IQUA

Cumann Ré Cheathartha na h-Éireann

Irish Quaternary Association http://www.iqua.ie

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Editor: Ellen OCarroll

1. Introduction

Dear IQUA member,

Welcome to IQUA newsletter No. 52.

IQUA's 2013 programme was a great success. We had a very well attended and exciting IQUA symposium at the GSI last November entitled Dating the Quaternary. Eminent speakers from across Ireland and Britain discussed a wide range of topics including sclerochronology, tephrochronology, cosmogenic isotope dating, ¹⁴C in lake systems, discrepancies in proxies from well dated profiles in the same system, luminescence dating and chronology building and implications for Neanderthal extinction and Irish water table reconstructions (see Item 5 for Abstracts of talks). IQUA would like to thank the GSI for the use of their facilities once again. A special thanks goes to Gill Scott for organising the Symposium, and to all Committee members who helped out in making it a great success.

IQUA's fieldtrip to North Mayo over the weekend of Sept 20th–22nd was enjoyed by all. More detailed discussions and summaries of the fieldtrip can be found in the accompanying IQUA Field Guide (no. 31) and in Item 4 of this newsletter. Thanks to Steve Davis and Graeme Warren for compiling and editing the Field Guide as well as Seamus Caulfield, Steve McCarron and Michael Philcox for facilitating and organising the field meeting and being our expert guides for the weekend.

We hope you will join us for events during the year – there is currently a call for papers for the upcoming Spring Meeting and AGM (Saturday 29th March) – see Item 3 for details. The Spring Meeting is free of charge and is being hosted by University College Cork – many thanks to Ben Gearey for coordinating this event. IQUA is also hoping to make a bid for INQUA 2019 which is indeed a very exciting and worthwhile venture for IQUA and Ireland as a whole.

Also included in this newsletter are details of our upcoming meetings and excursions as well as details of other lectures and events taking place which might be of interest to you, our members. If you have any news that you wish to have included in the newsletter please contact me at <u>eocarro@tcd.ie</u>.

Finally, thanks to all who contributed to this edition of the newsletter.

Kind regards, Ellen OCarroll, February 2014

2. IQUA Committee (2013/2014)

The IQUA Committee is as follows:

President: Prof Fraser Mitchell, TCD (continuing) Secretary: Dr. Bettina Stefanini, NUIM (continuing) Treasurer: Dr. Gayle McGlynn, TCD (continuing) Postgrad rep: Karen Taylor, UCG (elected) Website manager: Dr. Francis Ludlow, Yale University (continuing) Publications Secretary: Dr. Kieran Craven, TCD Newsletter editor: Dr. Ellen OCarroll, Independent archaeologist (continuing) Ordinary members: Dr. Sarah Murnaghan, DKIT(continuing), Dr. Steve Davis, UCD (continuing), Dr. Susan Hegarty,

Davis, UCD (continuing), Dr. Susan Hegarty, St.Patrick's College, Drumcondra (continuing), Benjamin Thebaudeau, TCD (continuing), Andrea Waitz, TCD (elected), Rory Flood, QUB (continuing)

3. IQUA Spring Meeting and AGM 2014

We are pleased to announce that the 2014 IQUA Spring Meeting will be hosted by the Department of Archaeology, University College Cork.



Date: Sat 29th March 2014. Registration will begin at 9.30am. The Meeting will be followed by the AGM. Organisers: Ben Gearey.

The meeting is open to all and is free to attend. It will consist of short (20 mins) presentations on any area of new or ongoing Quaternary research. Postgraduate and post-doctoral researchers are especially welcome and are encouraged to take advantage of the opportunity to present in an informal and friendly setting. Both oral and poster presentations are invited.

Please send abstracts of c. 200 words to: Ben Gearey (<u>B.Gearey@UCC.ie</u>) by the weekend of the 14th March.

Further details including the venue and list of speakers will be circulated in due course. In the meantime please do not hesitate to get in touch with Ben Gearey for offers of papers and any questions.

The Secretary (email: <u>bettina.stefanini@nuim.ie</u>) welcomes suggestions for Agenda Items up to Friday 25th March 2014 for the IQUA AGM. The Agenda will be circulated before the meeting, and will include nominations for the Committee.

More details on the venue location and submitting an abstract are available on the IQUA Meetings webpage.

We look forward to seeing you in Cork!

4. IQUA 2012 Annual Fieldtrip

IQUA Fieldtrip to North Mayo, 20th-22nd September 2013.

Steve Davis, UCD, School of Archaeology, Dublin 4.

Over twenty years have passed since the last IQUA fieldtrip to North Mayo (Coxon 1991), and in September 2013 a new tour demonstrated how much has changed in our understanding of this critical region. We were guests of the village of Belderrig, comfortably hosted in the Belderrig Research and Study Centre, McHales' pub, varied Bed and Breakfasts and, on Sunday, in the Céide Visitors' Centre. The tour mainly focused on the prehistoric archaeology and palaeoenvironment and late glacial sequences. The accompanying guide provides a valuable review of the state of knowledge (Warren & Davis eds. 2013).

The archaeology and associated Holocene palaeoenvironmental work was reviewed by Seamas Caulfield, Gretta Byrne, Steve Davis and Graeme Warren. This included the new work carried out by Warren, Davis et al. since ca. 2004: excavations on a Mesolithic/Neolithic site in Belderg More, new programmes of work on old archives including new radiocarbon dates and major palaeoenvironmental work. The latter includes an important core from Cregganmore which contains a sequence dating back to >27,000 cal BP (McKeever and Davis; Holmes et al.) and the blanket bog site of Patchi'co which preserves a full-Holocene sequence with an apparent early-Holocene burning event (Hawthorne and Davis). A select few made a late final stop on the floodplain of the Belderg River where a long sequence of possible lagoonal sediments exists with a basal date of 2195±35 BP (Davis).



Steve McCarron offered a substantial new review of the late Glacial geomorphological sequences for the area, which synthesised off- and on-shore data to provide a compelling new model for ice retreat along the North Mayo coast. Michael Philcox drew the trip to an end with the dramatic glacio-tectonics at Kilcummin Head.



We are very grateful to the community of Belderrig and their neighbours for their hospitality – especially given that our trip was unfortunately timetabled to compete with the All Ireland final. We are sorry that Mayo must wait again for a chance for victory!



With many thanks to Steve Davis, Steve Mc Carron, Seamus Caulfield, Graeme Warren, Gretta Byrne, Michael Philcox and the other leaders for a marvellous weekend.

References:

Coxon, P., Browne, P., Condit, T., Gibbons, M., Hannon, G. & Stone, J. 1991, North Mayo Field Guide, IQUA

Warren, G, M & Davis, S. 2013, North Mayo Field Guide, IQUA

5. IQUA 2013 Autumn Symposium

Dating the Quaternary

Friday 29th November 2013

Abstracts:

Keynote Address: Annually-resolved records of marine climate change from the longest-lived animals on Earth

Dr. Dave Reynolds School of Earth and Ocean Sciences, CardiffUniversity reynoldsd3@cardiff.ac.uk

Prof. James Scourse School of Ocean Sciences, Bangor University j.scourse@bangor.ac.uk

The ability to predict future climate change using numerical simulations requires detailed understanding of the forcing and feedback mechanisms influencing the Earth system. Knowledge of pre-industrial modes of climate variability is entirely dependent on proxy records of environmental variables contained in natural archives. Despite the key role that the ocean plays within the global climate system - in global heat exchange, the carbon cycle and multiannual and multidecadal patterns of climate variability - most marine proxy archives are sparsely distributed and poorly resolved. The only well-established annually resolved archive for the marine environment, the coral record, is limited to tropical coastal waters and absolute chronologies only extend back ~400 years. Recent breakthroughs in molluscan sclerochronology are now transforming this situation. Many species of bivalve mollusc contain annual growth increments. Growth increment series (GIS) in shells are directly analogous to tree-rings and, because some species of bivalve (Arctica islandica, Glycymeris glycymeris) are extremely long-lived they can, like tree-rings, be crossdated so that the precise dates of fossil shells can be determined Scourse et al. 2006). This enables multi-centennial chronologies of absolutely dated shell material to be constructed. That this is possible indicates a common environmental signal driving growth increment variability within populations; crossdating has now also been achieved between species. The GIS in themselves constitute a climate proxy if statistically significant correlations can he established with instrumental series over a common

period. Micromilled subsamples from within increments can be analysed geochemically ($\delta^{18}O$, $\delta^{13}C$, ¹⁴C) to provide proxies for seawater temperature and changes in ocean circulation (Wanamaker et al. 2012), and demonstrate the incorporation of industrial era carbon into the ocean (Suess effect). This paper will review the construction of the current longest existing chronology (back to AD 600, north Icelandic shelf; Butler et al. 2013) and present the first absolutelydated temperature series for the last millennium from the marine environment. During the course of this research the longest-lived non-colonial animal known to science (Arctica islandica, 507 years) was discovered.

Butler, P.G., Wanamaker, A.D. Jr., Scourse, J.D., Richardson, C.A. & Reynolds, D.J. 2013. Variability of marine climate on the North Icelandic shelf in a 1,357year proxy archive based on growth increments in the bivalve *Arctica islandica*. *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology* 373, 141-151.

Scourse, J.D., Richardson, C.A., Forsythe, G., Harris, I., Heinmeier, J., Fraser, N., Briffa, K. & Jones, P. 2006. First cross-matched floating chronology from the marine fossil record: data from growth lines of the long-lived bivalve mollusc *Arctica islandica*. *The Holocene* 16, 967-974.

Wanamaker, A.D. Jr., Butler, P.G., Scourse, J.D., Heinmeier, J., Eiriksson, J., Knudsen, K.L. & Richardson, C.A. 2012. Surface changes in the North Atlantic meridional overturning circulation during the last millennium. *Nature Communications* 3:899 doi: 10.1038/ncomms1901.

Holocene climate change in Ireland: chronological and other problems

Dr. Graeme T. Swindles School of Geography, University of Leeds G.T.Swindles@leeds.ac.uk

I will present an examination of mid- to late Holocene climate variability in Ireland using proxy data from peatlands, lakes and a speleothem (Swindles *et al.*, 2013). Bayesian age modelling tools were used to quantify the chronological uncertainties associated with the individual records. A high degree of between-record variability is apparent in the proxy data and significant chronological uncertainties are present. However, tephra layers provide a robust tool for correlation and improve the chronological precision of the records (*e.g.* Swindles *et al.*, 2010). Although there is no statistically significant coherence in the dataset as a whole, a selection of high-quality peatland water table reconstructions co-vary more

than would be expected by chance alone. A locally weighted regression model with bootstrapping can be used to construct а 'best-estimate' palaeoclimatic reconstruction from these datasets. This method enables the detection of climatic signal in an ensemble of peatland water table reconstructions that contain non-climatic/autogenic signals and noise (Swindles et al., 2012). Visual comparison and cross-wavelet analysis of peatland water table compilations from Ireland and Northern Britain show that there are some periods of coherence between these records. Some terrestrial palaeoclimatic changes in Ireland appear to coincide with changes in the North Atlantic thermohaline circulation and solar activity. However, these relationships are inconsistent and may be obscured by chronological uncertainties. I conclude by presenting an agenda for future Holocene climate research in Ireland.

Swindles, G.T., Lawson, I.T., Matthews, I.P., Blaauw, M., Daley, T.J., Charman, D.J., Roland, T.P., Plunkett, G., Schettler, G., Gearey, B.R., Turner, T.E., Rea, H.A., Roe, H.M., Amesbury, M.J., Chambers, F.M., Holmes, J., Mitchell, F.J.G., Blackford, J., Blundell, A., Branch, N., Holmes, J., Langdon, P., McCarroll, J., McDermott, F., Oksanen, P.O., Pritchard, O., Stastney, O., Stefanini, B., Young, D., Wheeler, J., Becker, K., Armit, I. 2013. Centennial-scale climate change in Ireland during the Holocene. *Earth Science Reviews* 126, 300-320.

Swindles, G.T., Morris, P.J., Baird, A.J., Blaauw, M. and Plunkett, G. 2012. Ecohydrological feedbacks confound peat-based climate reconstructions. *Geophysical Research Letters* 39, L11401.

Swindles, G.T., Blundell, A. Roe, H.M. and Hall, V.A. 2010. A 4500-year proxy climate record from peatlands in the North of Ireland: the identification of widespread summer 'drought phases'? *Quaternary Science Reviews* 29, 1577-1589.

Joining dots in time and space: an overview of tephrochronology in Ireland

Dr. Gill Plunkett School of Geography,

School of Geography, Archaeology & Palaeoecology, Queen's University Belfast <u>gill.plunkett@qub.ac.uk</u>

In Ireland, the study of tephra (volcanic ash) and its application as a dating technique in palaeoecological studies began two decades ago, with the recognition of Icelandic ash in north of Ireland bogs. Since then, more than 35 tephra depositional events have been recorded from sediments within peatlands, lakes, floodplains and forest hollows, including at least eight tephras from historically-

recorded eruptions that provide precise marker horizons for palaeoecological research over the last millennium. Of the pre- or non-historic tephras, the ages of the events can often be determined though ¹⁴C dating or the identification of tephras in the welldated Greenland ice cores. One of the leading strengths of tephrochronology is, however, the ability to cross-correlate sedimentary sequences containing a given tephra at regional to intercontinental scales, which can help reduce age uncertainty and enhance the ability to identify leads, lags and non-correlations in system response to past environmental change. A secondary, yet significant, outcome of tephra research has been a contribution to the evaluation of volcanic risk to past and present environments and societies. This paper will provide an overview of the current state-ofknowledge within Irish tephra studies, and will outline some of the applications of tephrochronology in Ireland particularly with respect to the mid- to late Holocene.

The last glacial stage in Ireland: implications of exposure dating using cosmogenic isotopes

Prof. Colin K Ballantyne School of Geography and Geosciences, University of St Andrews, Scotland <u>ckb@st-andrews.ac.uk</u>

Cosmogenic isotopes are produced in mineral lattices of rock as a result of neutron spallation (nucleus fragmentation) due to exposure to secondary cosmic radiation at the Earth's surface. The main isotopes employed in surface exposure dating of rock or boulder surfaces are ¹⁰Be in quartz ³⁶Cl in whole-rock samples. Both are and radioactive isotopes, with half-lives of ~1360 ka and ~705 ka respectively. AMS measurement of the concentration of ¹⁰Be or ³⁶Cl in samples from boulder or bedrock surfaces provides a powerful procedure for establishing how long these surfaces have been exposed since deglaciation. Fundamental assumptions are that sampled rock surfaces do not contain cosmogenic isotopes inherited from a previous period of exposure (nuclide inheritance), and have remained exposed without sediment cover throughout the period since deglaciation. As removal of 2-3 m of rock is required to 'reset the cosmogenic clock', most sampling campaigns now involve sampling of large glacially-deposited boulders rather than bedrock. Uncertainties in calculating exposure ages from isotope concentrations arise from: (1) analytical uncertainties; (2) the assumed rate of rock surface erosion (by granular disaggregation or spalling)

since deglaciation; (3) assumed isotope production rate; and (4) the production-rate scaling scheme employed. As a result the $\pm 1\sigma$ uncertainties for single ages are typically 5–10% of sample age, though this can be reduced statistically by calculating uncertainty-weighted mean ages for multiple samples from the same site.

Early surface exposure dating campaigns in Ireland focused on testing the traditional LGM model that envisaged termination of the last ice sheet at the 'South Ireland End Moraine' with LGM ice-free enclaves in Donegal and western Ireland. Post-LGM exposure ages obtained for samples from these areas indicate complete ice cover over Ireland during the LGM, consistent with more evidence for offshore extension of Irish ice on to the adjacent shelf in all sectors. Pre-LGM ages, however, were produced by samples from frost-weathered bedrock at high altitudes on some Irish Mountains, initially suggesting that these may have remained above the last ice sheet as palaeonunataks. Subsequent glacial modeling and dating of high-level erratics, however, favours the view that summit blockfields and rock outcrops were covered by non-erosive cold-based ice during the LGM. Dating of episodes of ice-sheet retreat and readvance in Ireland suggests that the last ice sheet was largely landbased by ~18 ka, though the timing of subsequent events is poorly constrained in many areas. Exposure dating of large boulders on cirque moraines generally supports the view that these were formed at the margins of small glaciers that formed mountain during in areas the Nahanagan (=Younger Dryas) Stadial of ~12.9-11.7 ka, though older ages obtained for some cirque moraines suggest that these may have formed several millennia earlier.

¹⁴C as a tool to trace terrestrial carbon in a complex lake system: implications for food-web structure and carbon cycling Keaveney, E.M.¹, Barry, C.D.², Reimer, P.J.¹, and Foy, R.H.²

Dr. Evelyn Keaveney e.keaveney@qub.ac.uk

 ¹ 14CHRONO Centre, School of Geography, Archaeology and Palaeoecology, Queen's University Belfast,
² Agri-Food and Biosciences Institute, Newforge Lane, Belfast, BT95PX

Lakes bury and/or remineralise significant quantities of terrestrial C. Changing deposition chemistry, land use and climate induced impacts on hydrology can

affect terrestrial C (TC) export and lake ecology with feedbacks for regional and global C cycling and have consequences for lake chronology.

C and nitrogen stable isotope analysis (SIA) has identified the terrestrial subsidy of freshwater food webs. SIA however fails to differentiate between the contribution of old and recently fixed terrestrial C. Natural abundance ¹⁴C (Δ^{14} C) can be used as a biomarker to untangle freshwater food webs where aquatic and terrestrial δ^{13} C overlap, but may also have utility for examining the age and origin of the C utilised by food webs, buried in the sediment or carried downstream.

 $\Delta^{14}C,~\delta^{13}C$ and $\delta^{15}N$ values were measured from dissolved inorganic, dissolved organic and particulate organic carbon and biota from Lower Lough Erne, a humic, alkaline lake in northwest Ireland. Δ^{14} C values identified the presence of modern and fossil TC in the lake, and with stable isotopes demonstrated its utilisation in the food web. Ramped pyrolysis of surface sediment indicated a fossil component older than bulk values and a younger algal component. The use of radiocarbon in addition to stable isotope analysis, in conjunction with other novel methods (e.g. stepped combustion), allows the determination of the source and fate of TC in the system and highlights the variability these different carbon sources have on chronology in freshwater systems.

Signal and variability with a Holocene peat bog – four replicate C14 dated cores do not tell the same story

Dr. Maarten Blaauw

School of Geography, Archaeology and Palaeoecology, Queen's University Belfast maarten.blaauw@qub.ac.uk

It is common for palaeoecological studies to rely on single cores. Here we test to what degree single cores represent what happens within entire bogs, based on a single bog from the Netherlands which has been analysed repeatedly. The within-site variability of well-dated fossil proxy data is analysed through comparing the regional pollen, macrofossils and non-pollen palynomorphs of four of these profiles. Even at this small spatial scale, there is considerable variability of the fossil proxy curves. Implications regarding signal (climate) and noise (internal dynamics) of the different types of fossil proxies are discussed. Single cores are of limited value for reconstructing centennial-scale climate change, and only by combining multiple cores and proxies can we obtain a reliable understanding of past environmental change and possible forcing factors.

Luminescence Dating of Raised Beaches: New data for an old problem

Dr. Matt Telfer

School of Geography, Earth and Environmental Sciences, University of Plymouth matt.telfer@plymouth.ac.uk

The raised beaches of the southern Irish coast were first described over a century ago (Wright and Muff, 1904), and are broadly similar in stratigraphy and setting to those described in southwest England by Henry de la Beche as early as 1839. Usually ascribed to past full interglacial conditions (OIS 5 or 7), on account of the relative sea level, absolute dating of these deposits remains scarce. For deposits lying outside the range of ¹⁴C dating, Amino Acid Racemization remains perhaps the most widely applied tool (e.g. Bowen et al., 2002), but has also been criticized for the lack of precision in some cases (McCarroll, 2002). Luminescence dating offers the potential to directly date burial events of sediment, and although a few early applications of the method were reported for raised beaches in the British Isles (e.g. Gallagher and Thorp, 1997; James, 1995), there have been few attempts to date these deposits using modern protocols. O'Cofaigh et al. (2012) redated the Courtmacsherry beach and overlying glaciofluival sediments at numerous sites along the southern Irish coast, and drew two main conclusions; the glacial sediments implied that at the LGM the Irish ice sheet reached a maximum position at or near the coast, and perhaps even more remarkably, that the Courtmacsherry raised beach consistently yielded ages dating to OIS 4 and/or 3. This paper revisits the Courtmacsherry geochronological data, as well as presenting new data, which, considering the eustatic relative sealevel at the time is generally assumed to have been ~40-80 m below modern levels (Lambeck and Chappell, 2001), implies a radical reassessment of relative sea level around the British Isles at this time may be necessary. These data are set in the context of other evidence that this period may be regarded as less well known than is sometimes assumed.

Bowen, D.Q., Phillips, F.M., McCabe, A.M., Knutz, P.C., Sykes, G.A., 2002. New data for the Last Glacial Maximum in Great Britain and Ireland. Quaternary Science Reviews 21, 89-101.

Cofaigh, C.O., Telfer, M.W., Bailey, R.M., Evans, D.J.A., 2012. Late Pleistocene chronostratigraphy and ice sheet

limits, southern Ireland. Quaternary Science Reviews 44, 160-179.

Gallagher, C., Thorp, M., 1997. The age of the Pleistocene raised beach near Fethard, County Wexford, using infra red stimulated luminescence (IRSL). Irish Geography 30, 68-69.

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The Middle-Upper Paleolithic transition and Neanderthal extinction in the Caucasus and beyond

Prof. Ron Pinhasi School of Archaeology, University College Dublin ron.pinhasi@ucd.ie

The Caucasus was a major geographic corridor for human migrations and yielded a large number of cave sites with Middle and Upper Palaeolithic (MP/UP) layers. Our knowledge of the UP/MP in this region, however, stems mostly from a small number of recent excavations.

The region also yielded several Neanderthal fossils which lacked secure chronology and were assumed to represent survival of Neanderthals until 30,000 years ago in this region.

This paper provides recent chronometric results which indicate the end of Middle Palaeolithic in the northern and southern Caucasus indicating the disappearance of Neanderthals in both regions after 37,000 years ago and a hiatus of several millennia prior to the decolonisation of these regions by anatomically modern humans.

6. IQUA Annual Fieldtrip and Autumn Symposium 2013

The IQUA Annual fieldtrip organising committee welcome suggestions of places or areas to visit in Ireland for September 2014. Please e-mail the committee with any suggestions (email: bettina.stefanini@nuim.ie).

Suggestions for an Autumn Symposium theme by potential convenors are also welcome (through the Secretary, Bettina Stefanini – details above), <u>bettina.stefanini@nuim.ie</u>) for discussion at the AGM.

7. Bill Watts 14CHRONO AWARDS & IQUA Research awards

We are pleased to announce the winners of the *inaugural round* of **IQUA Research Awards**. The awards are open to all paid-up IQUA members of at least one year's standing. They consist of four AMS radiocarbon dates sponsored by the <u>14CHRONO Centre</u> of Queen's University Belfast and an additional IQUA grant designed to fund a further two radiocarbon dates, but which can alternatively cover other dating methods or laboratory fees (e.g. for DNA or isotope analyses).

The **winners for 2013** were announced at the IQUA Symposium on November 29th, 2013, and were as follows: **Michael Philcox** of Trinity College Dublin and **Karen Molloy** of the National University of Ireland, Galway, were each awarded 2 dates. **Steve Davis** and **Graeme Warren** of University College Dublin were awarded 1 date, and **Anthony Beese** of Carraigex Ltd was awarded 1 date. Congratulations to the winners.

IQUA also proudly organises the **Bill Watts 14CHRONO Awards**, named in memory of W. A. Watts, a founding member of IQUA who passed away in 2010. The Awards are generously supported by the <u>14CHRONO Centre</u> at Queen's University Belfast. The Awards pay for six AMS radiocarbon dates for current postgraduate members of IQUA.Winners of the Awards are asked to present their research and the use of their awarded AMS¹⁴C dates at the Spring Meeting and to include their abstract in the IQUA Newsletter.

Winners of the 2013 Bill Watts 14CHRONO Awards were Seamus McGinley of the National University of Ireland, Galway and Alwynne McGeever of Trinity College Dublin, each awarded three dates.

Erratum

The editor of the newsletter wishes to apologise for a mistake on the first page of the 51 edition of the IQUA newsletter. Michelle McKeown won the prize for best student presentation at the 2013 spring symposium in UCG, not Karen Taylor. Michelle gave a fantastic presentation and the prize was well deserved.

8. Quaternary News

Possible bid for the 2019 INQUA Congress





INQUA in 2015 is to be held in Nagoya in Japan and after some consideration **IQUA has decided to plan for a bid for the 2019 INQUA Congress to be held in Ireland** with the main conference centre being Dublin and with associated field meetings etc. to the island of Ireland. To this end I have had a meeting with the Convention Centre Dublin (CCD) and they are arranging a draft prospectus, business plan and contact with conference management companies.

The CCD has looked into bids for Reno, Bern, and Nagoya and is confident that Dublin can host INQUA.

An expression of interest has to be made by IQUA before this July and our full bid presented in Nagoya in July 2015.

http://www.inqua.org/inquaCongress.html

This is a preliminary message to IQUA members to gauge the level of interest in being actively involved – we will need to set up a Local Organising Committee (the bid is to be all-Ireland so interest from all Quaternarists on the island is welcome).

We will also need a Scientific Programme Committee (including a Chair), and other 'officeholders' as one can see by a quick look at the organisation for Bern 2011:

(http://www.inqua2011.ch/?a=organization&subnavi =committees)

Once we know the level of interest and engagement with the bid we can meet with the conference management people. If you'd like to give feedback and/or express a working interest please do get back to: pcoxon@tcd.ie

It would be essential to find reliable members of the LOC before making the bid at Nagoya. This would include individuals or teams to organize the fieldtrip events, mid-congress excursions and the scientific programme.

All the best - Pete Coxon, Fraser Mitchell and the IQUA Executive Committee

NEW IQUA FACEBOOK PAGE

Benjamin Thébaudeau has created a Facebook page for IQUA which aims to give news on the association and in particular its events, and pass on links of new articles, books and events relevant to the wider Irish Quaternary research community. We can also share links to events of other organisations. The page is now published and can be accessed either by searching for IQUA on Facebook or by using the following address directly:

http://www.facebook.com/IrishQuatAssociation

IQUA REPRESENTATIVE AT INQUA

We're delighted that Fraser Mitchell will be representing IQUA at INQUA. Many thanks on behalf of all of us.

9. Forthcoming workshops, seminars & conferences

Radiocarbon in the Environment Conference at Queen's University Belfast http://www.qub.ac.uk/sites/14C/

The inaugural Radiocarbon in the Environment Conference will take place from the 18th-22nd August 2014 at Queen's University Belfast. Radiocarbon can be used for much more than chronology. Natural abundance, bomb and enriched radiocarbon, often in combination with stable isotopes or other bigeochemical analyses, have been used to study a broad range of natural and anthropogenic processes in the environment. We hope to bring together colleagues from around the globe interested in the applications of these techniques to ecological and environmental research. The Conference sessions are organized around seven themes: Atmosphere, Terrestrial, Marine Freshwater, Environmental change. Techniques and Statistical methods. The Conference proceedings will be published in the journal Radiocarbon.

Abstract submission is now open and the deadline for abstract submission is 30 April. Please see our website for more details at: http://www.qub.ac.uk/sites/14C/

The organising committee (Paula Reimer, Evelyn Keaveney, Philippa Ascough and Jesper Olsen).

INQUA CONGRESS 2015

The next INQUA congress will be held in Nagoya in Japan. See <u>http://inqua2015.jp/</u> for details.

Challenges in Macroecology

Challenges in Macroecology – Scaling the Time Barrier (1st April 2014) in Natural History Museum, London <u>http://www.eventbrite.co.uk/e/challenges-in-</u> <u>macroecology-scaling-the-time-barrier-registration-</u> <u>9717367909</u>

Rathcroghan conference, Co. Roscommon rathcroghanconference.com

The conference is to be held on the 5th & 6th April

2014 and has a focus on community and citizen archaeology.

For more information and to book your place, check out <u>rathcroghanconference.com</u>.

*The Archaeology of Settlement

creating and inhabiting urban and rural spaces*

IAI Spring Conference 2014 Friday 4th & Saturday 5th April Absolute Hotel, Limerick http://www.iai.ie/index.php/news-a-events/iainews/222.html

Cattle in Ireland; Beef, Bulls, Butchers and Biodiversity Agricultural History Society of Ireland (AHSI) Summer Conference and Excursion 2014

Saturday and Sunday 14th & 15th June 2014 Venue: County Arms Hotel, Birr, Co. Offaly

See <u>www.ahsi.ie</u> for details of the lecture programme and excursion. Note: Formal registration takes place in the County Arms Hotel, 9.00–9.30am, 14 June 2014 Prior registration by email is required (ahsi.conf2014birr@gmail.com)

*The 150th anniversary of the naming of *Homo neanderthalensis* by William King*

As the sesquicentennial anniversary of King's remar kable achievement approaches in 2014, NUI Galway will mark the occasion with a special interna tional symposium dedicated to the distant prehistoric people he gave a name to and their origin in human evolution.

Date: Friday May 23rd to Sunday May 25th Venue: NUI Galway, Ireland <u>file:///C:/Users/Sean/Downloads/Neanderthal%2015</u> 0%20First%20circular.pdf

10. Recent Publications:

Ballantyne, C.K., Wilson, P., Schnabel, C. & Xu, S. 2013. Lateglacial rock slope failures in north-west Ireland: age, causes and implications. Journal of Quaternary Science 28, 789-802.

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