgeons of England. Associate Partners included the Centre for Human Bioarchaeology at the Museum of London, Historic Scotland, National Museum of Scotland, York Archaeological Trust, The Yorkshire Museum and York Minster. By the end of the data collection phase of the project we had scanned and textured more than 1600 bones, as well as producing more than 1425 pathological descriptions.

The project has involved many different researchers, advisors, associate partners, contributors and supporters and we would like to pay particular tribute to the team effort in developing this resource. You can see the extensive list of participants on the project website.

### **Links:**

Website: [digitiseddiseases.org](http://digitiseddiseases.org)

Blog: [digitiseddiseases.wordpress.com](http://digitiseddiseases.wordpress.com)

Twitter: @digidiseases

Facebook: [facebook.com/digidiseases](https://www.facebook.com/digidiseases)  
YouTube: [youtube.com/user/DigitisedDiseases](https://www.youtube.com/user/DigitisedDiseases)

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### **Digitised Diseases (MOLA)**

*By Natasha Powers*

The human osteology team at MOLA spent much of 2013 working on the JISC-funded "Digitised Diseases" project, in collaboration with University of Bradford and Royal College of Surgeons and launched in December. Working with the MOLA, CHB and RCS collections, Don Walker and Mike Henderson completed c. 500 3D scans. They were able to closely study the amazing specimens held at the RCS including several cases of congenital syphilis; giant cell tumours; trepanation; osteopetrosis; the ribs and spine of the first pathologically studied example of cancerous metastasis (a specimen prepared by the famous 18th century surgeon John Hunter); a gunshot; a rare fungal infection (maduromycosis); and leontiasis ossea. Some specimens were also taken to the Chelsea and Westminster Hospital for computed tomography (CT). MOLA would like to thank all those who have helped with the project along the way and particularly Carina Phillips and our lovely hosts at the RCS who made Don and Mike so welcome.

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### **The First Berliners**

*By Natasha Powers*

Excavations carried out by Landesdenkmalamt Berlin uncovered the cemetery of St Petri-Kirche. 3,717 individuals dating from the 13th to early 18th centuries were excavated and are currently being studied. The earliest phases date to the founding years of the city of Cölln (later to become part of Berlin) and the buried population are therefore the first Berliners, their origins unknown.

A pioneering collaborative project overseen by Claudia Melisch and involving Landesdenkmalamt Berlin, Humboldt-University of Berlin, MOLA, the University of West Florida and Bergakademie Freiberg, is examining osteological, archaeological,

biochemical and genetic aspects of this population. The results will then be compared with contemporary collections from London, in particular the cemetery of St Mary Spital, Tower Hamlets, to provide a truly intra-European perspective on matters such as diet, lifestyle, health care, life expectancy and disease.

In the first stage of work an assessment of 148 individuals was carried out by Natasha Powers (in Berlin) and the data collected was used to draw up an initial research design and forward plan. Initial examination has revealed that one of the earliest graves contains the remains of three middle-aged men who appear to have died in battle and who were deposited in a wooden box.

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### **Enthesal changes special issue of the IJO**

*By Charlotte Henderson*

An open access special issue of the International Journal of Osteoarchaeology, guest edited by C. Henderson and F. Alves Cardoso, was published in April entitled: *Enthesal Changes and occupation: technical and theoretical advances and their applications*

(<http://onlinelibrary.wiley.com/doi/10.1002/oa.v23.2/issuetoc>). The majority of these papers were originally presented at the symposium *Working Nine to Five: The Future of Activity-related Stress*, held at the Annual Meeting of the American Association of Physical Anthropology in Portland, Oregon in 2012 (<http://onlinelibrary.wiley.com/doi/10.1002/ajp.a.21030/abstract>).

A session was held at the 17th World Congress of the International Union of Anthropological and Ethnological Sciences in Manchester entitled "Identified skeletal collections: the testing ground of anthropology?" organised by C. Henderson, F. Alves Cardoso and S. Almeida. The session drew contributors from Europe and North America to discuss the uses, limitations and ethics of working on identified skeletal collections. Key outcomes included the importance of understanding the context of

the collection and the individuals within it when using these collections to develop and test methods.

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### **Collation of data on gorilla pathology and study resources**

*By John Cooper*

John Cooper and Gordon Hull, with the assistance of others, are collating data on the pathology of gorillas (*Gorilla* spp.) and the location of archival material relating to these species. They intend to produce a monograph on the subject aimed at primatologists, veterinarians, biologists, osteologists and conservationists. They are contacting knowledgeable colleagues, especially primatologists and wildlife veterinarians, and asking for comments, advice or assistance.

The project was launched during a Keynote Address presented at a recent International Conference in Nairobi, Kenya, entitled "Diseases and pathology of the genus *Gorilla*: the need for a database of material and resources" by John E Cooper, Gordon Hull and Gladys Kalema-Zikusoka. This presentation emphasised the need for a central database of material and resources relating not only to the diseases and pathology of gorillas, but also listing institutions and collections where research material (bones, wet tissues, paraffin blocks, samples suitable for DNA studies) is situated.

Although both species of gorilla occur only in Africa, historical material from them, some dating back many years, is to be found in many countries of the world. This largely comprises skeletons, bones and skins, often in museums but sometimes in private hands. A readily accessible database of such material would help those studying gorillas, especially African scientists and field workers who live and work in the range states, to have access to specimens to assist them in their studies or in their attempts to conserve these threatened species.

The collation of such data presents no threat to the various organisations which currently

strive to protect and to save gorillas. On the contrary, the publication of a catalogue outlining where material is to be found – and, with it, a review of current knowledge and thinking about the pathology of the genus *Gorilla* – will serve to help such people now and in generations to come.

Enquiries and offers of help should be directed to one of the following:

Professor John E Cooper: [ngagi2@gmail.com](mailto:ngagi2@gmail.com)

Mr Gordon Hull: [gorillafile@gmail.com](mailto:gorillafile@gmail.com)

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### **Manchester Science Festival**

*By Alison Atkin*

In October Alison Atkin, Jennifer Crangle, Liz Eastlake, Lenny Salvago, and Laura Llorente Rodriguez ran a Science Platform event at the Manchester Science Festival - 'The Exploded Skeletons'. The event included hands-on activity stations for people of all ages with both human and animal skeletal material (kindly loaned by the University of Sheffield and Manchester University).

It was the busiest Science Platform event of the entire festival, with nearly 500 participants trying everything from sexing male and female skeletons to identifying different animal skulls throughout the day. The science festival staff said the event was great way of presenting archaeology and osteoarchaeology as a scientific discipline and that the hands-on nature really appealed to the public. It was a wonderful outreach opportunity and demonstrated the public are keen to learn more about osteology and the role of osteologists in the community. Many thanks to everyone involved.

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### **Poulton Research Project**

*By Ray Carpenter*

The research and training excavation at Poulton in Cheshire (<http://www.poultonproject.org>) has continued, with 70 skeletons excavated from the area of

the medieval chapel during the 2013 season. This brings the total excavated since 1995 to 697 articulated skeletons, together with significant amounts of disarticulated material. The Project has again welcomed a record number of students studying a variety of osteology- and archaeology-related courses, who have been able to gain direct experience in both excavation and post-excavation treatment of human remains. Those students have come from France, Hong Kong, China, Malaysia, Australia, Holland, Switzerland, USA, Spain and all parts of the UK.

From this year's crop of anomalies, along with the usual pathologies and trauma, we have:

- Two significant examples of pseudoarthrosis, one of the lower right arm and the other involving a fractured femoral head, the femoral shaft and the acetabulum.
- A skeleton with bizarre periostitis on the tibia.
- Our first possible case of TB.

We continue to support post-graduate students at Liverpool John Moores University. One student is in the write-up period of a detailed MPhil on the skeleton with an imbedded bodkin. Two others are transferring their MPhil activities into PhDs. One is performing a comprehensive study of the non-metric traits and the other a full palaeodemographic study. There are two new MPhil students. One is looking at dental enamel hypoplasia and Harris lines. The other is developing new multivariate sex techniques. We secured funding for the radiocarbon dating of two significant skeletons. These confirmed the graveyard was in use for at least 200 years, from AD1300 to AD1500, although we believe the dates extend well beyond those dates both earlier and later.

In 2014 we will again try to obtain funding for the radiocarbon dating of a further set of carefully selected skeletons. This would enable us to confirm the period during which the graveyard was in use and provide valuable contextual evidence for the rest of the archaeological programme. We published our skeleton report summarising the basic analysis (estimation of age at death, sex and stature) of

all the skeletons up to the end of the 2012 ([http://www.poultonproject.org/downloads/Poulton\\_Skeletons\\_1995-2012.pdf](http://www.poultonproject.org/downloads/Poulton_Skeletons_1995-2012.pdf)). We are well on the way to publishing a revised edition covering all the 2013 material.

Thanks are due to the School of Natural Sciences and Psychology at Liverpool John Moores University, who have provided considerable help to the Project in this and other areas. We also gratefully acknowledge our other academic collaborators in the School of Archaeology, Classics and Egyptology at the University of Liverpool.

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## MUSEUM REPORTS

### **Centre for Human Bioarchaeology, Museum of London**

*By Jelena Bekvalac  
Curator of Human Osteology*

The Centre has had another busy and fruitful year, being involved with lots of exciting and varied projects. We also welcomed and assisted 60 researchers, undergraduates, Master's and doctoral students throughout the year, who came to the Centre to carry out a wide range of engaging research projects, collecting data from the Roman, Medieval and Post Medieval skeletal collections. A busy time for the trolleys and trolley dollies! The research projects related to a broad spectrum of areas in osteology, pathology and forensics. Within the field of forensics the Centre was pleased to be able to assist a first year doctoral student, Sherry Nakhaeizadeh from the SECRiT program at UCL in her research on cognitive biases within forensic anthropology relating to methods in the assessment of ancestry, age and sex at death. Sherry's research has already led to a publication of an article: Nakhaeizadeh et al, 2013 "Cognitive bias in forensic anthropology: Visual assessment of skeletal remains is susceptible to confirmation bias" in *Science and Justice*.

Continuing in the field of forensics, forensic undergraduate students at Kingston University came to collect a variety of data from the Post

Medieval collections for their presentations and masters students from Cranfield Forensic Institute headed to the crypt at St Bride's church with equipment for scanning the pelvis of the known named individuals. The resultant data collected has produced accepted abstracts for conferences at the AAFS (Investigation of the Potential Use of 3D Topographical Data and Geographical Information Systems for Age-at-Death Determination from Pelvic Skeletal Remains) and BAHID (Work on age-determination from pubic-symphyses using Arc-GIS). The St Bride's crypt individuals also provided information for a number of other research projects, as well as data to be added to the Portuguese forensic identification project BoneMedLeg.

We were able again to welcome researchers from all over the world, the furthest this year a PhD student, Gina McFarlane, from the University of Auckland, New Zealand who came to investigate putative relationships that may exist between childhood stress episodes and adult health outcomes based on non-destructive analysis of dentition. There was also a large contingent of students from the USA and in the summer we had 15 students from Grand Valley State University, Michigan, on a rotational basis doing related research projects on juveniles relating to growth and developmental changes from a number of the Post Medieval sites. Keeping to a USA theme we were very fortunate to be able to have the opportunity of having portable digital x-ray equipment set up for a limited period of time in the rotunda store. Thanks to Professor Jerry Conlogue at Quinnipiac University and Kubtec, Jerry was able to arrange for equipment to be shipped over to enable digital radiographs to be taken of a number of individuals from a variety of sites with interesting pathologies. Whilst the equipment was here it also was a chance for radiology students from Dublin University to have training from Jerry with the unique opportunity of using archaeological material.

The resultant digital images we hope will be possible to make available in the future online through the CHB website. These images add to

an already rich archive of digital radiographs from the St Bride's crypt assemblage, which continued to be added to with a portable digital x-ray machine set up again in the crypt with the assistance of Reveal Images Ltd. The digital images are available for researchers to use but at present can only be accessed visiting the Centre. The aim with the assistance and development of IT is for them to all be available on line through the CHB website in conjunction with the database information.

In tandem with digital radiography I was very fortunate to be able to attend the PPA meeting in Knoxville and presented a poster with my colleague Gaynor Western entitled *The application of digital radiographic analysis to skeletal assemblages*. The Knoxville conference had lots of interesting papers with a number of the presenters having used data from the Museum of London (MoL) collections. There was a very moving session in honour of Don Ortner and chance for the PPA to express their thanks and great respect for Don to his wife Joyce and family.

Becky and I were asked to give a number of talks to local archaeological and historical societies based on the Centre and the collections. The Romans are still a mainstay in Becky's life and research is on-going with lots of exciting work continuing, articles in preparation and with some of the fascinating results from Rhea Brettell and Lindsay Powell shared with us at the BBAO conference. The Bare Bones teaching course was run three times in the year and as ever there is a continued appetite from people of all backgrounds and ages to learn about human skeletal remains. We ran a number of student study days and participated in a variety of outreach events at the museum, including a 'Take Over Day' by the City of London School Girls who proved to be excellent ambassadors for the museum and there are definitely a number of future osteologists amongst them. We also had fun taking part in the Festival of Archaeology 'Behind the Scenes' where we welcomed the public to come in to the Centre and also share with them the delights of the rotunda! An experience that

everyone loved and was really a time travelling opportunity for them, we even had the impromptu assistance of a mouse! There were a number of media forays, which had a predominantly Black Death theme to them, but even though the exhibition (Doctors, Dissection and Resurrection Men) ended in April there was a chance to be involved in filming Time Team special programme on Bodysnatchers.

In my last term as BABAO Museum Representative I had the pleasure again of taking part with other BABAO colleagues in the London Anthropology Day at the British Museum. In addition to the stall, we ran a workshop to engage further with the attendees to demonstrate the value of studying human remains. It was a very good day and all those who attended the workshop enjoyed the experience and opportunity to have such a close-up encounter with skeletal remains. Also, to represent BABAO our president organised a session at the Festival of Science in Newcastle to debate which infectious disease had the greatest impact on Britain. There were valiant attempts from syphilis, leprosy and tuberculosis, but I am pleased to say the Black Death was the victor, not that I am biased of course! Heading on from Newcastle, it was off to York for the annual BABAO conference where it was a pleasure for Becky and me to be able to participate with our presentations. There were excellent presentations and it was great to be able to hear talks that had used data from the MoL collections and to see the fruition of so much hard work by researchers, with some of whom we had the pleasure of their company for many months: Rebecca Watts, Fiona Shapland and Kathryn Krakowka to name but a few.

Data continues to be added to the database, but at present unfortunately, the CHB website cannot be updated and refreshed whilst the museum continues its transition to implement updates to its website and web server. All the current data on the CHB site can still be accessed and downloaded as previously, but new data cannot be added, or current data and information refreshed. This has meant that for

some sites, and most notably the data from Spitalfields, this cannot be placed on the website for researchers to freely download. However, any researchers wishing to access the data can contact the CHB and we will be able to send on the data in Excel format to assist with research projects. When making an application to study at the CHB, if there are any sites that are not available to presently download we will provide information on them for the researcher and can assist with any necessary data information sent in Excel. Important to note as well is that there is currently a moratorium on destructive sampling on the curated MoL collections; further details relating to this will be made available in the near future.

We have enjoyed collaborating in a wide variety of projects and were delighted to be able to be involved in the Digitised Diseases project, with Bradford University, MoLA and the Royal College of Surgeons. It is an amazing resource and will be an invaluable teaching asset. We would like to thank all of our colleagues who have collaborated with us and we look forward to welcoming more researchers to the Centre from both near and far, and being involved in more stimulating projects.

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### **Museums of the Royal College of Surgeons of England**

*By Hayley Kruger, Carina Phillips, and Kristin Hussey*

The collaborative project 'Digitised Diseases' with the University of Bradford and MOLA launched in November. This involved a number of specimens from various collections held at the Royal College of Surgeons. See <http://www.digitiseddiseases.org> for more details.

The museums' conservation department continued to run workshops on the conservation of specimens preserved in fluid. The project 'Endangered Specimens, Endangered Skills' aims to safeguard anatomy and pathology specimens and the skills in

caring for them. This has been generously supported by the John Ellerman Foundation and the Board of Trustees of the Hunterian Collection. Training sessions cover the maintenance of collections (specimens in glass jars as well as acrylic based collections), the conservation of preserved specimens and the preparation, fixation and preservation of new material. For more information please contact Emmy Bocaege [ebocaege@rcseng.ac.uk](mailto:ebocaege@rcseng.ac.uk)

### **The Hunterian Museum**

In its 200<sup>th</sup> year, the Hunterian museum has again exceeded expectations with its visitor figures for the year just ended showing over 82,000 individuals visiting and attending events.

Our bicentenary exhibition 'Opened Up: 200 Years of the Hunterian Museum' highlighted the past, present and the future of the museum at the Royal College of Surgeons. Focusing on the four key elements of 'Spectators', 'Stuff', 'Staff' and 'Space' the displays highlighted past 'VIP' visitors, rarely seen objects from our stores, staff photographs and portraits both old and new, architectural plans for the Museum throughout the many changes it has undergone – not least the 'remodelling' by the Luftwaffe in 1941 – and, taking pride of place, the MARTYN neurosurgical model training brain representing the continuing ways in which the work of the museums department serves the needs of the college in providing opportunities and materials for training and education.

The exhibition was complimented by a number of events specifically themed to celebrate the museum's history. A bicentenary celebration evening saw over 200 people attend a series of lectures with a drinks reception. Following drinks, seventy people – including college luminaries and ex museum directors – sat down to a dinner complete with toasts to the Queen and John Hunter. A Bicentenary Soiree with music from the time of John and Anne Hunter played on the 18<sup>th</sup>-Century Baillie guitar also provided a draw for sixty music-lovers.

We continue to offer UK schools opportunities to engage with our collections through free guided tours, Medicine Through Time sessions to support the history GCSE module, and our 'Cutting Edge Careers' Surgical Skills sessions for students planning to study medicine. These sessions enable us not only to support the next generation of medical students, but also connect with the current generation who generously volunteer their time to teach basic surgical skills at these workshops.

2013 saw the extending of our services to other groups with access issues. We welcomed two groups with members who were visually impaired and provided object-handling workshops and use of tactile materials to support their visits. Word spreads and we have already got more groups booked in for the year to come.

Find out more about our activities at: <http://www.hunterianmuseum.org>  
Hayley Kruger, Acting Head of Learning and Access: [hkruger@rcseng.ac.uk](mailto:hkruger@rcseng.ac.uk)

### **The Wellcome Museum of Anatomy and Pathology**

The Wellcome Museum of Anatomy and Pathology displays specimens of human anatomy and pathology of modern date. It received nearly 7000 visitors over the last year, therefore continuing to support students from various disciplines in their study. The museum and its skeletal collection continues to be used weekly for the UCL Masters courses in Bioarchaeology and Forensic Archaeology.

A project to display specimens demonstrating human dental pathology was delayed in 2013, but will now launch in spring 2014. This display will enable visitors to study various dental pathologies which have not been on display. Pathologies include tooth fractures, gemination/fusion, mulberry molars, tooth impaction and cysts.

Research involving the Wellcome Museum collections continued. Recent skeletal research

projects have involved specimens demonstrating achondroplasia, spina bifida and foot-binding. Please contact Carina Phillips [cphillips@rcseng.ac.uk](mailto:cphillips@rcseng.ac.uk) if you would like further information about using the collections for research.

For more information, or to book a visit to the Wellcome Museum of Anatomy and Pathology, see: <http://www.rcseng.ac.uk/museums/wellcome>

### **The Odontological Collection**

During 2013, research interest in the Odontological Collection remained high, in no small part due to the completion of an intensive five year collections management project carried out by former Acting Curator Milly Farrell, who was assisted by Pip Brewer in early 2013. With improved digitised documentation, the Odontological Collection has been of even greater interest to the research community. Kristin Hussey has been appointed on a part-time basis to continue to support and generate research into the collection. The Odontological Collection is composed of over 11,000 cranial specimens, both human and animal, which demonstrate a wide variety of dental development and pathology. Approximately 3,000 of these specimens are archaeological in origin and osteoarchaeologists are encouraged to refer to the collection using the online surgical database: <http://surgicat.rcseng.ac.uk>.

Internally driven research was a focus for the collection in 2013, with Milly Farrell investigating instances of intentional dental modification and exploring how historic objects can contribute to cutting-edge research. Further projects of interest to bioarchaeologists included a study examining the connection between ear ossicles and gender as well as continuing projects with UCL archaeology imaging teeth with congenital syphilis and dental enamel hypoplasia. Human material in the collection has also been applied to a clinical context, including the research loan of several edentulous mandibles in order to

examine the effectiveness of imaging techniques of dental implant replacement. As two-thirds of the Odontological Collection is composed of comparative anatomy material, 2013 was particularly busy with studies relevant to biological and evolutionary anthropologists. The primate material from the collection was the most frequently used for research in 2013, with particular interest in three-dimensional imaging and cranial morphometrics.

For further information on the Odontological Collection please contact Kristin Hussey, Assistant Curator: [khussey@rcseng.ac.uk](mailto:khussey@rcseng.ac.uk).

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### EXCAVATION AND ANALYSIS OF HUMAN REMAINS IN 2013

#### **Osteology at AOC Archaeology Group**

*By Rachel Ives and Melissa Melikian*

2014 saw several excavations of human remains undertaken by AOC. At Bankhead of Kinloch, Meigle, four graves containing five individuals were excavated from an early medieval barrow cemetery. The cemetery contained two round barrows, one square barrow and one double-barrow. Skeletal preservation was unfortunately quite poor, most likely influenced by the local geology, vegetation and animal burrowing. Duplicated permanent teeth indicated that a grave in one of the round barrows had held two individuals.

An excavation at Beverley, East Riding of Yorkshire, uncovered a probable Romano-British cremation burial. Only a small quantity of cremated human bone was placed in the vessel (243 g), which itself was small. There was a good distribution of burnt bone from across the cranium, torso and long bones of the skeleton, suggesting that the quantity of bone retrieved from the cremation was small, but not deliberately selected by bone element. Identification of the remains indicated they were of an adult.

Excavations were also undertaken at Caltongate, Edinburgh, where 17<sup>th</sup>-century



burials were discovered originating from the Canongate cemetery associated with the Canongate Kirk. The human remains are due to undergo post-excavation assessment in 2014.

Excavations were started at Bicester, Oxfordshire, and are continuing with three suspected Romano-British cremation burials uncovered to date.

A six-week community excavation of a Romano-British settlement in Barcombe Mills, Lewes, East Sussex, was undertaken by AOC and the Culver Archaeological Project, funded by the Heritage Lottery Fund. The programme included four workshops introducing the public to human remains. These included demonstrating the identification of human remains, an introduction to how we determine individual age and sex and showing the various pathological changes that can affect the skeleton. The excavation itself revealed a cremation burial of an adult individual.

A post-excavation assessment was completed on 28 Romano-British inhumation burials and one cremation burial that were excavated from Sandy, Bedfordshire in 2013. There were only two juveniles in the assemblage and in the adult group there were more males (n=15) than females (n=2), matching trends documented in nearby Roman cemeteries. There was evidence for a range of pathological conditions, including developmental skeletal anomalies, dental diseases and trauma. Degenerative joint changes through the spine were also prominent, as were ossifications at muscle insertion sites, which together likely indicate a physically active lifestyle. Several of the burials were found wearing hobnails and decorative pins and one was buried wearing a copper-alloy bracelet. Others were interred with complete vessels and animal remains as grave goods. The cremation burial had been truncated; therefore only a small proportion of the original burial was recovered (295 g). Human cervical vertebrae were present together with cranial and long bone fragments and indicated that the burial was of an adult individual. Whilst the assemblage is smaller

than comparative examples from other nearby towns, the post-excavation analysis will gather detailed osteological information that will make an important contribution to knowledge of rural Roman life in Bedfordshire. The post-excavation analysis should be completed in 2014.

Post-excavation analysis is nearly complete on 959 well-preserved skeletons (>25% skeletal completeness) excavated in 2011 from St. John's School, Bethnal Green, London. These represent burials made in a privately-owned un-consecrated cemetery between 1840 and 1855. A total of 20,000 burials were originally interred in the ground, which covered over seven acres. Seventy-one percent of the excavated burials were juveniles, reflecting the high rate of child mortality in Bethnal Green and the surrounding parishes. The results will provide a detailed insight into life within the parish and into contemporary burial practices and cemetery management.

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### **Kent Osteological Research and Analysis (KORA), University of Kent**

*By Chris A. Deter*

The University-based commercial osteology unit has had a busy year. Working out of the osteology research laboratory, KORA had several contracts that ranged from micro-excavations of cremated human and faunal remains, to full osteological analyses of 20 individuals. Our workshops were also successful this year, which included a weekend 'Bones and Burials' course for Swale and Thames Archaeology. New outreach and educational osteological workshops are planned for 2014.

Dr Chris Deter and Dr Patrick Mahoney presented findings on human dietary reconstruction from stable carbon and nitrogen isotope analysis in Anglo-Saxon England at the American Association of Physical Anthropology meeting in Knoxville, Tennessee. Research for the coming year will focus on skeletons from the Hythe Ossuary, a Bronze Age burial from Kent, and a Medieval

St Gregory's Priory collection from Canterbury.

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### Museum of London Archaeology

By *Natasha Powers BSc MSc, MIFA, MCMI,*  
*Head of Osteology*

This year has seen the team focussed predominantly on the JISC-funded Digitised Diseases project, a collaboration with the University of Bradford and the Royal College of Surgeons of England, which saw Mike Henderson and Don Walker stationed in Lincoln's Inn for several months (see Project updates). Alongside this we have completed our publication comparing the populations buried at three post-medieval burial grounds in Tower Hamlets. 'He Being Dead yet Speaketh' (Henderson et al 2013) reports on over 1350 burials excavated by MOLA between 2004 and 2010. The three cemeteries served communities of Baptists, Roman Catholics and Nonconformists, the majority of whom died between 1820 and 1854. To purchase a copy of this or any other MOLA publication visit: <http://www.museumoflondonarchaeology.org.uk/Publications/>

We continue our post-medieval work with the investigation of 385 burials from *Chiltern Street (PGN12)*, within one of the extra-mural burial grounds for St Marylebone parish, and in use from 1771 to 1853. The burial ground associated with St Marylebone church was subject to previous archaeological excavations in 2004–5 (Miles *et al* 2008) and this will provide an interesting comparison. Assessment was completed in the summer and analysis started at the end of the year.

The team have also completed reports on Roman and post-medieval burials from beneath *New London Bridge House, London SE1 (LBN08)*; Bronze Age cremation burials from *Oxford University, Radcliffe Observatory Quarter (OX-RAD07)*; Early Bronze Age inhumations, Late Bronze Age cremation burials and a 2nd-3rd century AD inhumation cemetery from *Tothill Street, Minster, Kent*; disarticulated bone from *St.*

*Bartholomew's Hospital, City of London (BOJ10)* (484 skeletal elements from a minimum of 37 individuals); *Tower House (38–40 Trinity Square) (TRH08)* where disarticulated remains from a minimum of two adults were found in a series of Roman features and a later pit. MOLA also reported on cremated remains from *Rochford* for Essex County Council FAU (now ASE), whilst analysis of a small, early Anglo-Saxon cemetery, from *Longstanton, Cambridgeshire* for Birmingham University revealed a possible case of leprosy and a rare example of anterior dislocation of the radius (forearm) in an unlucky individual who was also suffering from probable tuberculosis and hypertrophic osteoarthropathy.

MOLA osteologists are also working on material of various dates from excavations carried out in advance of *Crossrail* construction, some of which you may have seen in the press. There is more to follow in 2014 and we hope to be able to present some exciting results before too long. 2014 should also see the publication of two significant Roman cemetery reports for London: *Spitalfields* (part of the 'northern' cemetery) and *Walbrook*, an unusual group buried adjacent to a marshy area and the Walbrook stream itself.

Meanwhile, Don Walker has completed his BABAO funded investigation into parry fractures and will be submitting a poster with the results of this work to the BABAO conference in 2014.

Assessment and excavation work carried out this year includes:

*St Helen's Place (SNH11), Medieval, 39 inhumations:* A total of 39 articulated skeletal deposits were recovered, together with 51 deposits of disarticulated remains. Of particular note were the relatively large number of female skeletons in the sample and the presence of green staining on the cranial vaults of seven individuals which should add to our knowledge of medieval costume and funerary practices.

**Franklands Drive, Addlestone, Surrey (SY-FDA), Prehistoric to Romano-British, 25 cremations:** A strip, map and sample, carried out by MOLA in September 2010, resulted in the recovery of two probable middle Bronze Age, Deverel-Rimbury urns and 25 urned Romano-British cremations. The Romano-British burials were clustered in the southern part of the site, whilst the middle Bronze Age urns lay to the north-east of this. One was associated with a small pit containing burnt stones. The heavily truncated Deverel-Rimbury urns were found to contain little bone but quantities of fire-shattered sandstone. All but one of the Romano-British burials contained adults, with just one subadult present.

**9 Ironmonger Lane, London EC2 (IMG12), Medieval to post-medieval, 15 inhumations:** located within the northern parts of the medieval churchyards of St Olave Jewry and St Martin Pomeroy, early medieval deposits were found to be sealed by a deposit of 'cemetery soil' which contained intercutting burials from at least two phases of burial, within two, or possibly three, rows. All individuals were aligned west-east, with heads to the west. A total of 15 articulated individuals were recovered. The burials may be of medieval or post-medieval date.

**Principal Place, London EC2 (PPL11), Romano-British, 25 inhumations, 6 cremation burials, 11 contexts disarticulated bone:** lying to the west of the main road leading north from *Londinium*, excavation uncovered 25 inhumations, including two graves containing more than one individual. The intercutting of three graves by later burials suggests longevity of use. Some burials were coffined and 13 burials were associated with grave goods including pottery and glass. An urn containing well preserved burnt human bone was found within an upturned amphora and a probable *bustum* burial was also excavated.

### **Zooarchaeology**

The highlights of 2013 include **Bucklesbury House (BZY10)**, where a vast and distinctive assemblage of primary processing waste, largely composed of adult cattle head and foot

elements clearly contrasts with the 'split and smashed' cattle long bone butchery seen at St Swithin's House, Walbrook (WAO06) (across the road) and indicates that the waste derives from two specific and separate processes. Fish, domestic fowl, sheep/goat, pig, horse and dog are present but only in small numbers and wild species appear to be absent. At **London Bridge House (LBN08)** red deer (*Cervus elaphus*) remains dated to AD160-200 showed evidence of butchery associated with the consumption of venison, cuts for the removal of the hide and cuts, chop-marks and saw-cuts indicating removal of parts of the antler for use in the manufacture of small items such as handles, toggles and gaming-pieces. The fully-grown antlers show that the stag was killed in the period between August and late March.

MOLA have also provided material, identification and data support to the on-going English Heritage radiocarbon and isotope study of known-age bone.

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## **Oxford Archaeology, Heritage Burial Services**

*By Mark Gibson*

Heritage Burial Services, Oxford Archaeology, has been a busy place over the last year with involvement in a range of projects, run from all of our offices in Oxford, Cambridge and Lancaster. Full-time staff members continue to be Louise Loe, Mark Gibson and Helen Webb. There has also been input from Zoe Ui Choillean, Al Zochowski, Ben Penny-Mason, Brian Dean, Alice Rose and Felicia Fricke.

### **Fieldwork**

#### *Swinton, Manchester*

Oxford Archaeology's first burial ground excavation in 2013 was at the former Unitarian chapel and burial ground in Swinton, Greater Manchester. A total of 325 individuals and associated coffin remains were recovered, but only 120 have been brought to our laboratory for post excavation analysis. The remaining 205 were taken for immediate reburial by Burial Ground Services in accordance with the

project brief (they either post-dated 1900 or living relations had requested immediate re-burial). We are now several weeks into a 12 month long post-excavation programme of work on the skeletons that were brought back to Oxford.

#### *Radcliffe Infirmary, Oxford*

The largest field project undertaken this year was at the former burial ground of the Radcliffe Infirmary in Oxford. The site, which lies to the west of the old infirmary building, is being developed by the University for the Blavatnik School of Government. A total of 347 articulated skeletons dating from 1770 – 1855 were recovered from 346 graves, in addition to 22 articulated limbs (mostly amputations) and four charnel pits. One of the charnel pits contained two partially articulated skeletons. An assessment of the skeletons has observed a high prevalence of trauma, deficiency diseases, dental disease and other indicators of poor health. However, the most interesting observation is that, whilst there is evidence for medical intervention (for example, trepanations) and post-mortem investigation (for example, craniotomies), there is virtually no evidence for anatomisation and dissection. This contrasts with the quantities of anatomised human bones that have been excavated at contemporary hospital sites, e.g. in London, Manchester and Newcastle. One of the most exciting aspects of this assemblage will be the ability to compare our results to the wealth of documentary information on the hospital, such as the minutes of the Board of Governors meetings and registers of operations carried out at the infirmary.

#### *Slough Road, Datchet*

One of the most unexpected burial excavations to take place this year was in a house in Datchet, Berkshire. During renovations to the property the owners came across an inhumation, in a trench dug through their living room floor. Confirmed to be archaeological (possibly Roman), the burial was that of a single adult female lying on a west-east orientation. The skeleton was lifted,

briefly assessed and then later reburied in the garden of the property.

#### *The Municipal Cemetery, Luton*

Excavations were undertaken on farmland adjacent to the Municipal Cemetery, Luton. Seven urned cremation deposits, each with accompanying grave goods, including a glass vessel and samian plate were recovered from the site. The cremation burials were clustered together in association with an Iron Age settlement. This suggests that they may be first century AD Iron Age burials with high status imported Roman grave goods, rather than Romano-British burials.

#### *St Matthew's, Cambridge*

Excavations at St Matthew's School, Cambridge, revealed part of a 19th century Baptist cemetery which was in use for only four years. A total of 13 articulated skeletons were recovered from seven plain earth-cut graves and two brick shaft graves. All but one of the skeletons were juveniles, nine of them young children. Metabolic disorders were prevalent and included cribra orbitalia, scurvy and rickets.

#### *Beverly Southern Relief Road*

A strip map and record of a 3.5 km long ribbon of land was undertaken last autumn in preparation for construction of the Beverly Southern Relief Road. Among the archaeological features uncovered were five square barrows and two ring barrows. No burials survived in the two ring barrows, but four of the square barrows each contained a single crouched adult inhumation. No grave goods were recovered with the remains, which are yet to be examined.

#### *Freckleton, Blackburn*

An evaluation took place at the site of St Peter's church in preparation for a new road scheme. Four trenches were excavated, two targeting the demolished remains of the church, the other two targeting a burial plots. A total of eleven individuals were observed during the evaluation indicating a higher density of burials than was originally expected.

## ***Post-excavation projects***

### *Viking age mass grave, Ridgeway Hill, near Weymouth*

Several of the skeletons from this site are to travel to London, to be shown as one of the exhibits in a forthcoming exhibition at the British Museum, called 'Vikings. Life and Legend'. The exhibition opens in March and we have been helping the exhibition team to prepare the bones.

### *Hinxton, Cambridge: Display and aDNA project*

Oxford Archaeology East has been excavating at Hinxton, just outside Cambridge, for more than twenty years on behalf of the Wellcome Trust. Given their background, the Wellcome Trust are understandably interested in the various burials that were found at the site which date to the Bronze Age, Late Iron Age/Roman and Early-Middle Saxon periods. Four of the Late Iron Age/Roman burials were broadly associated with a large square enclosure of possible ceremonial function. The skull of the Early to Middle Saxon individual is unusual as it has strong male and female traits: on balance the individual has been interpreted as a female of c. 45 years old. Her facial features would have given her a 'bulldog' appearance in life and we plan to undertake facial reconstruction of this individual as part of a forthcoming display for the Wellcome Trust.

Liz Popescu (Oxford Archaeology East) and Louise Loe (Oxford Archaeology South) are currently working with the Wellcome Trust on an associated aDNA project, which will form part of the planned permanent display as well as feeding into the Wellcome Trust's own genetic research projects. Initial testing for the survival of aDNA has proved positive and further samples are being tested from surrounding sites (including Linton and Oakington). Although the Hinxton group have all proved to be UK mtDNA types, it might be possible to explore their relationship to ongoing Wellcome Trust population surveys of the UK and Europe – and whether or not these ancient individuals form ancestral haplotypes to modern populations.

### *Stoke Quay, Ipswich*

OA/PCA's excavations at the Saxon and Medieval cemetery at Stoke Quay were mentioned in last year's report. Since then, the post-excavation assessment of the excavated assemblage (1164 skeletons in total) has been completed. A wide range of pathological conditions has been observed, including a significant amount of healed trauma, probable tuberculosis, and a severely disfiguring pathology involving the foot, either a case of leprosy or possibly Madura foot (stemming from a fungal infection). Full analysis of the assemblage will soon be commencing.

### *Covenham to Boston pipeline*

The assessment of ten skeletons and two cremation deposits (Iron Age – Roman), excavated from a series of sites along the Covenham to Boston pipeline has been completed. Of the two cremation deposits, one comes from an intact urn and the other from a *bustum* burial. Both adults and juveniles are represented in the assemblage.

### *St Michael's Workington*

We were commissioned by English Heritage to undertake the post-excavation analysis of 80 skeletons from St Michael's church, Workington. The burials dated from the Late Anglo-Saxon period though to the 12th Century. They were excavated in 1997-98 following a fire in the church in 1994. Many of the skeletons are in very poor condition but one of them certainly exhibits evidence for peri-mortem blade trauma to the neck and chest – a murder or execution perhaps?

### *Turner's Yard, Fordham*

The analysis of one urned cremation deposit, 21 unurned cremation deposits and two inhumations dating to the Bronze Age was completed this past spring. The urned cremation burial and two inhumations were recovered from two round barrows, with the other cremation burials (unurned) forming a cemetery between them. The bone from the urn was highly calcined and was identified as that of a young or prime adult. In contrast, the unurned cremation deposits were more mixed

in colour, including brown, black and grey. They comprised 11 adults, one mature adult, one adolescent or young adult under 23 years of age and three juveniles. The remaining five deposits were too small to obtain an estimation of age at death. The inhumation at the centre of the first barrow was of a middle adult male, whilst the one which was cut into the base of the ditch was of a young adult female. The female skeleton exhibited diffuse inflammatory lesions across the bones of the pelvis.

#### *Moulton Paddocks, Newmarket*

One urned and two unurned cremation deposits dating to the Bronze Age were recovered from Moulton Paddocks. The urned deposit was isolated, whilst the unurned cremation burials were uncovered from two of six pits which formed a western and eastern arc around a Later Neolithic pit. Three of these pits also contained complete urns which had been re-fired indicating that they had probably been pyre goods. The urned cremation deposit was that of a young child, whilst one of the unurned deposits was of an even younger juvenile, possibly a neonate. The other was likely to have been an adult.

#### *Itter Crescent, Peterborough*

Last month we completed the osteological analysis and report on the human remains recovered from Itter Crescent, Peterborough. The remains comprised a single, crouched adult inhumation dating to the Early Bronze Age, disarticulated adult skull fragments within an enclosure ditch, dating to the Iron Age, and eighteen neonate burials, all associated with a high status, masonry Roman villa. Following the abandonment and demolition of the villa, the site continued as a cemetery in the Late Roman period, with 11 inhumations and two probable secondary burials. These include burials within robber trenches and demolition deposits, a juvenile buried within a well, and an adult grave cut into the stoking pit of a tile kiln. The latest three burials on the site, including one with beads and brooches, were dated to the Anglo-Saxon period. This is a particularly fascinating site because it provides a valuable insight into

the evolving burial culture of potentially a single community or extended family/kinship group, across a wide time period.

#### ***Recent publications and publications in press***

In addition to numerous grey literature reports (these are or will have been uploaded into OA's digital library, which can be accessed at: <http://library.thehumanjourney.net>), several publications have appeared this year.

The following list includes a selection and a more comprehensive list is on our web-site.

2013, Simmonds, A and Welsh, K. *The Iron Age and Roman landscape of Marston Vale: Investigations along the A421 Improvements, M1 Junction 13 to Bedford*, Oxford Archaeology Monograph 19.

Includes osteology and burial archaeology on one Iron Age and four early Roman cremation deposits along with three late Roman inhumations.

Loe, L, Barker, C, Brady, K, Webb, H and Cox, M, Pheasant wood, Fromelles, France: Archaeological recovery and analysis (working title, forthcoming)

This is the technical report on the recovery and analysis of 250 Australian and British soldiers who fought and died in the Battle of Fromelles, 1916

Loe, L, Boyle, A, and Webb, H (forthcoming) 'Given to the Ground' A Viking Age Mass Grave on Ridgeway Hill Near Weymouth, Dorset, Dorset Natural History and Archaeological Society Monograph, Dorchester

Webb, H (forthcoming), Early Bronze Age Cremation Burials, in D Score, L Brown, and C Hayden (forthcoming), Excavations along the Weymouth Relief Road: Prehistoric, Roman and Other Sites, Dorset Natural History and Archaeological Society Monograph, Dorchester

Webb, H (forthcoming), Specialist report on the human remains from Itter, Crescent,

**Summary of Wessex Archaeology cemetery projects and osteological reports 2012/2013**

*By Kirsten Egging Dinwiddy & Jacqueline I. McKinley*

**I. Introduction**

Since the last Wessex Archaeology summary (2008) we have been under a particularly large workload with tight deadlines and consequently failed to submit information for the attention of our colleagues. With many of

these projects now complete we have taken the opportunity to compile this tabulated review, which focuses on 2012-13, whilst a selection of reports and publications from the intervening years (2009-2011) are also provided.

Current osteoarchaeological projects include the ongoing analysis of Middle Bronze Age cremation burials from cemeteries on Salisbury Plain and the remains of over 300 Late Romano-British individuals (mostly inhumation burials) from seven adjacent ‘rural’ cemeteries at Amesbury Down, Wiltshire.

**II. Cemetery Excavations (2013)**

Site Name	Date	Quantification
A453, Clifton, Notts	Undated	2 inhumation burials
Bishopsdown, Salisbury, Wilts (ongoing)	Prehistoric	4 inhumation burials & cremation-related deposits
Poundbury, Dorset	RB	c. 14 inhumation & cremation burials (part of rural cemetery)
Boscombe Kingsgate, Wilts	Prehistoric & RB	c. 12 inhumation burials (small cluster & singletons)
Barrow Clump, Figheldean, Wilts (2012-13; ongoing)	EBA, AS	EBA: 1 cremation burial AS: 46+ inhumation burials associated with Scheduled Beaker monument & BA barrow; Outreach with DIO (Defence Infrastructure Organisation) & HLF Exercise Beowulf (Operation Nightingale)

**III. Osteological Reports**

Site name	Project code (author/date)	Period	quantification/deposit type
<i>cremated remains</i>			
Hadlow-Farningham Pipeline, Kent	70301 (JMCK 2011)	MBA, LIA	MBA: 4 unurned burials LIA: placed deposit
Caley’s Department Store, Windsor, Berks	65031 (JMCK 2012)	EBA	inverted urned burial
Draycott, Derbyshire	75332 (JMCK 2012)	MBA	2 unurned burials & cremation-related deposits
Trefael, Pembrokeshire (Welsh Rock Art Group)	WRAO 2012 (JMCK 2013)	EBA	unurned burial

Shortlands Lane, Collumpton, Devon (SW Arch Ltd)	CSL09 (JMCK 2012)	ERB	urned burial (lidded)
A46 Saxondale, Notts (Cotswold/WA)	SAX09 & Lings Farm (JMCK 2012)	MBA, EAS	MBA: 4 cremation-related deposits incl. 1-2 unurned burials EAS: 16 urned & 2-4 unurned burials (late 5 <sup>th</sup> century cemetery)
Tarnes (Overby Quarry), Cumbria (Wardell Armstrong Archaeology Ltd)	NPA-08 OQA- A/B (JMCK 2013)	E/MBA	2 urned & 19 unurned burials (2 dual, 1 double, 2 token, 1 cenotaph)
Aldham Mill Hill, Hadleigh, Suffolk (Suffolk CC)	HAD059 (JMCK 2013)	MBA	MNI 34: (48 contexts) incl. 9 urned & 8 unurned burials, 6 <i>bustum</i> , cenotaph (incl. ?clay superstructure)
Longham Lakes, Dorset (Southern Archaeological Services)	SAS 263 & SAS 293 (JMCK 2013)	MBA	Two adjacent cemeteries with differing demography & aspects of rites; sharp weapon trauma MNI 78: 62 urned & 1 unurned burials, 9 ?cenotaphs, 12 cremation-related deposits; MNI 20: 11 urned & 5 unurned burials, 1 cenotaph, 2 cremation- related deposits
Pwilheli-Blaenau pipeline, Gwynedd (Gwynedd Archaeological Trust)	G2148 (JMCK 2013)	MBA	1 unurned burial + redeposited pyre debris?
Mersea Island Barrow, Essex (Mersea Island Museum Trust)	1912.2728.1 (JMCK 2013)	ERB	Urned burial – globular glass vessel, lead ossuary and tomb in mound; undisturbed, resin coated bone (Frankincense & pine resin); curation; DISH
Rossington Inland Park, Doncaster, S. Yorks	84752 (JMCK 2013)	RB	unurned burial /?cremation-related deposit
<i>unburnt bone</i>			
Princes Mead, Winchester, Hants	70474/AY388 (KED 2009)	undated	singleton - probable decapitation
White Place Farm, Cookham, Berks	56983 (KED 2011)	undated	Singleton
Pilgrim's Way, near Wrotham, Kent	70301 (KED 2011)	AS	11 inhumation burials - enclosures & timber-lined chambers
A46 Stragglethorpe, Notts	STJ09 (KED & JMCK 2012)	EBA	MNI: 7 – associated with barrow
Swindon Triangle, Wilts	75380 (JMCK 2012)	LIA/ERB	2 singletons - gall/kidney stone; deviant burial – rock on chest
The Bourne,	73300/AY422	MIA-ERB	singleton + redeposited



Twyford, Hants	(KED 2012)		
Castle Hill, Salisbury, Wilts (Salisbury Museum)	SU14362 32317 (KED 2012)	RB	Singleton
Stear Point, Somerset	TTNCM: 105/2011 77221 (KED 2012)	RB	MNI: 3, redeposited
Merlin's Cave, Symmond's Yat, Heref.	74570.5/MC11 (KED 2012)	EAS	MNI: 3, 2 stone lined graves + redeposited
St Mary's Road, Southampton, Hants (Southampton City Archaeology unit)	SOU1553/777 00.4 (KED 2012)	AS (7 <sup>th</sup> -8 <sup>th</sup> century)	11 inhumation burials (part of urban cemetery)
Stratford-Sub- Castle, Salisbury, Wilts (Salisbury Museum)	SU1347 3294 (KED 2012)	AS	2 inhumation burial (pair – could be more)
Oliver's Battery, Winchester, Hants.	77700.3/AY42 0 (KED 2012)	11 <sup>th</sup> /12 <sup>th</sup> century AD	3 <i>in situ</i> in mass grave +1 redeposited - possible execution; 2 men shackled together at ankles; peri-mortem leg fractures
Colne Priory, Earl's Colne, Essex (Time Team)	77503 (JMcK 2012)	Medieval	MNI: 11, mostly redeposited - monks & Earls of Oxford (DeVere)
The Square, Winchester, Hants	77750/AY460 (KED 2012)	Medieval	MNI: 33 redeposited (reworked Cathedral cemetery soil)
Cwm Nash, Monknash, S. Wales	GGAT712/777 00.7 (KED 2012)	17 <sup>th</sup> century	singleton - eroding out of cliff face
Clifton Pro- Cathedral of the Holy Apostles, Bristol	85090 (KED 2012)	1855	2 inhumation burials (named individuals)
Orchard Hill, Carshalton, Surrey	69941 (KED 2012)	prehistoric, LIA, ERB	7 inhumation burials (neonates - pit burials) + 4 redeposited (incl. 1 adult)
Mythe to Mitcheldean, Glos	GLRCM:2012. 11/84960 (KED 2013)	LIA/ERB, undated	MNI: 1, redeposited
Cheddar, Somerset	TTNCM1:201 3 (KED 2013)	IA-ERB, RB, undated	IA-ERB: MNI: 2, redeposited RB: 1 inhumation burial + redeposited undated: singleton
Charles Street, Dorchester, Dorset	78150 (KED 2013)	ERB	MNI: 3 - 1 inhumation burial + redeposited (neonate & foetus)
Adwick Le Street, Doncaster, South	83520/ARCUS 1063c	MAS	37 inhumation burials (near complete cemetery)

Yorkshire	(KED 2013)		
Rowbarrow, Salisbury, Wilts	57813-4 (KED 2013)	LNeo-EBA, MBA, EIA	LNeo-EBA: 2 placed deposits MBA: 4 inhumation burials EIA: 10 inhumation burials + 5 redeposited
<i>Mixed Rite</i>			
Imperial College & Harlington RMC Land, Middx	IMP90/96, IMC96, SIE00 (JMcK 2009)	MNeo, EBA, MBA, LBA, LBA/EIA, MRB	MNeo: 6 unurned burials, 1 cremation-related deposit; associated with pair of Neolithic monuments; EBA: 1 unurned burial ?redeposited +redeposited pyre debris MBA: 2E/M, 7 Mid, 1 M/L urned & unurned burials, cremation- related deposits + redeposited pyre debris LBA: 1 urned burial (redeposited), 1 cremation-related deposit/?redeposited pyre debris LBA/EIA: 1 inhumation burial MRB: urned burial
Collingbourne Ducis, Wilts	62671 & 71830 (KED 2012 & JMcK 2009)	AS	MNI: 90 unburnt, 82 inhumation burials : 9 cremated (3 urned & 1 unurned burial -‘Bed’ burial
Ringlemere, Kent (British Museum)	RFW-EX (JMcK 2010)	EAS	27 inhumation burials 8 urned & 2 unurned burials, 1 redeposited ?urned burial associated with Neolithic henge monument & EBA barrow
Barton-Stacey Pipeline, Hants	62412 (JMcK 2010)	EBA, EIA, MIA	EBA: 1 inhumation & 2 cremation burials - redeposited urned burial with unburnt neonate EIA: placed deposits (skull) in shaft; sharp weapon trauma MIA: 3 inhumation burials + redeposited
Horton Kingsmead Quarry, Berks	54635-7 & 71800 (JMcK 2011)	Neo, MBA, Prehistoric, RB, LAS	Neo: 2 inhumation burials MBA: 1 inhumation burial (?leprosy/TB), redeposited, placed skull, 1 cremation burial ; Prehistoric: 8 inhumation burials + redeposited RB: 1 inhumation & 1 cremation burial LAS: 1 inhumation burial – manipulated (singleton)
A46 Margidunum, Notts	MGM09 (KED & JMcK	LIA/ERB, MRB, LRB	LIA: 1 redeposited - peri-mortem trauma/post mortem manipulation

(Cotswold/WA)	2012 & 2013)		LIA/ERB: 1 redeposited MRB: 18 inhumation burials (neonates, between occupation phases) LRB: 13 inhumation burials (enclosed cemetery); M-LRB: 2 unurned burial + redeposited pyre debris (?knife cut) RB: 5 singletons + redeposited
Boscombe/Amesbury Down Vol II: Prehistoric, Wilts	(JMCK 2012)	LNeo, EBA, MBA	LNeo: 1 inhumation & 1 cremation burial EBA: 28 inhumation & 8 cremation burials MBA: 4 inhumation burials curation, manipulation
Druid's Lodge, Wilts	73703 (KED & JMCK 2012)	LBA/EIA, LRB	LBA/EIA: 4 inhumation burials RB: singleton LRB: urned burial
East Kent Access Road, Thanet, Kent (Oxford/WA)	72790 (JMCK & KED 2012)	MNeo, BA, IA, RB, AS	linear excavation, many sites MNeo: 1 inhumation burial BA: 29 inhumation burials (8E, 9M, 9L) – weapon trauma, DISH; 16 cremation burials IA: 52 inhumation burials + redeposited - manipulation, weapon trauma; 7 cremation burials RB: 72 inhumation burials + redeposited; 33 cremation burials AS: 80 inhumation burials + redeposited Changes between periods = variations in diet & stress, especially for females
Porton Down, Wilts	72832 (KED & JMCK 2013)	EBA & MBA	EBA: MNI: 9; 6 inhumation burials + redeposited - barrow; adult females, neonates & infants; post-deposition manipulation; MNI 3: urned burials - dual infant & infant/juvenile + token adult bone; bag with pyre debris MBA: MNI 3: 1 inhumation burial (singleton; cairn) + redeposited

Wessex Archaeology (WA) projects unless otherwise indicated

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**York Osteoarchaeology Ltd**

*By Malin Holst, Anwen Caffell, Katie Keefe  
and Anna Fotaki*

*Archaeology Warwickshire*

*Clinton Lane, Kenilworth, Warwickshire, KK  
& MH*

An unurned late Neolithic or Early Bronze Age burial contained a juvenile.

*MAP Archaeological Practice*

*Gannock House, Malton, North Yorkshire, AC  
& MH*

Seven skeletons dating between AD 1200 and 1780 included three non-adults and four adults. Metabolic disease (Vitamin D deficiency, scurvy, and anaemia), infectious disease (including rib lesions and maxillary sinusitis), trauma, joint disease, dental disease and developmental anomalies were prevalent.

*Mike Griffiths and Associates*

*Cheesecake Farm, Norton, North Yorkshire,  
KK & MH*

Two Late Bronze Age cremated bone assemblages contained adolescents/adults. A truncated inhumation of an adult was probably associated with a round barrow.

*Northern Archaeological Associates*

*Goldthorpe, South Yorkshire, KK & MH*

Two single and a double Middle Bronze Age cremation burial were analysed. One burial contained a Bronze Age Beaker.

*Piercebridge, County Durham, KK & MH*

Two cremation burials containing adults were found in a stone lined cist and one of the assemblages was contained within a Roman face pot.

*Northamptonshire Archaeology*

*Banbury Lane, Northampton, AC & MH*

A large pit dug through the entranceway of the central ditch in a triple-ditched monument contained the disarticulated remains of a minimum of 165 individuals dating to the Middle Neolithic. The majority of the remains were those of adults (predominantly males),

with a slight bias towards younger age groups. Most non-adults were adolescents, and there were no children under ten years of age. There was evidence for a degree of stress during childhood and into adulthood, but a low frequency of joint disease and dental disease. A small proportion of the bones had ante-mortem fractures. A high proportion of long bones demonstrated peri-mortem blunt-force trauma, probably associated with funerary rituals. The predominance of large bones and near absence of small bones (e.g. hands and feet) is typical of secondary burial. Large bones had been deposited first and smaller bones placed on top, suggesting the pit was filled as a single event. Evidence for animal gnawing on multiple bones from all layers suggested an episode of exposure prior to deposition. A single bone displayed evidence for cut marks, suggesting deliberate defleshing with sharp implements was not carried out. The remains had probably been curated prior to burial. A small deposit of disarticulated remains in the outer ditch of the monument contained a minimum of two young children that were probably contemporary with the central pit, but dated earlier than associated red deer antler, also suggesting curation of these remains prior to burial. A single Late Neolithic satellite burial to the south-west of the monument contained an unsexed adult in late middle age.

*High Street, Marlow, Northampton, MH & AF*  
Disarticulated Bronze Age (2140BC-1950BC) remains were found in a 19<sup>th</sup> century pit. Two non-adults were reconstructed (aged between 10 and 12 years).

*Phoenix Consulting Archaeology*

*Bar Pasture Farm, Thorney, Peterborough,  
Cambridgeshire, KK & MH*

Three unurned cremation burials were located near an Iron Age Smithy. One individual was an adolescent or adult.

*Rushton Landfill, Kettering,  
Northamptonshire, KK & MH*

An Iron Age inhumation of an adult male had been heavily truncated by ploughing.

*University of Leicester Archaeology  
Oxford Road, Leicester, KK & MH*

Fourteen mostly coffined Roman inhumation burials included a decapitated juvenile and a juvenile skull in a box. Age ranged from one year old to mature adulthood; males and females were equally represented. Joint disease, *Cribra orbitalia*, DEH and infectious disease was prevalent.

### **Conferences**

2013 British Association of Biological Anthropology and Osteoarchaeology (BABAO), York – Paper presented: *Just a pit full of bones? Middle Neolithic mortuary practices at Banbury Lane, Northampton* (authors: A. Caffell and M. Holst)

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## DEPARTMENTAL REPORTS

### **BARC, Archaeological Sciences, University of Bradford**

*By Jo Buckberry*

This was a fantastic year in Bradford, which ended with us launching the website of Digitised Diseases (beta version) in December (see project news). Over the summer the department was awarded two huge multidisciplinary grants, which included funded PhD places in biological anthropology: the AHRC-funded ‘Fragmented Heritage’ project and the HERA / European Commission-funded ENTRANS project – ‘Encounter and Transformations in Iron Age Europe’. Earlier in the year, Jo Buckberry and Julie Bond were awarded an AHRC collaborative doctoral award with Tim Pestell at Norwich Castle Museum, with two linked projects investigating ‘Identity, Place and Society in Early Medieval Norfolk’. We are delighted to welcome so many new PhD students to the department (see PhD abstracts for further details). We were also delighted when Rhea Brettell won the Jane Moore prize for the best student podium presentation at BABAO in York. This allowed Rhea to select the fascinating BAR (IS) volume ‘Death and burial in Arabia and beyond’ (ed.) Lloyd

Weeks and purchase a whole raft of the books that had been pending on her ‘wish list’.

Julia Beaumont joined the team in July as Lecturer in Biological Anthropology and is continuing to research the potential of isotope analysis of incremental dentine sections to investigate life histories of individuals. Alan Ogden completed a facial reconstruction of a 5th century Pict, (a 30 year-old male) who is now on exhibition at Portmahomack in NE Scotland. Andy Holland and Andrew Wilson 3D laser scanned a Neolithic skull from Winterbourne Stoke long barrow to provide a base for a facial reconstruction which is now on display at the Stonehenge Visitor Centre. Jo and Alan have continued to deliver osteology sessions to school children and the general public as part of the Wellcome-Trust funded ‘You Are What You Ate’ project. We are in the process of developing further sessions alongside Wakefield Council’s museums education team. Jo is continuing to work on the skeletal remains from Stirling Castle, and will be delivering a YAWYA-style public outreach event at Stirling Castle for Spring Bank Holiday weekend. The programme team for MSc Forensic Archaeology and Crime Scene Investigation (Rob Janaway, Andrew Wilson, John McIlwaine, Andy Holland and Emma Brown, with support from Jo and Hannah) won the Highly Commended award for Best Postgraduate Teaching Team at the 2013 Prospects Postgraduate annual awards.

We were saddened to hear that Arthur Aufderheide, pioneering palaeopathologist and mummy expert passed away in August 2013. Art collaborated with Andrew Wilson for a number of years, and was integral to Emma Brown’s PhD. He will be fondly remembered by the BARC staff at Bradford as a generous and supportive colleague and friend.

### **Ongoing PhD Research:**

*Rhea Brettell*: Embalming in Late Roman Britain. A molecular-based approach to identification and an evaluation of significance (AHRC)

**Pamela Cross:** Horses of men and gods: Horse sacrifice and mortuary rituals in 1st millennium AD Britain (AHRC CDA)

**Andy Holland:** Examining the taphonomic challenges to the digital refitting of fragmented bone (AHRC)

**Ceilidh Lerwick:** Vikings, Picts and Scots: Biocultural identity in medieval Scotland

**Rebecca Nicholls:** Mobility and identity in Iron Age Europe: osteoarchaeological and isotopic analyses of cemetery populations from the East Alpine region (HERA / European Commission)

**Clare Rainsford:** People and animals in early medieval cemeteries (AHRC CDA)

**Marianne Robson:** Modelling the long term resilience of a marginal social-ecological system: the historical ecology of Orkney and Shetland (NERC/ESRC)

**Genevieve Tellier:** A study of the Neolithic and Bronze Age populations of Wales from osteological and contextual data

**Michelle Williams-Ward:** Burial and identity in early medieval Norfolk (AHRC CDA)

#### **PhD theses submitted:**

**Julia Beaumont:** Irish names in a London Cemetery: is it possible to identify Irish immigration in 19th-Century Lukin Street? (AHRC)

**Jacqueline Towers:** An isotopic investigation into calving seasonality, diet and dairying in British prehistoric cattle (AHRC)

#### **Dissertations Submitted for the MSc Human Osteology and Palaeopathology, 2012/13:**

**Charlotte Boyer:** Malnutrition and nitrogen isotopes – what is their correlation in an archaeological population?

**Laura Castells Navarro:** DISH everywhere? A palaeodemographic study of Diffuse Idiopathic Skeletal Hyperostosis (DISH) in Romano-British and medieval populations

**Rachel Holgate:** Rest in pieces: Bran Ditch, an execution cemetery?

**Joanna Moore:** More than a rickety diet: Can the level of hydroxylation in bone be used as a biomarker for infantile scurvy?

**Michelle Williams-Ward:** The condemned man? A criminological and osteological

analysis of the sex and age imbalance in Anglo-Saxon execution cemeteries

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### **Bournemouth University**

*By Nivien Speith*

2013 has been another busy, eventful and exciting year at Bournemouth University. Our MSc courses in Forensic Osteology, Forensic Archaeology, Osteoarchaeology, and Biological Anthropology, the latter having undergone minor changes to focus more on evolution as well as osteology, continue to meet with success and great interest at both national and international level, while our MRes in Applied Sciences also greatly increases our research student opportunities. BU's UG courses in Anthropological, Archaeological and Forensic Sciences (AAFS) and Archaeology continue to attract with the provision of flexible and cross-disciplinary learning in all things anthropology, osteology and forensic sciences. Our staff and students engaged in several collaborations and outreach events engaging archaeologists and local dignitaries as well as the public in our research and showcasing human remains and their potential for science and education from Dorset and beyond, among them events at the Festival of Learning, held in Bournemouth and hosted by BU in June 2013, or local displays of our annual Mass Grave Exercise at the Trigon Estate held in May. Our annual 3-day Short Course, "Introduction to Human Osteology", as well as a Short Course on the "Archaeology of Death", run by Martin Smith, Karina Gerdau-Radonic and Nivien Speith, attracted a great group of students to BU wishing to gain or refresh their knowledge on human skeletal remains and funerary archaeology. The Big Dig, our ongoing excavation centred on an Iron Age Banjo enclosure in Dorset and Romano-British activity that followed it, turned to focus on the outside of the enclosure. In previous years a great number of Iron Age burials were encountered inside the enclosure. In 2013, we could confirm that the enclosure had indeed served as the boundary of a cemetery as the

surrounding area yielded only infant remains from Romano-British contexts.

With regard to staff, this year has seen some changes. Laura Basell left BU to take up a lectureship at Queen's University Belfast. James Cole (University of Southampton) has re-joined the team in order to take over teaching in Human Origins and Evolution.

Nivien Speith joined BU as Demonstrator in Anthropology, taking up demonstrating and teaching on UG and MSc Level, overseeing and managing the facilities and expanding BU human skeletal collections, and, together with her colleagues, undertaking on-going excavations and analysis of human remains at the Big Dig. Her current research on the skeletal bioarchaeology of identities, the Alamanni, and skeletal markers of stress and activity is continuing, in 2013 with an appointment as Associate Researcher in collaboration with the University of Tübingen, Germany, in the DFG project "Humans and Resources in the Migration Period and the Early Middle Ages". She also participated as a member of the Working Group "Occupation" at a second successful workshop on "Enthesesal changes and reconstruction of human behaviour: towards standardization", held in July 2013 at the University of Coimbra, Portugal, and funded by the Wenner-Gren Foundation for Anthropological Research, the new results of which will be disseminated at various meetings and publications by the Working Groups during 2014.

During 2013, Martin Smith completed editing *The Routledge Handbook of the Bioarchaeology of Human Conflict* with Christopher Knüsel – this comprehensive volume achieves substantive coverage both geographically and chronologically with chapters ranging from the Krapina Neanderthals to 1990s Rwanda and from Canada, to Peru, the Levant and Australasia. The book brings together a range of well-known established contributors along with some younger scholars with fresh ideas to present and it is hoped this volume will form a major resource on the subject for some years to

come. Martin is now working on bringing several recent projects to publication including analysis of prehistoric burial practices on Cranborne Chase, Dorset; ballistic experiments with synthetic bone substitutes; and the investigation of the preserved tattooed skin of a 19<sup>th</sup>-century French sailor.

Karina Gerdau-Radonic continues her research into pre-Columbian populations and Andean mortuary treatment in Peru and has taken a one-year career break to work on several publications.

Holger Schutkowski is currently working with Dr Arkadiusz Sołtysiak from the University of Warsaw on the reconstruction of subsistence change in ancient Mesopotamia through stable isotope analysis. The work is funded by the Polish Ministry for Science and Higher Education. He has also been appointed as Associate Editor for the American Journal of Physical Anthropology, and he continues to work as a member for the Royal Anthropological Institute Panel for the Accreditation of Forensic Practitioners.

Amanda Korstjens enjoyed a 5.5 month sabbatical working with Prof Dunbar at Oxford University on publications on primate responses to climate. She is looking forward to field work projects for MRes, MSc and PhD students on primates at two new field locations: Sikundur, Indonesia, and in The Gambia. Research focuses on primate biogeography and climate change, primate conservation and evolution of human sociality (particularly cooperation). Two chapters in the "Lucy to Language: Benchmark Papers" volume (eds. R.I.M. Dunbar, C. Gamble, J.A.J. Gowlett) and two chapters in "Mammals of Africa" encyclopaedia came out this year and two publications on scavenging from Alex Young's PhD have been accepted.

Fiona Coward continues to work on human cognitive and social evolution in the Palaeolithic and during the transition to sedentary societies. She presented papers on these topics at TAG-On-Sea in December 2013 and BANEA in January 2014 and is currently

preparing submissions on the evolution of language for Antiquity and cognitive evolution and material engagement for Quaternary International. She has been Associate Editor at the Journal of the Royal Anthropological Institute since September 2013 and is working alongside the other new editors to increase the JRAI's coverage of biological anthropology and archaeology.

John Stewart is continuing to excavate at Trou Al'Wesse in Belgium with Becky Miller and Marcel Otte of Liege University, a site with Mousterian to Neolithic archaeology, and to collaborate with a range of aDNA scientists on the population history of a number of vertebrate taxa through the Late Quaternary to test various evolutionary biogeographic hypotheses he has published. He has recently taken on a PhD student (Monika Knul), who will be investigating European mammalian faunas in Europe in relation to human occupation through the Late Pleistocene and into the Holocene.

Congratulations are due to all our UG, PG and PhD students who completed this year!

*Ongoing PhD research:*

*Laura Gambaro:* Sexual dimorphism of the thoracic vertebrae in a modern Cretan population (MPhil)

*Hannah Haydock:* Stable Isotopes as an Indication of Weaning Age in Post-Medieval to Modern Populations

*Monika Knul:* Faunal and Human Biogeography and Terminal Ice Age Climate Change

*Emily Norton:* Evaluating Geophysical and Remote Sensing Techniques and Methodologies for the Detection and Location of Mass Graves

*Aralisa Shedden-Gonzalez:* Using primates for establishing priority conservation sites in Mexico

*Completed PhD theses 2013:*

*Marie-Christine Dussault:* Blast injury to the Human Skeleton

*Catherine Hess:* Demographic differences in exposure to toxic trace elements in urban South Africa

*Sarah Lockyer:* Interpersonal violence: fracture patterns in 18th- and 19th-century London

*Alexandria Young:* An investigation of patterns of mammalian scavenging in relation to vertebrate skeletal remains in a Northwest European context

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**Biological Anthropology and  
Bioarchaeology Research Group  
Department of Archaeology  
University College Cork**

*By Mara Tesorieri*

2013 was an eventful year for the students and staff of the Biological Anthropology and Bioarchaeology Research Group at University College Cork. Several highlights include the continuation of the taught research Masters in Human Osteoarchaeology, the completion of the first year of the Spike Island Archaeological Project and the second year of the Moji Project in Peru, and the continued involvement of staff and students in national and international research projects within the bioarchaeological field.

**People**

Barra O'Donnabhain, programme director of the one-year taught MA in Human Osteoarchaeology, has recently completed the extremely successful first year of the Spike Island Archaeological Project, funded by the Institute for Field Research. This project investigates daily life in a 19<sup>th</sup> century prison and the triangle of relationships between convicts, warders and the institution while also providing a means of investigating roles of incarceration and transition within British imperialist systems (for more information on the history of Spike Island, please visit the project page at:

<http://www.ucc.ie/en/archaeology/research/projects/thespikeislandproject/>).

Barra, along with Niamh Carty, was also involved in the first year of the Moji Project in



Peru, with Niamh taking over the bioarchaeological aspect of the field school in 2013. The Project, a collaboration between the Institute for Field Research, University of California, University of Southern California, and Universidad Privada de Tacna, investigates the occupation of the area during the Inca Empire. We look forward to another successful year of field school and research for both projects in 2014.

The archaeology department is delighted to welcome Jonny Geber, who has left Cotswold Archaeology and has joined the Bioarchaeology Research Group to start his two year postdoctoral fellowship funded by the Irish Research Council (GOIPD/2013/36), for his research focusing on the bioarchaeology of childhood during the Great Irish Famine.

2013 also witnessed the completion of the analysis of human skeletal remains from the M11 Gorey to Enniscorthy Road Scheme by Mara Tesorieri for TVAS Ireland. The Road Scheme, funded by the National Roads Authority through Wexford County Council, produced a total of six sites where human skeletal remains dating to the Bronze Age were recovered. A monograph is currently in preparation (2014 release date), which will provide information on the archaeological landscape of County Wexford during the Bronze Age period in Ireland.

#### **Post-Doctoral Research Projects:**

*Dr Jonny Geber: The bioarchaeology of childhood during the Great Irish Famine: Experienced realities and institutional care of children in the Kilkenny Union Workhouse*

**Abstract:** This research is a bioarchaeological study of childhood during famine, which places a particular focus on the sensory, cognitive and physiological realities of the child victims of the Great Hunger in Ireland (1845–52). The main source of data comprises the skeletons of 545 children that were discovered within mass burials adjacent to the former union workhouse in Kilkenny City in 2005. Through a multidisciplinary and holistic approach, this research will enable a vivid

insight to be gained into the realities of childhood in Ireland during this period, as well as the effects and manifestation of starvation and famine in an archaeological non-adult population.

The project aims to explore the experience of childhood during the Great Irish Famine with a focus on the institutional care of the children within the union workhouse in Kilkenny City. It will have a primary focus on the human skeletal remains and their physiological reflection of famine and the life experiences endured by these children. The palaeopathological evidence of disease and malnutrition will be fully integrated in a biocultural approach where the human experience of disease will be thoroughly discussed to enable a much better cognitive and psychological insight into the reality of children in this famine-struck population. The research will also place a focus on the sensory perception of materialities and material culture, which in this study relates to the architectural confinement of the workhouse institution, the material culture of the industry in the workhouse, and the mass burials themselves. Finally, by assessing age-at-death profiles and pathology frequencies, a much better understanding of the famine-induced mortalities of children in Ireland during the Famine will be given.

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**Cranfield Forensic Institute, Cranfield  
Defence and Security, Cranfield University**

*By Sophie Beckett and Nicholas Márquez-Grant*

Cranfield Forensic Institute continues to successfully run MSc courses in Forensic Anthropology and Archaeology, Forensic Investigation, Forensic Ballistics, Forensic Engineering and Science and Forensic Computing.

In October 2013, Cranfield Forensic Institute (CFI) warmly welcomed Dr Nicholas Márquez-Grant onto the staff as Lecturer in

Forensic Anthropology. He has taken on the leadership of the MSc Forensic Archaeology and Anthropology and has proven to be a popular addition with both students and staff. Nicholas has joined Cranfield after three years full time as a forensic archaeologist and anthropologist working for Cellmark Forensic Services. Other members of the forensic team led by Prof. Keith Rogers (Materials and Medical Science) include Dr Andrew Shortland and Dr Kelly Domoney (Forensic Archaeomaterials), Dr Karl Harrison (Forensic Archaeology and Forensic Investigation), Mr Roland Wessling (Forensic Investigation of Mass Graves), Dr Sophie Beckett (Forensic Biominerals), Dr Peter Zioupos (Forensic Biomechanics and Engineering) and Dr James Shackel (Forensic Ballistics). CFI also welcomed Charlene Greenwood in August 2013 as she began a three-year post-doctoral fellowship, funded by EPSRC and entitled 'Point of Care High Accuracy Fracture Risk Prediction'.

After nine years at Cranfield University, Dr Anna Williams has left to take up a lectureship at Huddersfield University. CFI would like to extend our best wishes to Anna in her new role.

We have a number of PhD students in anthropology and archaeology. Within forensic anthropology, Kayleigh Cooper is assessing techniques to maximize the information gained from dental calculus. Deborah Harrison is examining the influence of taphonomic processes on DNA sampling, whilst Ozgur Gulhan is developing sex discriminant functions for Turkish populations. Charlene Greenwood has completed a PhD on chemical degradation of bone.

Jessica Bolton, an MSc student during 2012-2013, presented her MSc research at the British Association for Human Identification conference in Manchester in November 2013. She won joint first prize for Best Student Presentation for her talk on 3D modelling of the pubic symphysis using GIS. Her research was presented at the American Academy of Forensic Sciences conference in Seattle, USA,

in February 2014. Jessica is currently carrying out an internship at Cranfield Forensic Institute.

In September 2013, Dr Sophie Beckett presented a guest lecture for Richmond Archaeological Society and in November 2013 a lecture to Oxford University undergraduate degree students in Archaeology and Anthropology. Dr Nicholas Márquez-Grant continued his teaching and coordination (with Dr Rick Schulting, Oxford) of 'Introduction to Human Osteoarchaeology and Forensic Anthropology' Option Paper at the University of Oxford for 3<sup>rd</sup> Year Human Scientists, Archaeology and Anthropology students. Nicholas also gave a presentation on Spanish Civil War Graves at the Forensic Science and Archaeology conference in Rome organised by The American University of Rome in November 2013. In August 2014, Cranfield University will host the 3<sup>rd</sup> European Meeting of Forensic Archaeology.

Other news include the Inforce Prize awarded to Miss SB Giles (MSc Forensic Archaeology and Anthropology), who also won the Forensic Science Society Prize (awarded to the top student on the Forensic Programme). In the Forensic Archaeology and Anthropology programme, the Cranfield Forensic Institute Distinction Prize (for all students who pass all modules and achieve marks of 70% or above in both taught and project phases) was awarded to Miss JI Bolton, Miss MRC Clack, Ms CA Gilbert, Miss SB Giles, Miss EAB Hawker, Miss G Mcleod, Ms J Niessner and Mr J Read.

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### **University of Derby**

*By David Bryson*

Renovation of the existing teaching laboratories over the past two years has enabled us to arrange dedicated space for the storage and examination of osteological materials. The osteology room has storage space for approximately 100 skeletons along with space above the storage cupboards for expansion in the future. The storage space is secure which has enabled one of our 3<sup>rd</sup> year

Forensic Science students to undertake a cold case as an Independent Study project this year.

The room also has a range of photomicroscopes and photo stereo dissection microscopes for student use. Alongside the Osteology room we have specialized Scientific and Forensic Photography room with copy stands, photomacrography (x3 – x20), studio lighting, light box. This, together with cameras and lighting techniques, allows us to undertake a range of traditional and digital techniques including: ultraviolet fluorescence, infrared photography, close-up and by combining digital cameras and software High Dynamic Range Imaging (HDRI), focus stacking and gigamacro imaging.

We only have a small teaching collection of human skeletons that we use for our Human Biology and Forensic Anthropology modules but we have been able to borrow material courtesy of Derby Museums. We are currently revisiting the Anglo-Saxon material from Little Chester, Derby especially looking at non-metric and pathological aspects.

The proximity of the photography resource alongside the osteological material has enabled us to encourage students to use photography to support their learning in osteology and enabled us to begin to accumulate useful teaching materials, see <http://photolibrary.cladonia.co.uk/-/galleries/physical-anthropology>.

The staff consists solely of me as Senior Lecturer for Forensic Imaging and Forensic Anthropology. My background is a degree in Anatomy, including studying Physical Anthropology at Aberdeen with Dr Margaret Bruce, following which I trained as teacher and then as a clinical photographer specializing in Medico-legal and Orthopaedic photography, before moving back into Higher Education. Current research is looking at “Osteoarthritis in skeletal remains: Patterns of biomechanical wear and clinical diagnosis” and developing materials towards a book or learning resource on “Osteological Photography”.

As a University without an Archaeology Department we are starting from a small base; however, we would welcome any collaborations, especially in terms of teaching and learning materials or research where my expertise in photography may be beneficial. As the saying goes “Have camera (plus other kit) will travel”.

[d.bryson@derby.ac.uk](mailto:d.bryson@derby.ac.uk)

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**Centre for Anatomy and Human Identification, College of Art, Science and Engineering, University of Dundee**  
By Dr Craig Cunningham

The Centre for Anatomy and Human Identification has continued to thrive during 2013, with staff and students undertaking a mixture of exciting research projects which are supported by a number of funding sources. The Centre continues to offer undergraduate degrees in anatomy and forensic anthropology, an expanding suite of taught postgraduate courses and several research degree opportunities, details of which can be found at: [cahid.dundee.ac.uk](http://cahid.dundee.ac.uk). Staff from the Centre have also been prolific in a variety of local and national outreach activities which continue to enhance CAHID’s profile. The Centre also continues to have an active forensic caseload (in excess of 365 police contacts this year) that spans across the UK and internationally. The Centre’s world class excellence was recently recognised by the award of a Queen’s Anniversary Prize for Higher Education.

**People:**

The Centre currently has 18 academic members of staff (including three honorary members), 17 PhD students, two MSc students by research and approximately 450 undergraduate & taught postgraduate students in medicine, dentistry, anatomy, forensic anthropology and forensic & medical art.

During 2013, Professor Sue Black was appointed as Deputy Principal for Public Engagement within the University and listed in the top most powerful women in the UK by

Women's Hour on Radio 4. A number of honorary appointments were also made within CAHID including; Professor Shane Tubbs, director of research in paediatric neurosurgery at the Children's Hospital of Alabama who accepted an honorary Professorial position, Mr Pete Matthews, a humanitarian trauma surgeon and Ms Alyson Leslie, one of the UK's most experienced social workers in relation to child death reviews who both accepted honorary senior lectureships.

### **CAHID News and Selected Projects:**

#### *Queens Anniversary Award*

The Centre for Anatomy and Human Identification was awarded a prestigious Queen's Anniversary Prize for Higher Education, presented in recognition of 'world class excellence' in higher education. The Centre was recognised for its excellence in the areas of forensic anthropology and human identification, the introduction of Thiel embalming, craniofacial analysis and disaster victim identification training.

#### *Royal Anthropological Institute – Forensic Anthropology Practitioner Accreditation*

The British Association for Forensic Anthropology (BAFA) has undergone an intensive period of standard setting and validation in partnership with the Royal Anthropological Institute (RAI) as its professional body. This has resulted in a structured framework for certification of competence for forensic anthropologists to practise in the UK courts. This framework follows the appropriate scientific quality standards now being demanded by the Forensic Science Regulator and the criminal justice system in the United Kingdom.

There are three levels of certification relating to professional experience and expertise, information about which can be found at [www.therai.org.uk/forensic-anthropology](http://www.therai.org.uk/forensic-anthropology).

The following members of CAHID are currently certified by the RAI:

Forensic Anthropologist Level I:

- Professor Sue Black

- Professor Caroline Wilkinson
- Dr Lucina Hackman
- Dr Craig Cunningham

Forensic Anthropologist Level III:

- Dr Roos Eisma
- Ms Eilidh Ferguson

#### *Selected projects and grants*

CAHID researchers continue to produce interesting results from work supported by ISEC, European Commission Directorate General Home Affairs and CAST. This funding supports researchers in addressing the innovative research potential which has been developed following high-profile investigations into child sexual abuse. This research involves anatomical body mapping that is directed by aetiological intelligence. The project addresses three areas of human anatomy – the hand, male external genitalia and children's faces.

Researchers from the Centre continue to be part of a collaborative project funded by the EPSRC exploring the concept of 'Super Identity'. This grant is held jointly between the Universities of Dundee, Southampton, Bath, Leicester, Kent, Warwick and Home Land Security, US.

CAHID has recently been awarded a Royal Society Discussion and Scientific Meeting grant to organise two international meetings entitled "The paradigm shift for UK forensic science".

Further information on CAHID, the research that we are undertaking, and the courses that we offer, can be found at our website: <http://www.cahid.dundee.ac.uk>

### **Current Research Students:**

CAHID currently has 17 PhD and 2 MRes students undertaking supervised research. These PhD and MRes research projects are varied and range from studies considering the hard and soft tissues for the purposes of identification through to studies investigating the influence of embalming techniques on tissue properties.

Specific examples of research projects include those which are investigating the applicability of techniques for age estimation in the living and those which consider the development of the juvenile skeleton. Further studies consider the analysis of faces for the purpose of identification. Additional research projects have a more anatomical perspective with individual studies considering clinical correlations associated with anatomical variation. A great deal of the PhD research undertaken in CAHID is collaborative in nature, allowing close links to be established between other research groups.

### **PhD completion during 2013:**

The following students successfully completed their research degree this year:

- *Dr. Waseem Al Talalwah* (PhD). The vascular supply of the sciatic nerve and its association of piriformis syndrome, peripheral vascular disease and sciatica.
- *Dr Andrew O'Malley* (PhD). Microarchitecture of the Juvenile Scapula.
- *Dr Catriona Davies* (PhD). Skeletal Age Estimation and the Epiphyseal Scar: Challenging the Status Quo.
- *Dr Ashley Stephen* (PhD). The effects of intensive sports training on the growth plate and subsequent biomechanical development of long bones.
- *Dr Nurul Yusof* (PhD). The development and anatomy of the sacrum in relation to the ilium and the sacroiliac joint.

### **Selected Public Engagement**

CAHID has a programme of focused public engagement with research activity through four routes: television and radio, museum exhibitions, school events and public events. Provided below is a selective, but not exhaustive list, of CAHID public engagement events.

Staff have headlined numerous UK-wide public events with presentations, workshops

and seminars relating to human identification research, including: Celebrating Women in Science at the National Library of Scotland, the Royal Society of Arts lecture in Edinburgh, the Big Bang Festival in Glasgow and the Launch of Techfest in Aberdeen.

CAHID have also produced a number of public exhibitions including:

- Face of Richard III - National Tour - The Guildhall Leicester, Bosworth Battlefield, Yorkshire Museum, Northampton Museum & Art Gallery, British Museum
- Neolithic Maltese Woman – National Heritage Centre, Malta
- The Face of Robert Burns – Alloway Museum
- Mary, Queen of Scots exhibition - National Museum of Scotland, Edinburgh

Staff are also involved in a number of education committees, such as Royal Society of Edinburgh (RSE), Association for Science Education in Scotland, BioDundee and the RSE@ outreach program. Additionally, staff and students have actively engaged with Scottish Schools to become involved in activities that promote the University's research agenda.

### **CAHID International/national training courses 2013**

- Police training for Facial Image Comparison – organised with CAST
- Computerised facial reconstruction training for forensic artists
- Craniofacial superimposition training for forensic anthropologists
- South African Police training in computerised facial reconstruction, Pretoria
- Police training in Anatomy & Imaging for Facial Image Comparison
- Surgical anatomy training courses using Thiel embalmed cadavers.
- Senior investigating officer training in forensic anthropology

- Disaster victim identification training for radiographers

#### **New Academic Course for 2014**

- *MSc Forensic Anthropology* – one-year taught masters which will involve training in adult and juvenile osteology, peri- and post- mortem processes, forensic human identification and disaster victim identification, with the opportunity to undertake a research project under the supervision of a forensically active academic. First intake will be September 2014.

Details of all CAHID undergraduate and postgraduate courses can be found at: [cahid.dundee.ac.uk](http://cahid.dundee.ac.uk)

### **Department of Archaeology, Durham University** *By Tina Jakob*

The previous year has been a busy and productive one for the Bioarchaeology Group at the Department of Archaeology, Durham University. Projects have been completed and new research collaborations have been initiated, while some of our PhD students have successfully completed their research, with many more just starting (see below). Congratulations are due to Becky Gowland and Janet Montgomery for their promotion to Senior Lecturer and Reader, respectively.

Charlotte Roberts has been elected as a REF2014 C17 Sub-Panel member. In addition, she is involved in the following projects:

#### **“Palaeopopulation genomics of *Mycobacterium tuberculosis*”**

This Natural Environmental Research Council funded project, based at the University of Manchester, was awarded to Professor Terry Brown, with Professor Charlotte Roberts, Durham, as Co-I, and Romy Müller, University of Manchester, as postdoctoral research assistant (September 2013-September 2016). It exploits the outcomes of a previous NERC grant awarded to Professors Brown and

Roberts (*Biomolecular archaeology of ancient tuberculosis in Britain and Europe*, NE/E018564/1, 2007– 2011). In that project we screened 491 archaeological skeletons, from across Britain and Europe and dating back to the Roman period, for the presence of *Mycobacterium tuberculosis* aDNA. With those samples containing the best preserved aDNA, we used the polymerase chain reaction (PCR) to type a small number of single nucleotide polymorphisms (SNPs) whose identities enable strains to be placed into broad population groupings recognized in modern *M. tuberculosis*. We also established the proof of principle on which the new proposal is based: that next generation sequencing (NGS) can be used to type substantially greater numbers of SNPs in *M. tuberculosis* aDNA than is possible by PCR, and that the genotypes resulting from NGS allow detailed examination of the evolutionary relationships between historic and extant types of TB. The specific objective of the current project is to test the hypothesis that hybridization capture and Next Generation Sequencing of *M. tuberculosis* aDNA can provide sufficient genotype data from enough archaeological skeletons for palaeopopulation genomics of TB to become a reality.

#### **“The invisible dead”**

Funded by the Templeton Foundation Principal Investigator: Chris Scarre; Co-Leaders: Charlotte Roberts and Graham Philip. Postdoctoral research assistants: Jennie Bradbury and Mandy Jay. The project involves constructing a database of human burials from the Neolithic through to the Roman period with a view to investigating changes in burial practices over time and considering the status of burial in human society and its relationship to secular and religious beliefs. The database will include material from both Britain and the Near East and will employ GIS. This is now in its 2nd and final year.

#### **“Health and diet in ancient Nubia through political and climate change (Amara West)”**

A three year project funded by the Leverhulme Trust (Co-I: Charlotte Roberts with Neal Spencer, British Museum); tied PhD

studentship: Michaela Binder. The project involves researchers at the British Museum, Universities of Durham, Manchester, Aberystwyth and Purdue. It combines the study of the human, botanical and faunal remains, geomorphology and artefact studies, in order to elucidate how both the colonisers and the colonised interacted and were affected by the shift in political authority and concurrent, significant, climate change. See project website at: [http://www.britishmuseum.org/research/research\\_projects/all\\_current\\_projects/amara\\_wes\\_t\\_research\\_project.aspx](http://www.britishmuseum.org/research/research_projects/all_current_projects/amara_wes_t_research_project.aspx). Michaela completes her PhD in 2014.

Becky Gowland's co-authored book with Dr Tim Thompson, entitled *Human Identity and Identification*, was published in 2013 with Cambridge University Press. Becky is continuing her collaborative research with Dr Rebecca Redfern (Museum of London) on childhood health and mobility in Roman Britain. She was invited to join a new research network run by Professor Tim Parkin, (Manchester University) examining the Roman female life course. Becky has just completed a small project with Dr Gary King, Dr Anwen Caffell and Dr Charlotte Henderson, examining the immunological evidence for health at Fewston, Yorkshire. She is also collaborating with Teesside and Southampton Universities on a taphonomy project with an attached PhD studentship (Samuel Griffith). Becky's other research students include: Claire Hodson, Kori Filipek-Ogden, Joe W. Walser III (co-supervised with the University of Iceland), Sophie Newman, Ariadne Schulz, Lauren Walther, Brittney Shields, Davina Craps, Jo Matias, Ellen Kendall, Lindsay Powell, Will Southwell-Wright, Ross Kendall, Veronica Tamorri, and Joy Eddy. Congratulations to Jen Sharman who now has her doctorate (as well as a new baby)! Becky is also busy teaching on the MSc Palaeopathology degree and various undergraduate courses.

The short course 'Body Location and Recovery in Forensic Contexts' which is taught jointly with Dr Tim Thompson, has had

its most successful year yet, with delegates attending from five police forces in the region.

Following publications in *Current Archaeology* and journals such as *Antiquity* and *Rapid Communications in Mass Spectrometry*, the monograph "*Gristhorpe Man: a Life and Death in the Bronze Age*" edited by Melton, N.D., Montgomery, J., Knüsel, C.J., was published in December 2013 by Oxbow Books. Members may recall the project was presented at the annual conference in 2007 and 2009 and was runner-up in the Awards for the Presentation of Heritage Research at the British Association Festival of Science held at Liverpool in 2008. In addition to the osteological and scientific study of the skeleton, this wide-ranging book details the extensive scientific and archaeological re-examination of this fascinating oak tree-trunk coffin burial excavated in the 19th century and includes contributions from Bronze Age specialists such as Peter Rowley-Conwy, Alison Sheridan, Mike Parker Pearson and Stuart Needham to set it in its historical and archaeological context. The book launch will take place on 17th January 2014 at the recently renovated Rotunda Museum in Scarborough where Gristhorpe Man has been curated since 1834.

Anwen Caffell continues as an Honorary Research Fellow/ Teaching Fellow at Durham University, and is, together with Tina Jakob, responsible for laboratory teaching on the MSc in Palaeopathology course. In addition, Anwen has carried out contract work for York Osteoarchaeology (see York Osteoarchaeology) and Archaeological Services, Durham University.

Tina Jakob is currently a Teaching Fellow in the Department and teaches bioarchaeology at undergraduate and postgraduate level. She is involved in the ongoing analysis of prehistoric and historic skeletal remains from El Salha in central Sudan and has presented her research at workshops held in Milan, Italy and Khartoum, Sudan. Tina has been elected as an Officer of the Paleopathology Association and is looking

forward to serving as Director-at-Large I (Students) for the next three years.

Staff and students were involved in producing and running a Bioarchaeology stand at a three-day Durham University science outreach programme entitled Celebrate Science, an event that attracted an unprecedented 6,500 children and their families and we created immense interest in 'all things bony'.

*Research students who submitted their PhDs in 2013, Durham University and were awarded their PhDs (CAR's PhD students):*

Marta Diaz-Zorita Bonilla - Reconstructing social structure through bioarchaeological analysis

Jennifer Sharman - Age, sex and the life course: population variability in human aging and implications for bioarchaeology

Ashley Tallyn - A study of the health of monks' and nuns' health using multiple lines of evidence

*Research students who submitted their PhDs in 2013, Durham University and are awaiting their viva (CAR's PhD students):*

Devon Kase - Congenital defects in 18<sup>th</sup> and 19<sup>th</sup> century populations from rural and urban northeast England

*Current Research Students, Durham University:*

*Year 1*

Kori Filipek-Ogden - Medieval leprosy and the mobility of those affected by leprosy

Claire Hodson - Stressed at birth: metric variation in infants to determine whether stress affects skeletal dimensions

Aryel Pacheco - Tuberculosis in Andean communities from the Tarapacá area (North of Chile) between 900 BC and 1450 AD

Kendra Quinn - The impact of mobility on tuberculosis in England: a bioarchaeological and stable isotope approach

Elina Petersone-Gordina - A bioarchaeological study of a complex urban cemetery from 15<sup>th</sup> - 17<sup>th</sup> century Riga, Latvia

Samantha Tipper-Booth - A bioarchaeological approach to the analysis of Vertebral Fractures amongst the Ancient Nubians from 5000 BC to 1500 AD

Joe W. Walser III (joint with University of Iceland) - In between breaths: respiratory disease, skeletal pathology, volcanism and environmental health in historical Iceland

*Year 2*

Sophie Newman - The perils of industrialisation: child health in post-medieval England

Ariadne Schulz - Long bone morphology and its relationship to osteoarthritic patterning among archaeological populations

Brittney Shields - The outcast dead: health and diet of the post-medieval poor of England

Lauren Walther - All out of proportion? Stature and Body Proportions in Roman and Anglo-Saxon England

*Year 3*

Davina Craps - Contextualising osteoarthritis and rheumatoid arthritis in post-medieval England

Ellen Kendall - Milk Matters: breastfeeding as a mortality factor in two early medieval English communities

Maria Lahtinen - Diet, migration and the beginning of cultivation in the medieval site in Hamina Northern Finland

Jo Mathias - More than male and female: gender in western Iron Age Europe

Sam Neil - Patterns of social mobility during the Early Neolithic and the development of the Neolithic in the British Isles



Veronica Tamarri - The semiology of tomb arrangement in predynastic and early dynastic Egypt

*Year 4*

Zahra Afshar - Mobility and economic transition in the 3rd millennium BC in the population of southeastern Iran, *Shahr-i Sokhta*

Michaela Binder - Health and diet in ancient Nubia through political and climate change

Joy Eddy - Burned human skeletal remains and cremation practice in the north of Roman Britain

Marieke Gernay - Health and diet in late medieval Belgium, France and the UK: A comparison

Ross Kendall - A study of endemic malaria and haemolytic anaemias in past British populations

Julie Peacock - Disability and traumatic brain injury (TBI) in Britain: AD 1066-AD 1800

Lindsay Powell - Childhood health and care in Roman London: the isotopic and palaeopathological evidence

William Southwell-Wright - Disability and difference? Assessing social perceptions of physical impairment in Roman Britain

*The following MSc in Palaeopathology students at Durham successfully completed their dissertations in 2012-13*

Busot, A. - A survey of the skeletal evidence for domestic violence

Caine, A - Correlations between migration and health utilising skeletal and isotopic data

Courtney, K. - Bioarchaeological testing of the Barker hypothesis using the Fishergate House and Hereford skeletal collections

Desson, R - The influence of vertebral morphology on the location of Schmorl's nodes within the spine

Filipek-Ogden, K. - Ill-fated? Exploring the nexus between childhood stress and leprosy susceptibility in bioarchaeology

Hoffman, S. E. - Late Medieval Iceland: Sagas, bioarchaeology, and health

Hunt, K - The antiquity of cancer: a survey of palaeo-oncological case studies for identification and methodological improvement

Kephart, D. - Reintroducing pellagra as a differential diagnosis in palaeopathology

Kessler-Ison, E. - An archaeoparasitological investigation into two medieval Lithuanian cemeteries

Ostrander, T. - Irresistible Damnation: Lead Poisoning in Industrial Period North Shields, and its Osteological Expression

Shaw, H. - Mobility and health in Roman London

Sutton, A. - Concepts of old age and the life course in early Anglo-Saxon England.

Tschinkel, K. - Differentiating between rickets and osteomalacia: an analysis of existing

Thompson, A. - Vitamin D deficiency vs. child abuse: a bioarchaeological approach

Vacha, M.J. - Differences in macroscopic and radiographic prevalence rates of periapical lesions

Vilardi-Perez, O. - Maxillary Sinusitis: A Radiological Examination of Predisposition

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**University of Edinburgh**  
*By Linda Fibiger*

It has been a busy year at Edinburgh and in addition to the year's MSc students there are now 16 PhD students who have been communicating their research projects at a variety of national and international conferences over the year, including the BAHID conference in Manchester (Mara Karell, Helen Langstaff, Jeffery Dyke, Julieta G. Garcia-Donas, N. Thiemann), the 9th Annual Meeting of the Balkan Academy of Forensic Sciences in Istanbul, Turkey (Julieta G. Garcia-Donas), the Forensic Anthropology Society Europe 10th Anniversary Symposium in Heidelberg, Germany (Nicole Thiemann), the 5th International Conference of Student-Archaeologists Dedicated to Pitt Rivers, Ivane Javakhishvili Tbilisi State University (Annamaria Diana), the 8th Experimental Archaeology Conference (Meaghan Dyer) and the BABA0 annual conference in York (Annamaria Diana, Meaghan Dyer, Elisa Bandini). In September we also welcomed Annika Kreye from the University of Göttingen, Germany, for an Erasmus-funded Internship that will see her further her knowledge of anatomy and help with the curation of the teaching collection. This year also saw the launch of the Edinburgh Unit for Forensic Anthropology, a research group of forensic professionals, academics and students. It is based at the School of History, Classics and Archaeology, but has members from outwith the School, the University and the country. The new website contains more information on the group members and research activities (<http://edinburgh-unit-fa.wix.com/eufa>).

Dr. Elena Kranioti organised a number of very successful workshops and seminars. In March of last year, Elena and Professor Robert Paine from Texas Tech University ran a workshop entitled 'Cross-sectional and surface histology' at the University of Edinburgh. This workshop will run again in March 2014. In June 2013, Elena delivered a CPD-accredited seminar on 'Sharp force trauma and weapon identification' for the Scottish Police in Edinburgh, which included video-conferencing to all Scottish Police Departments. Also in June, Elena and one of her PhD students, Julieta Gomez

Garcia-Donas, hosted a workshop on bone and dental histology at the 9th Annual Meeting of the Balkan Academy of Forensic Sciences in Istanbul, Turkey.

The department currently runs two field schools. Elena Kranioti's project in Ibiza is an ongoing effort to document the biological identity of different populations that lived in Ibiza and to conduct a large-scale biodiversity study covering over 10 centuries (for more info see

<http://www.ed.ac.uk/schools-departments/history-classics-archaeology/research/research-projects/bioarchaeology-ibiza>).

Dr. Kath McSweeney's field school takes place at the World Heritage Site of Nessebar on the Black Sea coast, where skeletal material from the ancient necropolis dates from Ancient Greek through to the medieval periods.

#### **Ongoing PhD Research:**

Angela Boyle: An osteoarchaeological study of peri-mortem trauma in Medieval Britain

Annamaria Diana: No winter lasts forever...? A human-osteoarchaeological study of populations from Romania during the Little Ice Age (University of Edinburgh Teaching Scholarship)

Anna Evatt: A bioarchaeological investigation of European Mesolithic burial practices and taphonomy

Sheena Frazer: An archaeozoological study of the Links Of Noltland, Orkney (Historic Scotland)

Laura-Kate Girdwood: A comparison of medieval dental health in Scotland and Spain

Dawn Gooney: The human skeletal remains from Berst Ness, Westray (Historic Scotland)

Julieta Gomez Garcia-Donas: Age estimation using thin sections of ribs from a modern Greek autopsy sample

Zuzana Hukelova: Changes in lifestyle from the Neolithic to the Bronze Age in Central Europe

Helen Langstaff: The heritability of facial morphology

Kelly McCoullough: Post-cranial robusticity correlations

Mandan Kazzazi: Dental metric standards for sex estimation in archaeological populations from Iran

Phillip McMath: An osteoarchaeological investigation into Byzantine Human health on the Black Sea Coast of Bulgaria

Catherine Shupe: Juvenile health in skeletal remains from Islamic Andalucía

Nicole Thiemann: Facial soft tissue thickness in modern Greeks using advanced medical imaging techniques

Marlo Willows: Health in Medieval Scotland

#### **PhD Theses submitted:**

Laura Bonsall: Variations in the health status of urban populations in Roman Britain: a comparison of skeletal samples from major and minor towns

Cecilia Medina-Petterson: Bronze Age urned cremation burials of Mainland Scotland: mortuary and cremation technology

#### **Dissertations Submitted for the MSc Osteoarchaeology, 2012/13:**

Aleksa Alaica: Stable isotope analysis of Joan Planels: dietary reconstruction of a Late Antiquity-Early Byzantine site

Suzy Reece: Zooarchaeological analysis of the Blewburton Hill Iron Age horse burials

Maureen Vaughan: A comparative study of domesticated pigs in Anatolia, Syria, Hungary and Cyprus

#### **Dissertations Submitted for the MSc Human Osteoarchaeology, 2012/13:**

Elisa Bandini: Prisoner Versus Privileged: a test of the Coimbra Method on two Post-Medieval collections to reconstruct past social status and lifestyle

Kelsey Blake: Pathology in Greek and Byzantine Nessebar

Meaghan Dyer: The Thames Beater: an analysis of blunt force trauma and interpersonal violence in the Early British Neolithic

Nina Harten: A dietary reconstruction of Hellenistic and Roman Boğazkale Turkey

Elena Haymond: Dental pathology in Nessebar from the 5<sup>th</sup> cent. BC to the 14<sup>th</sup> cent. AD

Vana Kalenderian: Roman Berytus: palaeodemography, pathology and burial

Aisling Nic Giollaphadraig: A comparative study of subadult burial practices at Nessebar

Mary Sutherland: Degenerative joint disease in Byzantine and Medieval Messembria

Michael Wilson: Examining the contribution of archaic hominin DNA to contemporary human populations

#### **Dissertations Submitted for the MSc Forensic Anthropology, 2012/13:**

Andrea Bavas: Ageing a modern Greek population using rib histology: an application of the secondary osteon count method

Rachael Brewster: Investigation of sharp force trauma morphology using CT imaging

Christina Coculuzzi: Stable isotope dietary analysis on the Can Misses population and forensic applications

Jeffrey Dyke: Age estimation from rib thin sections: exploring sampling error

Caylea Foster: Virtual reconstruction of fatal trauma: an aid to forensic interpretation

Leah Graham: Sorting commingled remains for the international criminal court: simulation of a mass grave for forensic identification

Mara Karell: Methods for identifying commingled human remains: a pilot study using three-dimensional models of bone

Caroline Lill: A histological study of extra-spinal hyperostosis related to DISH

Jacob May: Sexual dimorphism in cross-sectional crown and cervical diameters and volume in Cretan molars

Ashley Moore: Virtual analysis of blunt force trauma fracture patterns on *sus scrofa domesticus* using CT scans

Ben Prime: Identification through tattoos

Kyra Sandstrom: An accuracy test of Osipov's method for sex determination using 3D models of the bony labyrinth of juveniles

Laura Schwarz: The medieval cemetery of the Carmelite friary of Tullilum (Perth, Scotland)

Fraser Sinclair: Sex estimation of the sacrum by 3D imaging

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### News from the Bioarchaeology Laboratory at the University of Exeter<sup>1</sup>

By Chris Knüsel

This BABAO news entry will be the last from the University of Exeter for this writer, as he has accepted the position of Professeur des universités: Anthropologie Biologique (Professor of Biological Anthropology) at the University of Bordeaux's UMR5199-PACEA (De la Préhistoire à l'Actuel: Culture, Environnement et Anthropologie) and will commence there on 1 May. The last year has been a very event-filled one in many other ways as well.

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<sup>1</sup> The writer wishes to reiterate acknowledgement of the support of the Institute for Bioarchaeology in the establishment of the Bioarchaeology Laboratory at the University of Exeter.

The writer and Martin Smith (Bournemouth University) completed writing individual chapters and editing of *The Routledge Handbook of the Bioarchaeology of Human Conflict*, a 700-plus-page tome that covers the occurrence of violence-related skeletal injuries from the Middle Palaeolithic to World War I, the Spanish Civil War, and the Rwandan genocide (see:

<http://www.routledge.com/books/details/9780415842198/>). We are indebted to Stephanie Leach, who acted as a British Academy post-doctoral researcher in the early stages of this volume's genesis, and Seán Goddard of Exeter's Drawing Office for help in bringing this volume to its timely appearance. By the same token and in a concerted effort with Nigel Melton and Janet Montgomery, the edited volume *Gristhorpe Man, A Life and Death in the Bronze Age* (see: <http://www.oxbowbooks.com/oxbow/gristhorpe-man.html>) is now published. Mike Rouillard of Exeter's Drawing Office and Alison Sheridan of the National Museums of Scotland aided greatly in bringing this historically and archaeologically contextualised volume and its illustrations to completion. Oxbow Books' Julie Gardiner, Clare Litt, Lizzie Holiday, and team helped to produce a handsome volume, and they are to be congratulated on its physical appearance – complete with index.

Two additional publications were completed toward the end of the year that will appear early in 2014. The first derives from continued research with Séb Villotte (CNRS, Bordeaux) on activity-related morphological changes of the elbow. "I sing of arms and of a man...": medial epicondylitis and the sexual division of labour in prehistoric Europe" will appear shortly in the *Journal of Archaeological Science*. A second contribution deriving from an ever more pressing concern for clear recording and clearer communication with regard to the complex multiple burials (successive inhumations) at Neolithic Çatalhöyük, will appear in the *Journal of Social Archaeology*. A version of this paper, "Crouching in Fear: Terms of Engagement for Funerary Remains", was presented at the

annual BABAO meeting in Bournemouth in 2012. This past year saw the excavation and analysis of a further 38 individuals from mainly Neolithic levels of Çatalhöyük, some coming from the burial platforms in burnt buildings, which facilitated exceptional organic preservation of wood, flax and soft tissue, including brain matter and, in one case, tissue remnants of visceral organs. With funding provided by the Council for British Research in the Levant (CBRL), the writer prepared and is preparing publications and presentations on *Social Organisation and Changing Beliefs in the Neolithic Transition in Southwest Asia: Evidence from the Funerary Domain*.

Collaborative research, funded by the National Endowment for the Humanities, USA, (<https://securegrants.neh.gov/publicquery/products.aspx?gn=RZ-50924-08>) with Ernestine Elster (UCLA), John Robb and Tamsin O'Connell (University of Cambridge), Maryanne Tafuri (Università "La Sapienza" di Roma), Eugenia Isetti (Istituto Italiano di Archeologia Sperimentale), and Antonella Traverso (Soprintendenza Archeologica di Genova) at the Middle Neolithic site of Grotta Scolaria, Puglia, Italy, originally excavated by Marija Gimbutas but never published, documents funerary processing that includes defleshing of corpses. Using a zonation method of recording fragmentary archaeological remains first pioneered at the Middle Bronze Age site of Velim Skalka (Bohemia, Czech Republic) by Alan Outram and the writer in collaboration with the excavator, Anthony Harding, the human remains analyses will be published as part of a synthetic volume, *Scaloria Cave: Ritual and Landscape in the Mediterranean Neolithic*, by the Cotsen Institute at UCLA in 2014.

The post-graduates associated with the Bioarchaeology Laboratory have also been busily at work this past year. Ph.D. candidate Cynthia Bradley is edging ever closer – and in good time – to completion of her dissertation research on *Remaking the Mazeway: A Study of Skeletal and Mortuary Evidence from the Ancestral Pueblo Site* on the enigmatic

Wallace Ruin site, Colorado, U.S.A. Amongst other pertinent aspects of this work, it is the first to apply an archaeothanatological approach to burials in the Southwest United States. Ceri Boston is in the final stages of completion of her AHRC-funded doctoral project *Lobsters and Tars: An Osteological Study of the Origins, Lifestyles and Health of 18th-19th-century Sailors and Marines of the Royal Navy as Reflected in their Remains* (Oxford University, Knüsel, external supervision). This highly traumatised group, with no small shortage of displaced noses, provides a unique glimpse of life aboard the Royal Navy's ships in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Richard Mikulski has suspended his doctoral registration in order to take up a year-long post with the Council for British Archaeology (CBA), but he continues work on mass graves from the College Site in Beirut, Lebanon.

Belinda Tibbetts and Mandy Kingdom, both graduates of the MSc. Bioarchaeology (Human Osteology) course, commenced their doctorates this past autumn. Belinda is funded through a University of Exeter International Scholarship; the working title of her thesis is *Foetal and Infant Skeletal Palaeopathology as an Indicator of Maternal Health and Population Stress*. Mandy won an AHRC Block Grant Award to undertake her thesis entitled *The Past People of Exeter: Health, Social Standing and Well-being in the Middle Ages and Early Modern Periods*. With added impetus provided by funding from the University of Exeter's Student Internship Programme, Mandy continues with the curation of the Exeter Cathedral and Exeter Princesshay collections to ensure that they remain in a fit state to support future teaching and research. Mandy delivered a fine presentation on the charcoal burials from Exeter Cathedral, the subject of her MSc. thesis, in the "Speaking with the Dead" symposium organized by Professors Philip Schwyzer (English, Exeter) and Howard Williams (History and Archaeology, University of Chester) in Exeter Cathedral's newly refurbished Pearson Room, November 1-2, 2014.

The Laboratory witnessed its fifth intake of MSc. Bioarchaeology (Human Osteology) students this past academic year, with six students (four full-time, two part-time) completing their degrees from last year's cohort. Sarah Cuthbert, Simon Nicholson, Emily Johnson, Olivia Hewson, Tyler Cargill and Emily McDaniel successfully completed their MSc. Bioarchaeology degrees. Emily Johnson has already commenced her Ph.D. in the Department of Archaeology, supervised by Alan Outram as part of his participation in the successful European Research Council (ERC) award, '*The Milking Revolution in Temperate Neolithic Europe*' Project - Theme 2: *Domesticated Animals in the LBK: Butchery Practices and the Nature of Meat and Fat Exploitation*.

Academic year 2013-2014 sees nine candidates, six full-time from the UK (Rebecca Ferne, Hannah Gautrey, Lucy Greenwood, Holly Hunt-Watts, Helana Ryan, and Alice Short), and two international students, Chara Samoili from Greece and Malorie Coble from the USA, currently enrolled, with Iain Watt on course to complete his part-time MSc. degree.

As the writer prepares to swap the southwest of England for the southwest of France, Ms. Laura Evis, who is completing her doctoral thesis at Bournemouth University on the influence of excavation methods recording systems and their application to forensic archaeology, has been appointed to a .25 FTE post in Physical Anthropology from January 2014 for 1 year 9 months, in order to bridge the time between April 2014 and a potential new full-time appointment commencing in autumn 2014. As of this writing, university approval is pending for this appointment.

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## University of Huddersfield

By Anna Williams

In October 2013, Dr Anna Williams left Cranfield University and joined the Forensic Science Group at the University of Huddersfield as Senior Lecturer in Forensic Science. She is currently contributing to the existing MSc Forensic Science and the BSc Forensic and Analytical Science, and from September 2014, will be Course Director for the new MSc in Forensic Anthropology. A new suite of Forensic Science Masters courses is being launched in September 2014, including MSc Forensic Entomology and MSc Forensic Toxicology.

Anna continues her research in taphonomy and decomposition, accompanied by one of her PhD students, Lorna Irish, who has also joined the University of Huddersfield and is now in her second year investigating the '*Identification and Quantification of Gaseous Products of Decomposition with reference to Cadaver Dog Efficiency*'. She recently presented on "*Victim Recovery Dogs: A Scientific Perspective*" at a specialist PSNI seminar on the 14<sup>th</sup>-18<sup>th</sup> October in Co. Fermanagh, and at the NSARDA conference on the 19<sup>th</sup> October in Lancashire.

The School of Applied Sciences at the University of Huddersfield has existing expertise in archaeogenetics and material analysis of archaeological materials (<http://www.hud.ac.uk/research/researchcentre/s/aaarg/>). The Forensic Lab for Entomology and Archaeology is actively involved in a variety of research projects, including analysis of insect remains from ancient mummies and WWII soldiers. More information can be found here: <http://www.hud.ac.uk/research/researchcentres/fbg/#flea> The Forensic Science Group at Huddersfield University will be hosting the Student Conference of the Forensic Science Society in December 2014.

**School of Anthropology and Conservation,  
University of Kent, Canterbury**

*By Justyna Miskiewicz*

Our school has seen many exciting developments over the past year. The Guardian University Guide placed us in 6<sup>th</sup> position in the 2014 league tables for the subject of Anthropology. We are also delighted to announce that the BABAO Conference 2016 will take place at the University of Kent.

**82<sup>nd</sup> AAPA Meeting in Knoxville, Tennessee**

Our School was represented by four of our lecturers and one PhD student at the 2013 meetings held in sunny and vibrant Knoxville. Their abstracts can be read in the American Journal of Physical Anthropology (Vol. 150, Suppl. 56):

Deter, C., and Mahoney, P. 2013. Human dietary reconstruction from stable carbon and nitrogen isotope analysis in Anglo-Saxon England. p. 111.

Lycett, S.J., and von Cramon-Taubadel, N. 2013. A comparison of catarrhine genetic distances against pelvic and cranial morphology: implications for determining hominin phylogeny. p. 184.

Mahoney, P. 2013. Deciduous enamel thickness and chewing mechanics in human children. p. 180

Miskiewicz, J.J., and Mahoney, P. 2013. Palaeohistopathology of a Harris line. p. 200

von Cramon-Taubadel, N., Stock, J.T., and Pinhasi, R. 2013. A comparison of Mesolithic and Neolithic population affinities using the cranium and postcranium. p. 280.

**Edited volume collaboration**

Prof Roy Ellen (Social Anthropology), Dr Stephen Lycett (Human Evolution), and Dr Sarah Johns (Evolutionary Anthropology) edited a volume entitled "Understanding Cultural Transmission in Anthropology" (Berghahn Books). Published in September 2013, the book offers a cross-disciplinary approach to human knowledge and cultural transition.

**Outreach events, public talks, and seminar series**

In July 2013, Dr Jo Appleby and Dr Turi King visited the University of Kent to give a public lecture on the discovery and identification of Richard III remains. The talk was organised and hosted by our School, and was an extremely popular event.

Our School also participated in the London Anthropology Day held in July 2013 at the British Museum. It is an annual university taster day for secondary school pupils, teachers and career advisers. Our own Dr Sarah Johns gave a talk on human mate choice strategies that attracted over a hundred of interested students.

During the summer of 2013, our lecturers and PhD students participated in a series of outreach sessions in co-operation with local secondary and primary schools in Kent. Dr Tracy Kivell and Justyna Miskiewicz led laboratory based sessions on primate anatomy, as part of a wider "Science Extravaganza" initiative. Justyna Miskiewicz and Kerstin Schillinger also ran other sessions such as "CSI Canterbury", and "Introductory Biological Anthropology".

Three speakers visited our School in the Autumn Term to give invited talks as part of our Biological Anthropology Research Seminar Series. Dr Michael Wilson (University of Minnesota) presented on aggression in male chimpanzees. Dr Todd Rae (University of Roehampton) gave a talk about the evolution of sinuses. Dr David Lawson (London School of Hygiene and Tropical Medicine) gave a presentation about polygyny, ethnicity, and child health in Tanzania.

**BBC Radio 4's 3<sup>rd</sup> Degree recording**

The University of Kent held BBC Radio 4's "The 3<sup>rd</sup> Degree" recording in November 2013. The show, hosted by Steve Punt, pits students against lecturers in a specialist subject quiz. Dr Sarah Johns and Joe Bennett (undergraduate student) took part in the quiz. The show will air in early 2014.

## Updates for Lecturers in Biological Anthropology

Our team expanded by three new members (Dr Oskar Burger, Dr Tracy Kivell, Justyna Miskiewicz). We had three promotions within our team (two Senior Lecturers and a Reader). Dr Patrick Mahoney (with Dr Chris Schmidt, University of Indianapolis) was awarded a British Academy/Leverhulme grant (£8,533) for a collaborative project that investigates childhood weaning and health in Medieval Canterbury. Dr Noreen von Cramon Taubadel was also awarded a British Academy/Leverhulme grant for her research on "Testing alternative models for the settlement of the Americas: Paleoamerican crania in global microevolutionary perspective". More news about our staff members can be found at [www.kent.ac.uk/sac](http://www.kent.ac.uk/sac).

### New PhD Students

Johanna Neufuss (supervised by Dr Kivell): Forelimb kinematics and hand use during locomotion and non-locomotor behaviours in wild African apes.

Martin Wood (supervised by Dr Mahoney): Does milk drinking have an effect on enamel growth in humans?

### Ongoing PhD Students

Kelly Greenway (supervised by Dr Newton-Fisher): Threat and display: Reproductive competition in wild male Western Gorillas (*Gorilla gorilla*).

Alastair Key (supervised by Dr Lycett): An experimental approach to understanding early stone tool use.

Justyna Miskiewicz (supervised by Dr Mahoney): Ancient human bone histology and behaviour.

Sarah Myers (Supervised by Dr Johns): Maternal investment and postnatal depression - an evolutionary approach.

Kerstin Schillinger (Supervised by Dr Lycett): From psychology lab to the artefactual record: An experimental approach to the effects of social learning on material culture.

## Awarded PhDs

Dr Stefano Kaburu (supervised by Dr Newton-Fisher): Grooming Reciprocity among Wild Chimpanzees.

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## Newcastle University

*By Myra J Giesen*

After a hiatus from using the human remains teaching collection, the School of History, Classics and Archaeology launched a stage 2 undergraduate module on Human Osteology. It was great to make the topic accessible to students. The module was well received, with students wanting even more. Consequently, in a couple years' time, those of you running graduate programmes keep a lookout for Newcastle graduates with some experience in human osteology. We would like to increase the size of the teaching collection because of the high demand for this module. If your organisation is in a position to transfer any of its human remains collections for this purpose, please can you contact Myra at [myra.giesen@ncl.ac.uk](mailto:myra.giesen@ncl.ac.uk).

Within the International Centre for Cultural and Heritage Studies (School of Arts and Cultures), students continue to conduct research on human remains collections in the UK and Ireland. Following on from Liz White's (2011) PhD thesis on human remains collection in England and Jenny Sharp's (2011) MA dissertation on collections in Scotland, Emily Kreidler completed her MA dissertation entitled *Human Remains in Wales: Repositories and Policies*. Two additional students are starting similar work for human remains collections in Northern Ireland and the Republic of Ireland.

### PhDs:

Victoria (Tori) Park (2012) "Read all about it? Newspaper Coverage of the Archaeological Excavation, Retention, and Reburial of Human Remains within the United Kingdom"

### Projects at Newcastle University:



### ***Early Bronze Age Mortuary Practices in Northeast England***

This project, led by Chris Fowler, examines the evidence for Chalcolithic (or Terminal Neolithic) and Early Bronze Age mortuary practices in Northeast England (c. 2450-1500 BC) using the records of mortuary deposits from nineteenth- and twentieth-century AD excavations. This research involves the acquisition and analysis of detailed contextual information on 355 mortuary deposits from 150 different sites in the region: a database of this information will be made available via the Archaeology Data Service website in 2014. This research also instigated the osteological assessment or re-assessment of human remains from the period currently curated by Tyne and Wear Museums, and radiocarbon dating of selected remains from those collections. In carrying out the first synthesis of Chalcolithic and Early Bronze Age burial practices in the region, the project examines uses of material culture in mortuary practices, the treatments of the body, the nature and use of the mortuary features, the nature and emergence of sites where mortuary deposits appear, and the landscapes in which these are situated. It presents interpretations of changing strategies in the treatment of the dead, attitudes towards death and identity, and understandings of place and cosmology in the Chalcolithic and Early Bronze Age. The results of this research project will be presented in several publications, including a monograph reflecting on the process of archaeological synthesis and interpretation by exploring this research and its findings in detail (C. Fowler, in press, *The Emergent Past: A Relational Realist Archaeology of Early Bronze Age Mortuary Practices*. Oxford University Press).

### ***Osteoarchaeological Analysis and Radiocarbon Dating of Early Bronze Age Human Remains in Tyne & Wear Museums Collections***

This project, led by Chris Fowler and Michelle Gamble, involved the re-analysis – and in some cases the first such analysis – of human remains recorded as deriving from the Early Bronze Age in the Tyne & Wear Archives and Museums collections. This analysis fed into a

wider project cataloguing, analysing and providing a synthesis of recorded Chalcolithic (or Terminal Neolithic) and Early Bronze Age mortuary deposits in Northeast England. Following the osteological analysis and assessment of the archaeological information for each burial, ten samples of bone were selected for radiocarbon analysis, which was carried out at the Oxford Radiocarbon Accelerator Unit. The results enhance our understanding of the chronology of different mortuary practices in the region. The results of this project will be published as a series of articles and fed into the production of a book exploring a new theoretical and methodological approach through an analysis of Early Bronze Age mortuary deposits in Northeast England, while the detailed data on the human remains will be made available via the Archaeology Data Service webpage in 2013.

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### **Department of Archaeology, University of Sheffield**

*By Lizzy Craig-Atkins*

2013 has been a busy but very successful year for both staff and students at Sheffield. We continued to run three Masters courses on osteological subjects: Human Osteology and Funerary Archaeology, Palaeoanthropology and Osteoarchaeology. The wide coverage we offer of anthropological subjects is reflected in the diverse group of new research students and researchers we welcomed to the department this year from both the UK and overseas, and is manifest in the strong links between research in primatology/human osteology (Pia Nystrom), palaeoanthropology (Kevin Kyukendall), human osteology (Lizzy Craig-Atkins, Katie Hemer) and zooarchaeology (Umberto Albarella, Paul Halstead) in the department this year.

Lizzy Craig Atkins has been developing new strands of research including considering the impact of Norman Conquest on funerary practice in England. Lizzy is also working to develop the Rothwell Charnel Chapel Project (in collaboration with current doctoral student

Jenny Crangle, Jelena Becvalac at the Museum of London, Hythe Ossuary Research Group, Holy Trinity Church, Rothwell and local people from the area). Lizzy has also recently completed a revised osteological analysis of the early medieval Minster cemetery at Kirkdale, North Yorkshire, in collaboration with Lorna Watts.

Kevin Kuykendall is undertaking post-field work based on his AHRC Fellowship to conduct a GIS-based field survey of historic lime mine sites in South Africa to locate and sample additional Plio-Pleistocene hominid fossil sites, and to improve our understanding of the geological and geographical factors involved in location of such sites. He is also exploring techniques for determining age at death from the developing dentition in chimpanzee skeletal samples, to improve our understanding of the differences in growth and development timing in extant apes, modern humans, and extinct hominid species, with Julia Boughner at the University of Saskatchewan.

Pia Nystrom continues to work on both human and primate material, considering issues such as growth and development, especially from a comparative primate perspective; diet, health and well-being in past human populations and skeletal pathology in non-human primates especially as it pertains to degenerative disease.

Diana Mahoney Swales is currently working on bringing her PhD thesis on the Anglo-Saxon Black Gate cemetery to publication. She continues her work on primate and human comparative palaeopathology with Pia Nystrom, the pilot study for which is to be published in the upcoming BABAO proceedings for the Edinburgh and Bournemouth conferences. She has been involved with the excavation and post-excavation analysis of skeletal remains and burial archaeology at Wakefield and Manchester Cathedrals in collaboration with the Sheffield branch of Wessex Archaeology. In addition she is assisting Professor Philip Dixon to make public the results of the

Sheffield Cathedral excavations undertaken by Archaeology and Consultancy at the University of Sheffield (ARCUS).

Umberto Albarella's ongoing projects include the Feeding Stonehenge project, the role of animal husbandry in late Iron Age and Roman societies and the recent production of the Oxford Handbook in Zooarchaeology (Oxford University Press), alongside colleagues including Claudia Minniti, Silvia Valenzuela, Sarah Viner, Lizzie Wright, Hannah Russ and Kim Vickers.

In addition to a British Academy Postdoctoral Fellowship (awarded 2012), Katie Hemer has also been awarded the position of 'University of Sheffield Vice Chancellor's Fellow'. Alongside her research this year, Katie also presented a six-part Welsh-language TV series about the human body for the Welsh TV channel S4C, and a second series has recently been commissioned.

The zooarchaeology team continues to have a vibrant post-doctoral group including current visiting researchers (Laura Llorente, Madrid; Silvia Valenzuela-Lamas) and new members for 2014 (Chiara Corbino).

Congratulations to doctoral research students who were awarded/submitted their doctorates this year: Lauren McIntyre (awarded), Conrad Brimacombe, Angela Trentacoste and Lizzie Wright; and to those amongst our Masters cohorts awarded distinctions for their exceptional work on diverse subjects including trauma patterns, health status, ancestry, archaeoethnology and statistical modelling of population recovery after mass disasters.

#### **Current Doctoral Research Projects (not included in PhD abstracts section)**

*Jennifer Crangle* – An Examination into Post-Depositional Disturbances of Human Remains during the English Medieval Period, In Terms of Their Ideological & Physical Fate

*Alison Atkin* – Profiling the dead: demographic characterisation of mass fatality incidents in the past and the present

*Stacey Massey* – Differences in the functional morphology of Neanderthal shoulder region in comparison to modern humans

*Danyelle Rafferty* – An Investigation into the Association of Developmental Instability, as measured by Fluctuating Asymmetry, with Ill-health Experienced by Past Human Populations

*Hannah Plumer* – Paleopathologies among the Maya sub-elite: Comparisons between two sites in northwestern Belize

*Jane Ford* – Hyenas and Neanderthals in the British Middle Palaeolithic

*Giorgos Kazantzis* – Animal Exploitation during the Late Neolithic in the Strymon (Struma) River Valley: the Case of the Greek sector of Promachon - Topolnica, Macedonia, Greece

*Idoia Grau Sologestoa* – The use of animals in the northern Iberian Peninsula during the Middle Ages. A zooarchaeological perspective.

*Lucy Lawrence* – Diet and Management of Ancient Livestock: the Potential of Dental Microwear

*Ged Poland* – A methodological approach to the identification of duck and goose remains from archaeological sites with an application to Roman Britain

*Mikolaj Lisowski* – The Identification of Jewish Patterns of Food Preparation and Consumption: a Zooarchaeological Approach to the Medieval and Early Modern Evidence from Central-Eastern Europe

*Jonquin Mogg* – Refining locomotory style in the fossil record through the use of muscle attachment sites, pelvic proportions and 3D morphometrics in extant and fossil species

*Kinsey Oleman* – A life history approach to evolution of *Homo erectus* in Africa and Asia

*Kyle Billington* – The implication of a grasping hallux for structure and function of the lower limb of early hominids and evolution of bipedalism

*T O'Mahoney* – Imagining and modelling Neanderthal post-cranial growth

*Isabelle Heyerdahl-King* – Middle Pleistocene hominid geographical variation and cranial trait comparison

*C. Williams* – Evolution of life history in Plio-Pleistocene papionins in South Africa

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## **Department of Archaeology, University of Southampton**

*By Sonia Zakrzewski*

2013 has been another busy and successful year for staff and students at Southampton.

Sarah Inskip successfully completed her PhD and has now started teaching in the Laboratory for Human Osteoarchaeology at Leiden University. We have welcomed Dr Marie-Anne Julien as a zooarchaeologist working on the site of La Cote de St Brelade as part of a departmental research project exploring the Palaeolithic of the island of Jersey.

There have been varied and diverse grant successes within Osteoarchaeology and bioarchaeology at Southampton. These include Jaco Weinstock obtaining £9000 from the British Academy to study the ancient DNA of the Roman mule, and Alistair Pike (with Clive Gamble) winning £160,000 from the Leverhulme Trust to study seasonality, hunting and storage in Palaeolithic hunting societies, and being part of a successful collaborative bid with Ocean and Earth Science, Medicine, Biological Sciences and the National Oceanographic Centre (and others) at Southampton, for a £2.4 Million investment in world-leading laboratories and equipment to

create the 'SECTOR Multidisciplinary Carbon Research Facility';

Teaching and research collaborations have also continued to develop across the university, most notably with the Faculties of Medicine and of Engineering. With Medicine, Sonia has been working with Scott Border teaching "Building the Human Body" and together they have been supervising a medical student investigating aspects of the modularity of the cranial base using geometric morphometrics,  $\mu$ CT and laser scanning. Collaborations with Engineering are being developed with Alex Dickinson and Martin Browne, studying stress and structural integrity in parts of the skeleton. This research has developed as a result of engineering developing implants and joint replacements.

### **Other Projects**

Jo Sofaer is continuing her HERA funded project "Creativity and Craft Production in Middle and Late Bronze Age Europe". Yannis Hamilakis has undertaken a year of research at the Institute for Advanced Study at Princeton (USA), leading to the publication of a monograph exploring the archaeology of the senses. Unfortunately, due to the political situation in Egypt, Sonia was unable to undertake her planned fieldwork at either Amarna or at the Delta site of Quesna.

### **Current Research Students**

As noted earlier, Sarah Inskip successfully defended her PhD thesis, entitled "Islam in Iberia or Iberian Islam: Sociobioarchaeology and the analysis of emerging Islamic identity in early Medieval Iberia". Sarah Schwarz started her doctoral research studying aspects of the funerary bioarchaeology of Neanderthals (co-supervised by Sonia & William Davies). Richard Chuang, Brittany Hill, Louise King and Carolyn Felton continued their doctoral research, with Ellie Williams due to submit her thesis early in 2014.

Continuing PhD students:

*Richard Chuang* – Genetic and isotopic analysis of Roman equids.

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

*Brittany Hill* – Regional differences in cremations and burials with animals in Roman Britain

*Louise King* – Variation in auditory ossicles: an evolutionary and palaeopathological evaluation.

*Ellie Williams* – Archaeoethnology, funerary archaeology and Cluniac monastic orders in Britain and France (AHRC funded).

### **Dissertations Approved for the MA in Osteoarchaeology 2012-3**

*Jessica Harley* – "Give a man a fish..." The use of human stable isotope analysis in determining the loss of fish remains on archaeological sites.

*Ai-Ming Lo* – An osteological analysis of the change in the utilisation of cattle for traction in the western suburbs in Winchester, England, from Late Saxon to High Medieval periods.

*Janet Pett* – An investigation into juvenile rural medieval English diet through dental wear and stable isotope analysis of deciduous molars.

*Clara Schonfeld* – Neolithic Dogs in Southern Britain: What can dog remains tell us about their roles and status among southern England Neolithic populations?

*Sarah Stark* – Sexual dimorphism of the foramen magnum: a statistical and morphological approach.

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**School of Science & Engineering, Teesside University**

*By Tim Thompson*

The Biological Anthropology research group has been busy contributing to the forensic, crime scene and biology undergraduate and postgraduate degrees, and we continued our commitment to workforce development. Our

Body Location and Recovery Course (run with the Department of Archaeology, Durham University) ran for the fifth time and we had practitioners from all over the region attend. We've also had an increasing number of forensic cases to work on; many of which presented interesting problems which we could feed into our research.

We're been around and about giving talks and working on our research projects – exotic locations include Washington DC, New York, Rome and Hartlepool...

We've much to be proud of during this past year. Dr Claudia Garrido Varas passed her PhD and went back to Chile to take a job with the International Red Cross. We hosted the 'Visualising the Crime' national conference which brought together academia and industry to discuss new ways of imaging at the crime scene; we were nominated for a Vice Chancellor's award for our enterprise activities, and; our Leverhulme Trust funded Artist in Resident project concluded with the creation of over 60 incredible new pieces of art (some of which you can see here: <http://www.ericfong.com/works/>).

As ever, we're always happy host visits from BABAO members who would like to sample Teesside and Middlesbrough's delights!

#### **Related MSc dissertations submitted for the MSc in Forensic Science**

Lloyd, C. (2013) An investigation into the effect of sediment flow on the surface topography of submerged bone.

McPherson, E. (2013) A comparison of 3D laser scanning and SEM on the surface topography of submerged bones.

#### **Current PhD Research students**

Chrysostomou, P. Methodological approaches for the sorting of commingled remains.

Ellingham, S. Advanced analysis of burned bone from forensic and archaeological contexts.

Errickson, D. The application of laser scanning in a forensic anthropological context.

Griffiths, S. The effect of submersion in water on bone.

Olakanye, A. Microbial forensics: the application to grave location.

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### POSTGRADUATE RESEARCH ABSTRACTS

#### *PhD Abstract*

Katherine Beatty, University College Cork  
Funding: Kildare Archaeological Society

#### **Skin and Bone: The Face in the Archaeological Imagination**

In biological anthropology and bioarchaeology, previous scholarship into the entities of the face and flesh have been undermined by an overshadowing emphasis on the skull (i.e. craniometry) as well as an inadequate examination into their powerfully impacting and commanding traits. Archaeology is inherently a relationship with, as well as an investigation into, alterity. This so being, we in the discipline must understand the demand and appeal the face imposes upon our examinations of past and present conditions. It is the essence of the other that is always already present to the self. I will illustrate that this commanding ethical response of the face is decidedly present in the archaeological record, appearing in mortuary practices and treatment of human remains. The ultimate goal of this research is to revitalize the entity of the face, neglected throughout bioarchaeological discourse, through the engaging and enriching contribution of 3D facial reconstructions. Additional consideration will be given to the fluctuating archaeological imagination of these productions as well as past archaeological re-presentations of the Irish countenance.

The production of three-dimensional clay facial reconstructions from archaeological

skeletal material will provide the practical core of this study. Utilising the Combination/Manchester Method, this non-destructive and non-invasive process justifiably predicts the fleshy appearance through soft tissue depths and the re-constitution of the individual's anatomical musculature. The collection of individuals composing the materials of this research extends through time, beginning in the Prehistoric and terminating in Post-Medieval Ireland. As well as being a diachronic data set, the reconstructed individuals also stem from a broad selection of sites across Ireland. This temporal and spatial range supports the position of the face's universality and consistent force of impact through ages of mimetic re-production.

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*PhD Abstract*

Julia Beaumont, University of Bradford (completed)

Funding: AHRC

**An Isotopic and Historical Study of Diet and Migration during the Great Irish Potato Famine (1845-1852).**

Historical evidence from contemporary documents established that Irish migrants to London during the Great Irish Famine (1845-1852) were likely to come from low socio-economic groups in south-west Ireland, and has characterised mid-19<sup>th</sup>-century health status and living conditions in both locations. Using samples from 119 individuals from the Catholic cemetery at Lukin Street, London (1843-1854) and 20 from the Union Workhouse Famine cemetery, Kilkenny, Ireland (1847-51), mean bone collagen isotope values were established for the well-documented Irish pre-Famine potato-based diet ( $\delta^{15}\text{N}$  10.6‰,  $\delta^{13}\text{C}$  -19.1‰), and the diet of contemporaneous Londoners ( $\delta^{15}\text{N}$  12.6‰,  $\delta^{13}\text{C}$  -19.1‰). The introduction of maize as a short-term famine relief food was identified in three Kilkenny juveniles with bone collagen  $\delta^{13}\text{C}$  above -17‰, and incremental dentine collagen demonstrating temporal changes in  $\delta^{13}\text{C}$  consistent with dietary change from C<sub>3</sub> to

C<sub>4</sub> plants. Bone collagen values for two Lukin Street individuals were consistent with high marine protein consumption. Techniques developed in this study to sample increments of dentine representing nine months or less of life have improved temporal resolution not only for migration events but also short-term dietary changes and physiological status during childhood. Combining epigraphic, osteological and archaeological evidence, individual "lifeways" have been constructed using isotope data and provide insights into the connection between health, diet and skeletal manifestations of deprivation during childhood and adolescence. New models are investigated for examining maternal and infant health using dentine collagen increments formed *in utero* and combining dentine and bone collagen values to explore the effects of nutritional stress on bone turnover.

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*PhD Abstract*

Conrad Brimacombe, University of Sheffield (completed)

**Growth and Development in the Genus Pan: a Life-History Approach**

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*PhD Abstract*

Niamh Carty, University College Cork

Funding: IRCHSS, Kildare Archaeological Society

**The Place of Violence in Medieval Ireland: Osteological Evidence for Interpersonal Trauma in Irish Medieval Assemblages**

This research aims to assess the prevalence and impact of violent injuries on the population of medieval Ireland through a study of archaeologically-retrieved human skeletal remains from 51 sites. One of the main aims of this research is, for the first time, to bring together osteological data from a number of medieval sites in Ireland relating specifically to trauma resulting from interpersonal violence, and to use these data to ascertain patterns of this type of trauma across Medieval Ireland. This will be achieved through the

analysis of a number of roughly contemporary collections from across Ireland and comparing the rates of trauma encountered to discover patterns in prevalence, distribution and form. Secondly, various other factors (such as mortuary practices and the weapons that may have caused these injuries) that are directly related to the osteological data shall be examined to place the osteological data firmly in their appropriate context. This will be accomplished by examining the broader archaeological contexts of individuals, including the manner in which those who were killed violently were buried, and also an in-depth analysis of the morphology of the injuries to attempt to match them to known weapons from the medieval period. Finally, when the osteological data have been collated, these can be added to the corpus of literature concerning life in Medieval Ireland (specifically relating to warfare and violence). This will be achieved with a thorough literature review (which has already begun) of both primary and secondary sources relating to warfare and violence in Medieval Ireland and correlating this information with the biological data.

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#### *PhD Abstract*

Vanessa Campanacho, University of Sheffield

#### **The influence of skeletal size in bone degeneration rate, of the pubic symphysis, auricular surface and acetabulum, in two identified skeletal collections (19<sup>th</sup> to 21<sup>st</sup> centuries)**

For adults, age is usually estimated by analyzing the skeletal degenerative process, like the pubic symphysis metamorphosis. Nevertheless, one of the chief problems in bioanthropology resides on the lack of accurate age estimation, especially for older individuals. In addition to methodological concerns, it has been pointed out the possible influence of genetic, cultural and environmental factors (e.g. occupation, parturition, diet and diseases) on the ageing process, contributing for the inaccurate age at death estimation for adults. However, there is a scarce knowledge

about the actual influence of those factors on bone degeneration, since only recently has been the focus of research in bioanthropology (e.g. Campanacho, 2012; Mays, 2012). The main goal of my Ph.D. thesis falls within this new research approach. It will be determined if skeletal size (stature, weight, robusticity and the surface area of the *os coxae* articulations) affects bone degenerative rate at the pubic symphysis, the auricular surface of the ilium and the acetabulum. This study comprises samples from two skeletal collections, whose age at death and sex is known: 317 individuals of both sexes (18 to 88 years old; mean: 42 years; SD: 16.3 years) from the Coimbra collection (19<sup>th</sup> to 20<sup>th</sup> centuries, University of Coimbra, Portugal) and 236 individuals of both sexes (19 to 92 years old; mean: 58 years; SD: 15.9 years) from the William Bass Donated Skeletal Collection (20<sup>th</sup> to 21<sup>st</sup> centuries, University of Tennessee, U.S.A.). This investigation will contribute to a better understanding of bone aging process according to different body sizes.

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#### *PhD Abstract*

Popi Chrysostomou, Teesside University (new)

The aim of the proposed research is the study and correlation of specific morphoscopic and morphometric attributes of the human skeleton from a known US population for use in the development of protocols for sorting commingled remains. The objectives of the research are to explore the biological and genetic symmetry in the human body within this population, in combination with other mechanical and functional properties of the skeleton, factors that attribute to the human allometry and development in general. The study will explore and expand on current macroscopic methodologies (e.g. antimere matching, articulation fitness, taphonomic effects) and quantify correct groupings based on element type, following the post-Daubert forensic science best practices. In addition, new morphometric methodologies will be explored that enhance the sorting of additional elements, such as the grouping of clavicles with scapulae and sacra with innominates. The

expected outcome of the proposed research is the formulation of novel standardized sorting methodologies and protocols, based on a large number of reliable and accurate observations.

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*PhD Abstract*

Niamh Daly, University College Cork

Funding: College of Arts, Celtic Studies & Social Sciences PhD Scholarship 2011-14, Fulbright Scholar 2012-13, Government of Ireland Postgraduate Scholarship 2013

**‘Till Death Do Us Part’: A Bioarchaeological Investigation of Female Kinship Ties in Early Medieval Ireland**

What effects did the introduction of Christianity have on the position of women in early medieval Irish society? How do we reach the women of a patrilineal society, where the documentary record created by male clergy dominates the historical record? Recent archaeological and anthropological research provides us with a theoretical and practical framework from which to examine the position of women in different social structures. In my research, I investigate the archaeological burial record to address these questions and examine the societal, cultural and ideological norms that structured female experience and treatment in early medieval Ireland. More specifically, I employ biogeochemical techniques, namely, stable isotopic analysis to examine the changing cultural pattern of female kinship ties in a complex kin-based system. To achieve this I will focus primarily on the analysis of post-marital residence patterns accessed through the burial record. The biogeochemical techniques employed will focus on the isotopic values of tooth enamel and rib bone that will be used to compare residence patterns of individuals from childhood to adulthood. Therefore, my research will employ an integrative and interpretative framework incorporating the analysis of human skeletal remains, mortuary practices, and the historiography of the early medieval period in Ireland. Ultimately, this innovative approach to the position of females in early medieval society will enable us to differentiate between cultural ideologies and

actual lived experience and in this case increase the visibility of female activities in this period in Ireland.

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*PhD Abstract*

Sarah Ellingham, Teesside University

**Advanced Analysis of Burned Bone from Forensic and Archaeological Contexts**

The past three decades have seen an influx in literature discussing the effect of fire on bone; to this day, however, little detail is known regarding the biochemical changes undergone by the bone matrix when subjected to fire. An understanding of the organic and mineral changes in relation to heat exposure are of interest to professionals of various disciplines, be it archaeologists investigating ancient burial practices or forensic personnel tasked with the reconstruction of an accident or a crime. It is the aim of this project to improve the understanding of heat-induced bone changes using various analytical methods. Research conducted so far has analysed the changes in bone mineral changes of modern sheep (*ovis aries*) rib bones burnt between 50 °C and 1000°C at three different time intervals using FTIR-ATR. Results indicated that when using appropriate statistical models, burning temperature can be predicted to an accuracy of 87%. The duration of heat exposure does not make a statistically significant difference to these prediction rates. Future work will continue in this vein, but also focus more on changes to the organic phase.

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*PhD Abstract*

David Errickson, Teesside University

**The application of laser scanning in a forensic anthropological context**

The applications of three-dimensional digitizing are constantly expanding. Within the past decade this rapid advancement has entered forensic science and seen scale three-dimensional digitizations of crime scenes enter the courtroom. The aim of this research is to



determine whether 3D digitizing techniques can be applied to the actual evidence. Specifically, this research focuses on trauma located on osteological remains. This thesis uses previous studies to understand the methods used to acquire the digitization of an object and uses its own investigative study to establish a, 'standard procedure' that can be applicable to future studies. This study also uses different types of trauma located on osteological remains to determine whether it is necessary to use three-dimensional digitizations in every courtroom scenario. The results show it is possible to visualize osteological material with 3D digitizers; however, many of the smaller characteristics for tool-marked bone are better visualized with standard photography. Larger modifications, such as fractures, are better-visualized using 3D digitization techniques and are easier to understand for lay personnel. The results have also shown the advantages of three-dimensional digitizers when reconstructing burnt and obliterated bone.

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*PhD Abstract*

Kori Lea Filipek-Ogden, Department of Archaeology, Durham University  
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Supervised by: Professor Charlotte Roberts, Dr Rebecca Gowland and Dr Janet Montgomery

**Immunity and Isolation: Assessing leprosy susceptibility and stigma in Medieval England (11th-15th centuries AD), and its subsequent impact on contemporary society.**

Current concepts of leprosy invoke atavistic ideas of social stigma and isolation, inspiring antiquated visions of segregated colonies, destitution and exile, but these notions are not so anachronistic. Contemporary sufferers still carry sentences of social stigma and discrimination, leading to seclusion of those afflicted from their communities and social interactions. Moreover, these perceptions are likely based on 19th century misconceptions, derived from misguided biblical references and misinterpretations from medieval texts. Given

the low virulence of the causal pathogen and the capability to successfully treat the condition today, hidden susceptibility and present-day notions that stigmatize, devalue, and isolate leprosy individuals are likely responsible for sustaining its global presence.

My research employs a two-fold experimental design to examine immunological susceptibility and the subsequent extent of societal stigma in response to leprosy in Medieval England, specifically examining stress cues that may have rendered influence over leprosy immunity, and the magnitude and health-impact of segregation of young, leprosy individuals from the St. Mary Magdalen leprosy hospital site in Winchester (n=19) and the St. John, Timberhill parish cemetery in Norwich (n=16).

Research questions will be answered using a multi-disciplinary approach, integrating stable isotope methods with archaeological skeletal remains, historical sources, and modern clinical frameworks. The findings from this research will help to better explore a fuller picture of the biological and social impacts of leprosy on past populations, and consequentially, present-day society at large.

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*PhD Abstract*

Laura Gambaro, University of Bournemouth

**Sexual Dimorphism of the Thoracic Vertebrae in a Modern Cretan Population: A Comparison of the Individual Vertebrae in Terms of Accuracy in Estimating Sex**

Several studies have been concerned with sexual dimorphism in the human vertebrae, yet few are concerned with the thoracic vertebrae. This thesis aimed to examine the presence and extent of sexual dimorphism in the thoracic vertebrae of a documented Cretan population, and to establish a method for sex assessment using the thoracic vertebrae. The skeletal sample utilized for this study consisted of 70 individuals from the cemeteries of St. Konstantinos and Pateles, Heraklion, Crete.

A total of 16 measurements were defined and applied to each of the thoracic vertebrae. Descriptive statistical analysis provided the standard deviations, means and ranges, and analysis of variance test (ANOVA) indicated if the 16 dimensions differed significantly in the mean scores between males and females of the Cretan population.

The results showed that 11 out of the 16 dimensions differed significantly in the mean scores between males and females. Discriminant function analyses were carried out and yielded results with up to 90.6% total accuracy in predicting sex correctly.

In comparison to previous research, the current study yielded similar results in terms of accuracy and significance of individual variables, although comparative data is only available for T12. It is concluded that the thoracic vertebrae of the Cretan population are sexually dimorphic and that the method developed in this study shows great potential. Nevertheless, it needs to be tested in other populations in order to further evaluate its applicability.

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#### *PhD Abstract*

Hannah Haydock, Bournemouth University

### **Stable isotopes as an indicator of weaning age in Georgian London**

This study uses a multi-methodological approach to the determination of age of weaning and examination of the factors that influenced different infant feeding and weaning strategies. Stable isotope analysis is used to assess weaning age in 17<sup>th</sup>- and 18<sup>th</sup>-century populations from London, supported by demographic and pathological data. Documentary sources detailing changes in social perceptions of breastfeeding and infant care, such as the use of wet nurses rather than maternal feeding, the role of midwives and the church, and advances in medical knowledge, place temporal differences in infant feeding within the context of wider social change at the start of the industrial revolution. This research

also examines the wider impact of changing infant feeding practices and associated changes in infant morbidity and mortality on population growth and life expectancy in London at the time.

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#### *PhD Abstract*

Claire Hodson, Department of Archaeology, Durham University

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Supervised by: Dr Rebecca Gowland and Professor Charlotte Roberts

Funded by: AHRC Doctoral Scholarship

### **Stressed at Birth: Investigating metric variation in infants to determine whether subjection to stress during early development affects skeletal dimensions**

It is the human predisposition to be unique, yet most of us still conform to certain biological parameters; growth, the rate of it and the extent to which we grow, is one such example. Understanding variation in growth and determining whether it is natural or whether an exacerbating factor, such as stress, has altered growth so as to make results of metric assessment inconsistent with the 'normal range' of variation, is challenging. Often found to leave skeletal indicators, 'stress factors' are considered to be disruptive and limiting influences. Therefore, it is during the precarious and developmental stages of infancy that the physical rate of growth, and subsequently the skeletal dimensions of infants, are also likely to be influenced by a range of 'stress factors': maternal health, diet, cultural change, environment and exposure to disease. Therefore I am undertaking a multi-period and multi-population osteological investigation, to determine whether subjection to stress causes metric variation in infants and to what extent. Ultimately, this research intends to further current understanding as to how and to what extent early development is affected by such 'stress factors', and as a result, develop methods of metric assessment to be used in future to indicate 'stress factors' being present.

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*PhD Abstract*

Andy Holland, University of Bradford  
(continuing)

Funding: AHRC

**Examining the taphonomic challenges to the digital refitting of fragmented bone**

This PhD research has three main strands: accelerated simulation of the taphonomic changes to human bone and fossilised hominid bone over forensic, archaeological and evolutionary timescales; a comparative study of the suitability of techniques for the 3D visualisation and recording of bone; and experimental measurement of how taphonomic changes simulated in bone affect the accuracy and precision of 3D digitisation and how these may impact upon the reconstruction of fragmented remains and their interpretation.

The research is funded by the AHRC as part of the larger *Fragmented Heritage* project at the University of Bradford in conjunction with international partners and builds on research into the digitisation of pathological bone during the JISC-funded *From Cemetery to Clinic* and *Digitised Diseases* projects as well as research on digitisation of materials similar to bone for the AHRC/EPSRC Science & Heritage Programme-funded *Visualising Animal Hard Tissues* project all of which are now available as online resources.

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*PhD Abstract*

Ellen Kendall, Department of Archaeology,  
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Supervised by: Dr Andrew Millard and Dr  
Rebecca Gowland

**Breastfeeding as an Adaptive Strategy to Environmental Pressures in Early Anglo-Saxon England**

Early childhood diet is known to have significance both for childhood morbidity and long-term health. Many studies have attempted

to characterize the pattern and duration of infant feeding practices in the past, while acknowledging the complex array of factors which determine these: cultural tradition, familial structure, fertility, and environment. The last of these has rarely been deconstructed, despite having a significant effect on all other factors, heavily influencing disease ecology and life expectancy. This study attempts to examine the influence of environment on breastfeeding and weaning patterns at two early Anglo-Saxon (5th-6th century AD) cemetery sites in Cambridgeshire through high-resolution sequential sampling of first permanent molar dentine for carbon and nitrogen stable isotope analyses. Littleport was a Fen island community which would have faced significant threats to health from waterborne diseases inherent to living in a marshy environment, as well as “ague” (malaria), which was known to be endemic to the Fens during the pre-drainage era. The second site, Edix Hill (Barrington A), was a non-Fen upland site. Comparison of skeletal “indicators of stress” supports the identification of these sites as differing in state of health and environmental pressure. This data will contribute to our understanding of early childhood diet during the early Anglo-Saxon period, a timespan for which there is currently a paucity of childhood palaeonutrition data.

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*PhD Abstract*

Mandy Kingdom, University of Exeter

Funding: AHRC

**The Past People of Exeter: Health, Social Standing and Well-being in the Middle Ages and Early Modern Periods.**

This project focuses on the bioarchaeology (human remains in their archaeological context) of the past people of Exeter from the sub-Roman to Early Modern periods. Excavation and historical sources have helped us understand the founding and development of Exeter as a city. However, little is known about the people who made that development possible. The large collection of skeletal

remains from Cathedral Green (some 360 individuals), along with those from other areas of the city, including the Princesshay Development and Friargate (some 70 individuals) and those excavated from the Cathedral's deanery (some 15 individuals) will be the main resources for this study. The overall aim is to produce an inventory of the demographic aspects, determinations of age, sex and mortality profiles, of these human remains collections in order to assess changing health and well-being through time. The osteological analysis will then be combined with archival material to compare social differences within the past population of the City, particularly between the burials excavated from the church of the Blackfriars, under Princesshay, with the contemporary burials in Cathedral Close. Comparison with other contemporary urban and rural sites will also be undertaken enabling a comprehensive picture of 'The Past People of Exeter'.

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*PhD abstract*

Sarah Lockyer, Bournemouth University

### **Interpersonal violence and fracture patterns in 18<sup>th</sup> - and 19<sup>th</sup>-century London**

Violent behaviour can be seen all over the world and across time; it is also intrinsically linked to culture. As such, the analysis of skeletal material presents excellent physical evidence of violent occurrences within communities. The current thesis looks to understand the possible presence of fracture patterns and interpersonal violence in London during the 18<sup>th</sup> and 19<sup>th</sup> centuries by analysing the fracture patterns observed on six skeletal collections from the geographical area and characterised by various social and economic contexts. The contextualisation of each burial ground proved to be imperative to the research. The statistical results revealed that grouping collections together based on their socioeconomic status does not describe nor explain the fracture patterns seen in the collections considering that some did not emulate the characterisation implemented upon them by the media or City officials at the time.

It also was found that the patrilineal society and the subsequent sexual division of labour had a profound effect on the results especially when comparing the prevalence of fractures between men and women. Therefore, this thesis provides a comprehensive overview of fracture patterns and the presence of interpersonal violence in regards to the different lifestyles and socioeconomic contexts found in London during the 18<sup>th</sup> and 19<sup>th</sup> centuries and how such behaviour affected the individuals' daily lives.

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*PhD Abstract*

Linda Lynch, University College Cork (new)

### **An Assessment of Health in Post-medieval Ireland: 'One Vast Lazar House Filled with Famine, Disease and Death'**

Three indicators of health and diet were selected to examine the health status in three socio-economic groups in post-medieval Ireland. The aim was to examine the reliability of traditional skeletal markers of health in highly contextualised populations. The link between socio-economic status and health was examined to determine if traditional linking of poor health with poverty was evident in skeletal samples. The analysis indicated that this was indeed the case and that health was significantly compromised in populations of low socio-economic status. Thus it indicated that status intimately influences the physical body form. Sex was also found to be a major defining factor in the response of an individual to physiological stress. It was also evident that contemporary populations may suffer from different physiological stresses, and their responses to those stresses may differ. Adaptation was a key factor here. This has implications for studies of earlier populations that may lack detailed contextual data in terms of blanket applications of interpretations.

The results also show a decline in health from the medieval through to the post-medieval period, which is intimately linked with the immense social changes and all the related effects of these. The socio-economic structure

of post-medieval Ireland was a direct result of the British policies in Ireland. The physical form of the Irish may be seen to have occurred as a result of those policies, with the Irish poor in particular suffering substantial health problems, even in contrast to the poor of Britain.

This study has enriched the recorded historical narrative of this period of the recent past, and highlights that more nuanced narratives may emerge from the osteoarchaeological analysis when sound contextual information is available. It also examines a period in Irish history that, until very recently, had been virtually untouched in terms of archaeological study.

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*PhD Abstract*

Lauren McIntyre, University of Sheffield  
(completed)

**Demography, diet and state of health in Roman York**

This study combines new and pre-existing osteological evidence with archaeological evidence in order to reconstruct the demographic composition, broad dietary patterns and health status of the population of Roman York. This research examines the composition of the military and civilian sectors of the population, dietary patterns inferred from the study of dental remains, and differences in health according to social and occupational status categories within the population.

Results indicate that the population had significant male bias, under-representation of infants and sub-adults, and approximately equal male and female life expectancy. Diets are likely to have been rich in fat and protein, and low in both cariogenic foods and foods that provide vitamins. Compared to contemporary urban sites, York had significantly elevated prevalence of ante-mortem and peri-mortem trauma, brucellosis, and os acromiale. Comparatively high rates of dislocation, spondylolysis, non-specific

infection, porotic hyperostosis and osteochondroma were also observed.

These findings suggest that the demographic composition of the population is heavily influenced by the presence of the military. A combination of osteological, isotopic, archaeobotanical, zooarchaeological and literary evidence indicates that dietary staples in the town appear to have been spelt-based products such as bread, and beef. Other dietary components are likely to have included dairy products such as sheep's milk and cheese, olive oil, dried figs and fish. It is also likely that the populace were consuming lesser quantities of sugary products (e.g. containing honey and syrup), and fresh fruit and vegetables than populations from contemporary towns. Some of the observed pathological conditions with elevated values at Eboracum may be the result of poor comparative data, osteological rarity of a condition, or a combination of complex causal factors. Elevated prevalence of traumatic injury in some skeletal elements of the cranium and several post-cranial skeletal elements was significantly associated with an unusual group of burials from sites located on Driffield Terrace.

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*PhD Abstract*

Rebecca Nicholls, University of Bradford  
Funding: HERA / European Commission

**Mobility and identity in Iron Age Europe: osteoarchaeological and isotopic analyses of cemetery populations from the East Alpine region**

The PhD forms one element of a larger project: Encounter and Transformations in Iron Age Europe (ENTRANS), an international project led by Professor Ian Armit at The University of Bradford in collaboration with colleagues from the Universities of Zagreb and Ljubljana.

The Iron Age was a period of dynamic cultural change as contact between urbanised Mediterranean civilisations and the "barbarian" societies of temperate Europe

increased. ENTRANS will examine the nature and impact of these encounters, focussing on primary centres of contact in the East Alpine region including parts of Northern Italy, Slovenia, Croatia and Austria.

With the aim of further understanding the structure and homogeneity/heterogeneity of later prehistoric populations, osteological and isotopic analysis of both cremated and inhumed remains of selected Late Bronze Age and Iron Age populations will be carried out. This will address such issues as sex, diet, health and mobility. This will compliment simultaneous research undertaking various lab and field based methodologies including topographic, geophysical and LiDAR survey to understand the impact of cultural contact between populations and the interaction of differing ideologies, values and ideals.

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*PhD Abstract*

Ayo Olakanye, Teesside University

**Microbial forensics: the application to grave location.**

Cross-subject collaborative research in forensic biology, crime scene science and environmental microbial ecology at Teesside University has resulted in studies in an important field that can be termed *molecular microbial forensics*. The proposed research project will adopt state of the art molecular profiling techniques to monitor the changes of soil microbial communities in response to body decomposition. This will allow us to address a key problem in forensic investigation, namely location of sites of body deposition. Thus, the presence of specific biochemical and molecular markers will be investigated as indicators of this process. Key environmental parameters such as time, temperature and moisture, and soil type are some of the factors that will be evaluated to determine their impact on decomposition rates, material seepage, and soil microbial community changes. Therefore, this programme will exploit the existing expertise in molecular microbial ecology and

archaeological/anthropological forensics to facilitate a greater understanding and accuracy in determining the time of death, particularly in medico-legal investigations.

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*PhD Abstract*

Victoria (Tori) Park

**Read all about it? Newspaper Coverage of the Archaeological Excavation, Retention, and Reburial of Human Remains within the United Kingdom**

Human remains are one of the most popular aspects of archaeology for the public in the United Kingdom, yet they are also one of the most sensitive and debated. Changes in attitudes and guidance in the UK in recent years means that it has become increasingly important for archaeologists to engage and communicate with the public. The mass media such as newspapers provide an important, yet complex and often mistrusted interface through which this communication can happen. To date, little research exists in this area, and this research project starts to address this gap by exploring newspaper coverage of the archaeological excavation, retention, and reburial of human remains in the UK between 1989 and 2009.

An analysis of 413 newspaper articles, 59 surveys of osteoarchaeologists, six interviews with senior archaeologists in the North East of England and surveys from 100 members of the public allows the newspaper coverage of the archaeological excavation, retention, and reburial of human remains to be explored from a number of perspectives. When data sets are compared, it can be seen that there are different expectations and understandings of newspaper coverage. Survey data from osteoarchaeologists show that newspaper coverage is expected to be a clear, detailed account which explains the process and reasons behind excavation, and reburial of human remains, and contributes to the public knowledge. However, content analysis of newspaper articles demonstrates that the reality is different. The newspaper article is a social

construct, influenced by a number of external and internal factors including the news values of elites, negativity, and unexpectedness; the ability to time and coordinate the flow of information from archaeology to the newspapers; available word count; and presentations of archaeology in the wider mass media.

Concern about newspaper coverage from osteoarchaeologists was common and was found to lie in the perceptions of the negative effects that a newspaper article may have, such as the potential for poor public image and loss of support for the subject. This research project suggests that in reality the negative impact from newspaper coverage was minimal, and its key role was in creating an overview and interest in the subject. Issues of the public's trust in newspapers, low level of recall of newspaper article details, and the interconnected nature of the different mass media mean that the impact from newspapers on the public is more complex than is often assumed.

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*PhD Abstract*

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Supervised by: Professor Charlotte Roberts, Dr Andrew Millard and Dr Janet Montgomery

**Living outside the city gates: a palaeopathological, isotopic and comparative analysis of the post-medieval St Gertrude Church cemetery population in Riga, Latvia**

The current research is based on the complex site of the St Gertrude Church cemetery (SGCC) in Riga, Latvia, dating from the 15th - 18th centuries AD. This study will analyse health-related stress and diet in the moderately wealthy SGCC population and compare the data between the three main burial contexts: the main cemetery, which serviced Gertrude village, and two mass graves, in which, according to historical accounts, poor rural immigrants from the Vidzeme region (north-

east of Riga), might have been interred during the famine of 1602-3 AD. It is anticipated that the analysis will provide unique evidence for overall general quality of life in the population from Gertrude and help to identify whether the people buried in the mass graves represent a different "population" group. To achieve this, both skeletal and isotopic analysis will be used.

To view the SGCC in its regional context, previously published data on skeletal stress markers from contemporary urban and rural cemetery populations in the Baltic countries will be compiled and used for comparative purposes. The resulting dataset should demonstrate whether there are significant differences in general health status between post-medieval urban and rural populations in the Baltic region and explore the reasons for disparities. The scarcity of bioarchaeological research in Eastern Europe and the need for detailed and comparable data from the region makes this project an important contribution for future population health studies.

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*PhD Abstract*

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Supervised by: Professor Charlotte Roberts and Dr Janet Montgomery

**A bioarchaeological study of the impact of mobility on the transmission of tuberculosis**

Tuberculosis (TB) is an infectious disease transmitted by the inhalation of infected droplets (produced when an infected person coughs or sneezes). The disease is caused by bacteria of the genus *Mycobacterium*, several species of which can cause infection in humans. Recently, the World Health Organisation (WHO) declared tuberculosis a global emergency and this continues to be the case today. We are no nearer eradicating this killer disease than we have been at any point in our past, and the increase in global travel is thought to be exacerbating its spread. I intend to test the hypothesis that people in Roman

Britain who were infected with tuberculosis had been mobile at some point in their lives. Teeth and bone from individuals buried in Britain and known to have been infected with TB during their lifetimes will undergo stable isotope analysis (C, N, Sr, O and Pb) to establish if they were of local or non-local origin.

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*PhD Abstract*

Clare Rainsford, University of  
Bradford/Norwich Castle Museum  
Funding: AHRC CDA

**People and animals in early medieval cemeteries**

Anglo-Saxon burials in eastern England include animal remains as part of the grave furnishings, frequently in cremations and less often in inhumation burials. They are mostly associated with graves of the early Anglo-Saxon period (5<sup>th</sup>-7<sup>th</sup> centuries), diminishing in frequency in accordance with broader changes in burial practice and the advent of Christianity. The grave inclusions can be loosely categorised into whole animals, part-animals or food offerings, amulets, bone artefacts, and isolated bones (cf. Crabtree 1995; Bond & Worley 2006). Many interpretations have been suggested, including funerary feasting, demonstration of wealth or status, sacrifice, companions in death, symbolising identity or beliefs, etc., and there are indications that practices vary considerably between different cemeteries.

This project aims to consider the prevalence and nature of these practices on a regional level, by reassessing evidence from cemetery sites in the county of Norfolk across the Anglo-Saxon period, to explore temporal and local variations in practice. This will include primary assessment of zooarchaeological material, using collections in Norwich Castle Museum, to produce new data. Differences between use of animals in cremation and inhumation rites will also be explored.

The presence of animals in the context of funerary ritual offers a different perspective on the perception of and interaction with the animal world to that afforded by rural settlement or urban assemblages. It is proposed that the integration of these different strands of evidence can provide a broader insight into animal lifeways and the effect of changing beliefs and worldviews on the human-animal relationship in the Anglo-Saxon period.

This is one of two collaborative doctoral research projects on the theme Identity, Place and Society in Early Medieval Norfolk. The relationship between biological identity and burial practices will be investigated in the linked project: **Burial and identity in early medieval Norfolk**

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*PhD Abstract*

Kathryn Reusch, St. Hugh's College,  
University of Oxford

**“That Which Was Missing”: The Archaeology of Castration**

Castration has a long temporal and geographical span. Its origins are unclear, but likely lie in the Ancient Near East around the time of the Secondary Products Revolution and the increase in social complexity of proto-urban societies. Due to the unique social and gender roles created by castrates' ambiguous sexual state, human castrates were used heavily in strongly hierarchical social structures such as imperial and religious institutions, and were often close to the ruler of an imperial society. This privileged position, though often occupied by slaves, gave castrates enormous power to affect governmental decisions. This often aroused the jealousy and hatred of intact elite males, who were not afforded as open access to the ruler and virulently condemned castrates in historical documents. These attitudes were passed down to the scholars and doctors who began to study castration in the late 19th and early 20th centuries, affecting the manner in which castration was studied. Osteometric and



anthropometric examinations of castrates were carried out during this period, but the two World Wars and a shift in focus meant that castrate bodies were not studied for nearly eighty years. Recent interest in gender and sexuality in the past has revived interest in castration as a topic, but few studies of castrate remains have occurred. As large numbers of castrates are referenced in historical documents, the lack of castrate skeletons may be due to a lack of recognition of the physical effects of castration on the skeleton. The synthesis and generation of methods for more accurate identification of castrate skeletons was undertaken and the results are presented here to improve the ability to identify castrate skeletons within the archaeological record.

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*PhD abstract*

Aralisa Shedden-Gonzalez, Bournemouth University

**Using primates for establishing priority conservation sites in Mexico**

Suitable habitat for some of the most threatened species is dwindling fast and, with limited conservation resources at hand, it is essential that we invest those resources into the areas which currently host a high level of biodiversity with viable populations of these species. One such area is the Uxpanapa Valley in Mexico, which contains one of Mesoamerica's largest forest remnants and is considered as a main biodiversity hotspot. Nevertheless, only minimal research on species has been conducted in the area and deforestation activities remain constant. Recently, the Mexican government financed a multi species research project for this region, and as part of this project I was able to collect primate presence and demography data. Since there is very little information on species distribution in this area, using the primate data can enhance the criteria for selecting priority conservation sites. By establishing which environmental characteristics and human activities are related to primate presence, we can possibly determine the areas that will

allow biodiversity protection and conservation. As this site has been internationally recognized as a biodiversity hotspot, the government has decided to establish a protected area, but the initial management proposal has been made without species sampling and does not include a portion of the Uxpanapa Valley in which there are several threatened species, including primates. Providing stakeholders with a well-planned protected area layout is vital and the information derived from the present work can potentially contribute towards structuring an effective management plan that will ensure maximum protection for biodiversity.

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*PhD Abstract*

Devon L. K. Tancock, Department of Archaeology, Durham University

Email: d.l.kase@dur.ac.uk

Supervised by: Professor Charlotte Roberts and Dr Janet Montgomery

Submitted for examination in December 2013

**Congenital defects in 18th and 19th century populations from rural and urban Northeast England**

In England, the 18th and 19th centuries marked an increase in urban living and the development of industrialisation. The movement of large numbers of individuals into newly created urban, industrial centres led to a decline in the standard of living conditions. In overcrowded towns, infectious disease easily spread amongst the improperly fed masses exposed to air and water pollution from nearby factories. To investigate the effects of these poor living conditions on populations in the post-medieval period, the prevalence of congenital defects, anomalies present at or before birth, were chosen for study in skeletal remains. Using an analysis of the prevalence of congenital defects, the hypothesis tested was that there should be a greater prevalence of congenital defects in people in urban centres due to the inferred poor state of health present there at the time.

This research focused on populations from four sites in Northeast England. The two urban

sites were the Quaker burial ground, Coach Lane, North Shields (1711-1857 AD) and St Hilda's, Coronation Street, South Shields (1816-1856 AD), both in Tyne and Wear. The two rural sites were St Michael and St Lawrence, Fewston (post-medieval-1896 AD) and St Martin, Wharram Percy (1540-1850 AD), both in North Yorkshire. Collected data showed that there was no statistical difference between prevalence rates at the urban and rural sites for individual or combined defects. This may indicate that the quality of the living conditions were similarly detrimental to health at both site types and raises the issue of how urban and rural can be better defined for the post-medieval period. Furthermore, these findings call into question the use of congenital defects as markers of overall health unless combined with "stress" indicator data and research into past living conditions.

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#### *PhD Abstract*

Mara Tesorieri, University College Cork  
(Submitted)  
Funding: Kildare Archaeological Society

### **Health in the Medieval World: Regionality and the Bioarchaeology of Ireland and Britain**

This study assesses regional health patterns in early medieval Ireland and Britain by analysing and interpreting palaeopathological indicators of stress. This was achieved by incorporating the results of demographic and palaeopathological study into the specific historical contexts. Although relatively small islands, both are home to unique and diverse cultural, physical, and political landscapes, which could potentially affect the general health of the population in different ways. To accurately answer the research question, a bioarchaeological survey of six regions within both islands was carried out, specifically analysing and comparing the demographic profile and general health trends within each region with one another.

Results from the analysis have demonstrated statistically significant differences within and

between the islands. Inferring that even the more subtle differences observed within the cultural, physical, and political landscapes, such as in the case of Ireland and Britain, can and do affect general health trends. The health of early medieval Ireland and Britain appears to be significantly affected by the physical landscape, specifically a north/south divide. The most northerly regions, Scotland South and Ireland North, manifested higher rates of stress indicators when compared to the more southerly positioned regions. Although it can only be hypothesised what factors within these regions are causing, enhancing or buffering stress, the study has established the potential and necessity for regional work to be continued when interpreting the historical past of these two islands.

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#### *PhD Abstract*

Samantha Tipper-Booth, Department of Archaeology, Durham University  
Email: s.n.tipper-booth@dur.ac.uk  
Supervised by: Professor Charlotte Roberts and Dr Penny Wilson

### **A comparative study of spinal disease in ancient Nubians during the Medieval to Christian periods**

Nubia was an important gateway for trade between Egypt and the rest of Africa. In ancient times, Nubia stretched from the first cataract south to the site of the Dongola Reach. Today, Nubia is divided between Egypt and the Sudan, lower Nubia being part of Egypt, whilst Upper Nubia is part of the Sudan. With the building of the first Aswan Dam in 1907 and the second in 1960, which flooded most of what was ancient Nubia, archaeological interest in the area has grown and as more settlements and burials are being discovered and excavated a clearer picture of how these people lived is being created.

From a survey of the bioarchaeological literature on ancient Nubia, it is clear that little research has been carried out on the prevalence of spinal disease. It is the aim of this study to bridge this gap, by conducting a detailed

comparative study of spinal pathologies, using populations from across Nubia, during the Medieval to Christian periods to consider frequency rates and interpret their consequences.

The study of spinal disease can potentially tell us a lot about a past population's health and welfare. It may provide information on quality of life, occupational and environmental stresses, as well as provide comparative data for modern clinical studies. This is especially true for ancient Nubia, as a large number of the living population still live in rural areas, and are dependent on agriculture and cattle for their livelihood, in much the same manner as the ancient Nubians. Therefore, information gathered during this research could be used to compile an in-depth model from which health and occupational/environmental risk assessments could be developed for the region.

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*PhD Abstract*

Angela Trentacoste, University of Sheffield  
(completed)

**The Etruscans and their animals: the zooarchaeology of Forcello di Bagnolo San Vito (Mantova).**

The Etruscan city at Forcello was a prominent settlement in the Po Plain between the sixth and fourth centuries BC. Located at the northernmost periphery of Etruscan influence, in addition to a rich array of material culture recovered from over thirty years of excavation, Forcello has also produced an exceptional quantity of animal remains, a volume that offers an unparalleled opportunity to study animal exploitation in Etruscan society. Using this abundant faunal assemblage as a starting point, this dissertation examines human-animal relationships at Forcello and more broadly within Etruscan Italy.

This project synthesizes zooarchaeological research on northern and central Italy into a single narrative. Faunal analysis at Forcello then examines husbandry strategies, the contribution of wild taxa, and the role of other

animals not normally consumed. Results are compared regionally and chronologically to place Forcello in a broader context. Animal remains indicate a thriving network of northern Etruscan cities linked to, but partly independent from, central Italy. Within Forcello, analysis illustrates well-developed husbandry systems and the presence of non-Etruscan culinary traditions. The recovery of a significant number of perinatal human remains from the faunal assemblage is an important find.

This project produces new data on subsistence strategy and urban life in an underrepresented region of Etruscan civilization, and it clarifies chronological and regional trends in animal management in Etruscan Italy during the first millennium BC, creating an integrated picture of Etruscan-animal relationships that encompasses both Etruria and Etruria Padana.

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*PhD Abstract*

Marit Van Cant, VUB (Brussels University) and the University of Sheffield

**Rural and small urban populations in the Low Countries and North-Western Europe (12th-18th century) - the profile of agrarian inhabitants and urban lower class communities, primarily based on existing and new osteological analyses.**

Marit Van Cant is currently in her first year as a PhD-fellow for the Research Foundation Flanders (FWO), and in a joint PhD between VUB (Brussels University, supervisor Prof. Dr. Dries Tys) and the University of Sheffield (co-supervisor Prof. Dr. Dawn Hadley). Her research includes new bioarchaeological analyses of medieval (semi)rural populations from the following Belgian sites: Deinze, Vichte and Diksmuide. Previous analyses from the rural sites of Oosterweel and Moorsel, both located in Belgium, revealed a higher prevalence of healed traumata and musculoskeletal stress markers (MSM), compared to urban populations. In the next stage, this research will be extended to similar case studies in NW-Europe.

Both new and existing osteological results from (semi)rural populations will be placed within a larger framework which discusses historical and socio-economic data of each site between the 12th and 18th century AD, as this era was essential for the formation of the rural market economy. Recent techniques such as the study of musculoskeletal stress markers (MSM) will be applied as well.

This comparative analysis aims to fill the hiatus in osteological research regarding medieval agricultural and lower socio-economic status urban communities on a both inter- and intra-population level and in a broad geographic area.

Summarized, the following specific issues will be tackled:

- 1) What can we learn about the rural health status on both an inter-population and intra-population level? Are there any specific pathological and dental lesions indicating the impact of rural life between the 12th and 18th centuries?
- 2) What will the study of MSM reveal regarding regional economic differentiation? How is this diagnosed in the human skeletal remains?
- 3) How is the palaeodemographic profile of these communities related to each other? Will it show regional and international similarities or differences, and will this be related to the rural market economy?
- 4) What are the regional and international discrepancies regarding gender and socio-economic position as noticed in previous analyses?
- 5) If we could collect more osteological data regarding these communities, could we consequently gain more insight concerning the impact of commercialisation of labour on the health of an individual and/or community?

**Contact information:**

**marit.van.cant@vub.ac.be**

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*PhD Abstract*

Giulia Vollono, University of Sheffield

### **Constructing Identity in Lombard Italy**

The principle aim of my research is to analyse the process of identity construction during the Lombard domination of Italy (568/569 - 8<sup>th</sup> century AD) focussing on the northern part of the Peninsula. I am examining the processes of constructing and negotiating individual and collective identities. For individual identity I consider two aspects that define individuals within society: gender and age. My intention is to determine those elements that characterized and differentiated gender roles, and their meaning in terms of social identity. This is embedded within a 'biographical framework' examining the relationship between gender and age through the lifecycle of individuals. Extending this to community identity, I am examining the evidence for the involvement of communities in the organization of settlements and cemeteries. In this respect the principal aim is to identify those features through which different groups represented themselves and built their identities, either aligning or distinguishing themselves with others. Moreover, I am analysing the relationship between individual and collective identities to understand what tensions existed between the two. The ultimate aim of this is to try to establish if the ethnic labels had a real contemporary meaning or whether they are constructed and specious categories.

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*PhD Abstract*

Joe W. Walser III, Department of Archaeology, Durham University and the University of Iceland

Email: j.w.walser@dur.ac.uk

Supervised by: Dr Rebecca Gowland (Durham University) and Dr Steinunn Kristjansdottir (University of Iceland)

## **In between breaths: respiratory disease, skeletal pathology, volcanism and environmental health in historical Iceland**

This research aims to determine the human health impacts sustained by the volcanic environment of Iceland by considering respiratory and dental disease, volcanogenic emissions, and other pathologies such as osteofluorosis in the archaeologically represented skeletal population of historical Iceland. The objective of this research is to provide statistically relevant findings in the relationship between respiratory, dental and other skeletal diseases to the volcanic environment in the past and deepen the understanding of the impact of volcanogenic emissions upon the human body. The prevailing air quality and implications of respiratory disease can be examined through the analysis of the ribs, facial sinuses and other pathological indicators in the human skeleton.

Chronic respiratory disease is one of the most common conditions affecting human health throughout the world and millions of deaths occur per year due to respiratory conditions with environmental causes. Recently, many studies have addressed the relationship between respiratory disease and exposure to volcanogenic pollutants, but a study of health detriments due to volcanic pollutants has never been conducted on an archaeological population. This project has the potential to expand upon the scientific, historical and medical record of volcanic and environmental health conditions with both Icelandic and international applicability.

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### *PhD Abstract*

Lauren Walther, Department of Archaeology, Durham University

Email: l.j.walther@dur.ac.uk

Supervised by: Dr Rebecca Gowland and Dr Andrew Millard

## **All out of proportion? Stature and Body Proportions in Roman and Anglo-Saxon England**

The aim of this thesis is to assess the adult stature and body proportions of Romano-British and the Anglo-Saxons skeletal populations, throughout various geographical locations in England. Previous studies throughout different periods and cultures have assessed stature and body proportions; however, few have focused on these two time periods. The stature and body proportions of both populations will be determined through the reconstruction of living stature through the use of Raxter et al.'s (2006) revised Fully's anatomical method and through the analysis of a variety of indices. New mathematical regression formulae will be created for each population based on the reconstructed living stature, which will be statistically compared to mathematical regression formulae currently utilized to determine accuracy of each equation. The use of different indices will aid in assessing possible ecogeographic patterns with regards to body morphology. Finally, this study of stature and body proportions will aid in the assessment of temporal or geographical trends with regard to social status, sex and population mobility.

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### *PhD Abstract*

Michelle Williams-Ward, University of Bradford / Norwich Castle Museum

Funding: AHRC CDA

## **Burial and identity in early medieval Norfolk**

Over a period of more than 600 years, the Anglo-Saxons changed the English way of life. In a period characterised by great change, the Romano-British population witnessed the arrival and integration of European migrants; subsequently influencing both social and material culture, including aspects of identity. Christianity replaced Paganism as the dominant religion and changing legal and economic practices epitomised an increasingly stratified society. Throughout this period, settlement patterns and burial practices also changed. Until recently, changes in burial practices were thought to correlate with the religious transition; however, they are now

thought to be much more complex than merely a result of the religious transition. Research focussing upon Anglo-Saxon burial and identity is extensive; however, the focus of such research typically relies on the examination of one particular period, or type of cemetery, coinciding with the dominance of either the Pagan or Christian religion, or indeed the transition between the two.

This project examines the entire Anglo-Saxon period, comparing differential burial, the inclusion of grave goods and animals, grave type and cemetery type, from the early, Conversion and later Anglo-Saxon periods, to uncover patterns in the way biological identity was expressed in Norfolk, East Anglia. The Anglo-Saxon kingdom of East Anglia was an important trade route and thus plausibly influenced by any migration from Europe. This project will focus upon the evidence of identity gained from human remains excavated from Anglo-Saxon sites in Norfolk.

This is one of two collaborative doctoral research projects on the theme Identity, Place and Society in Early Medieval Norfolk. The inclusion and use of animals within the burial environment will be the focus of the linked project: **People and animals in early medieval cemeteries.**

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*PhD Abstract*

Lizzie Wright, University of Sheffield  
(completed)

**The history of the European aurochs from the late Pleistocene to its extinction: an archaeological investigation of its evolution, morphological variability and response to human exploitation.**

The focus of my research is to examine how the morphology of the aurochs (*Bos primigenius*) varied across Europe between the Upper Pleistocene and its extinction, in relation to the effects of climatic, environmental, and geographic factors and patterns of human exploitation. This builds on biometrical work that has been done for other

mammal species across a similar timescale and will test certain hypotheses about size and shape that have resulted from these studies.

The project will look at a number of significant climatic changes that took place across Europe. By following patterns of body size and shape change in reaction to climatic change in the past, the results of the project will put us in a much better position to predict in what way animals may be affected by climate change.

The project will also look at the effect of hunting pressure on the size and shape of wild animals. Previous research has indicated that a combination of climatic change and hunting pressure resulted in the small size of wild boar. It will be interesting so investigate whether similar patterns of size reduction are seen for the aurochs.

This project will provide a much needed basis for the exploration of the dynamics of aurochs populations prior to and progressing into the period of cattle domestication. Changes and patterns in wild cattle morphology may have important implications for hunter-gatherer research, but can also contribute to our understanding of how and why domestication took place.

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REVIEW OF THE BABAO CONFERENCE

*By Trisha M. Biers*

“Visit York: you’ll fall in love the moment you arrive...” was the quote from the front page of the [visityork.org](http://visityork.org) website, and there *must* be something seductive about the city, as a staggering 220 delegates were lured to its ancient walls for the annual BABAO conference. From the 13<sup>th</sup> to the 15<sup>th</sup> of September, the Department of Archaeology at York, BioArCh, and the Hull York Medical School, hosted the annual conference in the newly established (and frankly spectacular) Ron Cooke Hub. The atrium provided an open and friendly space to catch-up with colleagues despite the heavy rain. This year, there were 52 presentations and 71 posters covering topics such as ethnicity and migration among human

populations, mortuary treatment, paleopathology, and the popular 'open' session for highlighting a variety of research methods and regions.

On Friday afternoon, the conference commenced with the session titled, "Treatment of the Body: understanding and portrayals," chaired by Charlotte Roberts (Durham University, UK), with the keynote presentation given by Jelena Bekvalac from the Centre for Human Bioarchaeology, Museum of London. The focus of this session was to explore different approaches to mortuary treatment in osteoarchaeology, and how professionals working with human remains can convey to the public the significant diversity among cultures with regards to preparation of the deceased. Papers and posters in this session covered all manner of topics spanning the ancient to the historic and into contemporary issues of public perception of the dead on display. Neolithic mortuary practices, bone bioerosion of ancient Britons, Dutch cremations of the Bronze Age, body treatment in Predynastic Egypt, remains from Medieval cemeteries in England, microscopic methods and human dissection during the 19<sup>th</sup> century, and the extraordinary case of the repatriation of Julia Pastrana, set the stage for the fantastic and varied work that the BBAO conference is known for.

There was more in store in for Friday evening! Two exciting workshops were heavily attended by the BBAO delegates, with the first being the Puberty Workshop, by Mary Lewis and Fiona Shapland from Reading University, UK. Members were treated to a thorough demonstration about identification and analysis of sub-adult remains. For those attendees that wanted to polish up their publishing skills, Ilaria Meliconi (Elsevier Ltd.) and Charlotte Roberts (Durham University, UK), ran a Publishing Workshop to provide guidance on the preparation of journal articles and publishing ethics in archaeological scholarship. The evening ended with an excellent wine reception graciously hosted by the University of Cambridge Press.

Saturday morning's session kicked off with a keynote presentation by world-class historian Jim Walvin (University of York, UK) and was chaired by Mary Lewis from Reading University. The theme was "Constructing Identities: ethnicity and migration" which has been an increasingly popular suite of research in osteoarchaeology and biological anthropology due to the advancement of techniques such as DNA analysis, isotopic investigation, and proteomics and genomics. The papers and posters presented in this session showed the undeniable benefits that biomolecular analyses have contributed to the study of human bones.

This session included research on identity in Ancient Egypt, the molecular analysis of the transatlantic slave trade, and several presentations on population genetics, from Croatia to the Tierra del Fuego in South America.

After morning tea and posters, session chair, Oliver Craig (University of York, UK) kept the momentum going with a keynote lecture by Ian Barnes (School of Biological Sciences, Royal Holloway, UK). The third of four sessions overall, the theme was, "Investigating Lifeways: diets, disease and occupations." The reconstruction of life from the remains of the dead, based on the analysis and observation of skeletal remains, is at the core of research carried out by members of BBAO. This session emphasized the unique perspective about past peoples, both on an individual and population level, that paleopathology can provide. Presenters in this session highlighted the diversification of research across time and geographic location, showing the tremendous interest and scholarship in understanding the physiological and biomechanical influences on human health.

After a full day of papers and posters, it was time for the BBAO annual meeting where it was announced that Durham University is the host for 2014! Saturday night would not have been complete without the conference dinner and quiz. In one of the most unique settings for a sit-down meal, the National Railway

Museum was our venue for the evening. The historic atmosphere had a certain elegance to it, but was casual enough for delegates to unwind and converse with one another over good food and drinks. As ever, the quiz was challenging and lively!

The final day of the conference was reserved for the open session, chaired by Tim Thompson (Teeside University, UK), and keynote presentation by Paul O'Higgins (Hull York Medical School). Themes covered by the papers and posters included inter-personal violence and skeletal trauma, advances in paleopathological research, dental anthropology, primatology, geometric morphometrics, and the methods of estimating of age-at-death. A pre-launch preview of the exciting project, Digitised Diseases, was an excellent example of cutting-edge important work that the BABAO community is doing.

The conference closed with the announcement of the student prizes. This year there were four prizes: the Jane Moor prize for best student podium presentation went to Rhea Brettell (University of Bradford, UK) for " 'Embalming' in Late Roman Britain: a molecular-based approach to the identification of resinous materials in mortuary contexts and an evaluation of their significance"; the runner-up podium presentation was awarded to Ivy Hui-Yuan Yeh (University of Cambridge, UK) for her paper, "Paleoparasitology and Baltic Crusading in the Medieval Period"; the Bill White prize for best student poster went to Petra Verlinden (University of Reading, UK) for "Child's Play: a new methodological approach to the study of trauma from skeletal child remains"; and finally, the runner-up poster prize was given to Rachel Schats (University of Leiden, Netherlands) for "Cribra Orbitalia in Late Medieval Holland: considering malaria." Congratulations to everyone!

Thank you to everyone involved in York for a truly exceptional experience.

## FORTHCOMING CONFERENCES AND COURSES

### **Cross sectional and surface histology Workshop: An application of Anthropological methods.**

*March 21-22, 2014*

*School of History Classics and Archaeology,  
University of Edinburgh.*

The objective of this workshop is to provide the theoretical background to bone histology and the information that can be gained from histological cross-sectional and surface histology as well as dental histology in Forensic Anthropology, Osteoarchaeology, Skeletal Growth and Human Evolution.

Participants are taught basic principles of bone biology, histology and micro-anatomy, cellular structure, bone formation and repair and the effect of factors such as age and diet in bony structure. The hands-on practical sessions includes training in electron and reflected-light microscopy, recognition of bony microstructure, quantification of histological structures such as haversian systems, secondary osteons, osteo population densities etc.

For more info:

<http://edinburgh-unit-fa.wix.com/eufa#%21histology-workshop/c1s9z>

<http://edinburgh-unit-fa.wix.com/eufa#1histology-workshop/c1s9z>

Course fee: £200

There are only 20 places available so early registration is recommended. Contact: Juliet Gomez ([julietagomezgd@gmail.com](mailto:julietagomezgd@gmail.com))

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### **41st Annual Meeting of the Paleopathology Association**

#### **North American Meeting**

*April 8-9, 2014*

*Calgary, Alberta, Canada*

The Conference Organizing Committee invites you to participate in the 41st PPA annual meeting. The scientific sessions will begin with workshop(s) held on Tuesday morning



and podium presentations that afternoon. Podium and poster sessions will continue throughout Wednesday.

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**83<sup>rd</sup> Annual meeting of the American Association of Physical Anthropologists**

*8-12 April 2014*

*Calgary, Alberta Canada*

<http://physanth.org/annual-meeting/83rd-annual-meeting-2014>

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**New Human Osteology Short Course at Oxford Brookes University**

*April 11 2014*

We are pleased to announce Oxford Brookes University will be running a new short course, "Human Osteology: An Introduction".

This is an intensive one-day course for anyone interested in acquiring a working knowledge of human skeletal anatomy, and for those working in associated fields (field archaeology, medical, dental, museum curation etc.) who wish to broaden or refresh their knowledge.

Working with both archaeological human remains and casts of human skeletal material, participants will gain an overview of the human skeleton from an evolutionary perspective and will cover the basics of the anatomy and identification of individual bones. Participants will learn to identify the individual diagnostic features of each element, as well as learning to identify fragmentary material. A summative identification quiz at the end of the day will enable participants to test their knowledge.

The course will take place on Friday, 11<sup>th</sup> of April 2014, and will be taught by Dr. Lauren McIntyre and Isabelle Heyerdahl King, with support from Dr. Simon Underdown and Dr. Hannah Russ.

For more information and booking, visit our website at <http://heritage.brookes.ac.uk/short-courses/human-osteology/>

If you have any questions, please contact Dr Hannah Russ at Oxford Brookes Archaeology and Heritage (OBAH):

Email: [hruss@brookes.ac.uk](mailto:hruss@brookes.ac.uk)

Tel: +44 (0)1865 483664

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**20<sup>th</sup> European Meeting of the Paleopathology Association**

*August 26th-29th 2014*

*Lund, Sweden*

<http://www.paleopathology.org/meetings.html>

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**16th Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology**

*September 12th-14th 2014*

*Department of Archaeology, Durham University*

We are very much looking forward to welcoming you to the 16th Annual BABAO Conference hosted by the Department of Archaeology, Durham University. The conference will take place at the University's Science Site with views of the cathedral and castle, a UNESCO World Heritage Site. Durham is conveniently located on the main East Coast line, but can also be reached easily by car (<https://www.dur.ac.uk/about/location/>), and Newcastle has the nearest airport, from which there is a metro, and then trains to Durham from Newcastle railway station.

The scientific programme will be structured around three themes plus an Open Session. Key note lectures will be given by Pamela Geller (University of Miami), Niels Lynnerup (University of Copenhagen) and Matthew Collins (University of York).

Our social programme will comprise a reception in the cloisters of Durham Cathedral on Friday evening and the conference dinner on Saturday. In addition to the traditional BABAO pub quiz, you will have the opportunity to practice your dance moves to

live music from our ceilidh band, Northern Lights.

Dates and details for abstract submission and registration will be posted on the BABAO website at <http://www.babao.org.uk/index/annual-conference-2014> and via the BABAO email list.

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**4<sup>th</sup> Annual meeting of the European Society  
for the Study of Human Evolution**  
September 18-20<sup>th</sup> 2014  
Florence, Italy  
<http://eshe.eu/index.html>

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#### MEMBERS' PUBLICATIONS

Alves Cardoso, F. and Henderson, C.Y. 2013. The Categorisation of Occupation in Identified Skeletal Collections: a Source of Bias? *International Journal of Osteoarchaeology* 23(2): 186-196. DOI: 10.1002/oa.2285.

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## BABAO RESEARCH PROJECT GRANTS – 2014

In October 2004 the BABAO committee approved funding for a series of project grants that are available, by competition, to all members of the association. A copy of the application form is found in the Annual Review and upon the association website (<http://www.babao.org.uk/index/awards>). All applications must be typed.

Two types of grants are available. One type is reserved for research in the contract sector, up to £1,500 (commercial). The other is reserved for the academic sector, up to £1,000. The higher sum available for the commercial sector is to cover the cost of buying out time from their company, to allow sufficient free time to conduct the research. Applications for more than these sums will not be considered. The number of grants awarded each year will depend upon the quality of applications and the state of the association's finances.

These grants may be used to support research in biological anthropology and osteoarchaeology, both to undertake the research directly, and to commission specialist services required in the course of the research project. They may not be used to fund conference attendance. Specialist equipment required to undertake a project is unlikely to be funded unless it is highly specific to the research project, and, if this is the case, the applicant must also demonstrate that the funds could not reasonably be obtained from other sources (such as the developer). The grant should be for a discrete piece of research or distinct component of a wider research project, and not just a contribution towards general living expenses during a PhD.

If students apply they should specifically state how this grant application relates to other sources of funding for their course. If their PhD is unfunded applying for a grant to support discrete, freestanding components of their PhD is reasonable. However, if their PhD is funded, they must specifically state why extra money in the form of this grant is required. If the proposal is not clear on this point it is likely to count against the application.

Applicants must be paid-up members of BABAO by 1<sup>st</sup> April 2014. It is the applicant's responsibility to ensure that they have paid their subscription, and applications from lapsed members will not be considered.

It is appreciated that an applicant may apply to other funding bodies to fund the same topic as their BABAO grant application. However, it is imperative that they inform the BABAO committee immediately if they receive sufficient funding from another source before the BABAO grant competition is decided. It is unethical and unjust to accept a grant for a research project that has already been fully funded from other sources.

The closing date for receipt of applications for the current year is **9<sup>th</sup> May 2014, at 6pm**. Applications, complete with a 2 page summary CV, must be sent electronically to the Grants Secretary ([j.buckberry@bradford.ac.uk](mailto:j.buckberry@bradford.ac.uk)). All documents must be submitted as word documents or PDFs. Please save the files under your surname (e.g. JonesApplication.pdf and JonesCV.pdf) and **not** as BABAOapplication.pdf. Please insert electronic signatures, or scan paper copies to PDF. A maximum of two files (application form plus CV) should be submitted for each application. Please do not include the guidance notes in your submitted application.



Grant proposals will then be reviewed by the committee. Notification will be given to the applicants, the BABAO e-mail list and the BABAO webpage. Successful grants will also be announced at the AGM.

Grant winners are expected to present their research at the BABAO conference in the year following the award (so 2014 grant winners are expected to give either a paper or a poster at the 2015 conference). Grant winners are required to complete a feedback form, giving a clear abstract of the research completed, a summary report of what was achieved and a summary of dissemination and publication by the first of September in the year following the award. BABAO should be acknowledged in all outputs. If the research is not completed within the expected time frame without due cause, applicants may be required to return the grant money.