



Editor: Catherine Dalton

## 1. Introduction

Dear All,

Thankyou for all the contributions to the November 2004 IQUA newsletter. In this edition we are fortunate to have contributions from Steve McCarron describing the very successful field meeting to North Mayo in October; an outline of Ceridwen Edwards research into Human colonisation routes and the origin if Irish mammals at the Department of Genetics TCD; postgraduate research abstracts from Jenny Watson QUB, Elizabeth McNicholas UCD and Tony Brooks TCD; swell as the first IQUA postgraduate report from also from Tony Brooks.

Robin Edwards (TCD) has taken over management of the IQUA website – congratulations again to Robin for our new web look.

The annual IQUA Symposium is being held a little later this year on November 26<sup>th</sup> 2004. It is being organised by Michael Philcox and will take place as usual in the Geological Survey Dublin. The title of this years symposium is ***Atlantic Coastal and Offshore Quaternary: Deposits, Sea-level Changes and Archaeology***

Catherine Dalton

## 2. IQUA Fieldmeeting 2004



IQUA

Joint IQUA/IAH fieldtrip to North Mayo, Oct'04

The sweeping landscape of North Mayo formed a stunning sun-drenched backdrop for this year's IQUA Autumn fieldtrip, organised to very high standards by Fionnuala Collins (RPS Group) and colleagues from the Irish Association of Hydrologists (IAH). IQUA owes Fionnuala a huge vote of thanks and our relationship with such an excellent group of like-minded enthusiasts (for an understanding of our shared landscape and a bit of craic!) is one to be fostered.

The devastating Pollatomish landslides on September 19<sup>th</sup>, 2003, formed the basis for the collaborative trip. Picking such a theme proved a very successful formula in all aspects. Numbers on the trip exceeded 30, providing the wide spectrum of interests and opinions that makes such ventures thoroughly stimulating and enjoyable.

The trip comprised a morning-long hike along the scenic Carnhill/Barnacuille/Dooncarton ridge, with panoramic views in all directions over the stunning north Mayo cliff and bay studded coastline. It was on this ridge that spectacular mass-movements of blanket bog were visible in all shapes and forms at upwards of 40 locations. The shear ferocity of rainfall that must have precipitated the events was obvious (at >82mm in 24hrs, estimated as the one-in one hundred year event by MET Eireann), as well as the misguided peat extraction processes that seem to have at least destabilised some sections of the blanket peat cover. The survey of the landslides was led expertly (if unexpectedly) by Dr Alan Dykes from the University of Huddersfield with additional contributions of extensive and multi-faceted field expertise and knowledge of the area and subject matter from Paul Jennings (AGEC Consultants), Mike Gibbons and Pete Coxon to name a few.

After a welcome and well-orchestrated group lunch at the (highly recommended) Pollatomish Diving Centre, we proceeded on a coach tour of the fascinating archaeological riches of the headland under the leadership of the infamous Mike Gibbons of Walkwest Walking Holidays (<http://indigo.ie/~walkwest/cwc.html>) and his fellow expert. Their unsurpassable knowledge and storytelling skill impressed all their attentive listeners.

Following an excellent dinner at the Silver Sands hotel in Belmullet, the trip's base (again organised by Fionnuala p.s. great place – payment is voluntary) a night's yarning and craic ensued into the wee hours. Our thanks to the ever-patient hotel staff who had to endure copious lying about the number of legal residents (that if true would have resulted in a twice overfilled hotel). Still, it was a great idea to pester them for the bar to be reopened at God knows what hour of the morning (not).

So Sunday morning duly came very soon (much too soon) afterwards, and a visit to the proposed site of the Corrib onshore gas terminal, the contentious plans for which were well described by David Ball. We then moved on to the site of recent and ongoing investigation into glaciomarine sedimentation during the last deglacial period at Belderg Harbour. The site and its significance in terms of adding to the geochronology of ice sheet activity in Ireland, as elucidated over the last 20 years by Marshall McCabe (U.Ulster), was described by S. McCarron and P. Coxon. We await new dates from marine microfauna from Belderg and other local sites with great interest (McCabe and Clark(s) (Peter and Jorie, U. of Oregon) *in press*). The trip ended with a visit to the Ceide Fields and the superb interpretive centre at the site. Our deepest thanks go to all the staff there for making us so welcome and providing a personalised walking tour of the site (and demonstration of their ingenious 'remote sensing' techniques).

All in all, Pollatomish and North Mayo proved to be a very rewarding and successful trip. A warm note of thanks to all involved in organising everything (including the luxury of a private coach), and leading the individual site visits so well. The IQUA committee are pleased to envisage the prospect of future trips organised in conjunction with the IAH and hope the camaraderie between the two cognate organisations can continue to grow. We look forward to seeing our members at upcoming events and on the Connemara IQUA/QRA trip next Easter.

Steve McCarron

---

### 3. IQUA Spring Meeting & AGM

#### IQUA Executive Committee

Pete Coxon has been Chair of the IQUA Executive Committee for 3 years. Michael Philcox has been Treasurer for 1 year and Susan Hegarty has been Secretary for 3 years. At the moment, the Ordinary Members of the Executive Committee are Catherine Dalton, Steve McCarron, Mike Simms.

At the AGM in April 2004 Robin Edwards was proposed and accepted as a member onto the Executive committee.

It was also proposed that IQUA have a Postgraduate representative on the committee. Tony Brooks, of TCD Geography Department, was nominated and duly elected. Therefore, as of the end of the AGM, the IQUA committee was: Pete Coxon (Chair), Michael Philcox (Treasurer), Susan Hegarty (Secretary), Catherine Dalton, Steve McCarron, Mike Simms, Robin Edwards, Tony Brooks.

#### Insurance

IQUA has just 4 corporate members. Our insurance premium is now €225. Our insurance insures committee members against public liability. This means that committee members must be on fieldtrips, to insure that we are covered if anything happens. Those attending fieldtrips must be paid members of IQUA.

#### Membership

The current membership of IQUA stands at 134.

---

### 4. IQUA Autumn Symposium

IQUA Symposium, November, 2004

#### Atlantic Coastal and Offshore Quaternary: Deposits, Sea-level Changes and Archaeology

Date: Friday, November 26th, 2004, all day.  
Venue: Geological Survey, Beggars Bush, Dublin  
Organizer: Michael Philcox. Tel/fax 045-865 535.  
E-mail [mphilcox@tcd.ie](mailto:mphilcox@tcd.ie)

This year's IQUA symposium will concentrate on current work on the Quaternary of the Irish

Atlantic coast and offshore. Topics will include results from the National Seabed Survey, inshore bottom surveys in Clew Bay and elsewhere, and coring on the outer shelf. Evidence for post-glacial sea level changes will be presented, providing a background for new findings in coastal archaeology. Much of this work is in its early stages and the symposium will provide an opportunity to learn about what is currently going on in an increasingly important field of research.

If anyone would like to present a poster related to the symposium topic, please contact [mphilcox@tcd.ie](mailto:mphilcox@tcd.ie)

Up-dated information on the Symposium will be posted on the IQUA website:  
<http://www.tcd.ie/geography/IQUA/index.htm>

## 5. Upcoming Events



**15th Irish Environmental Researchers' Colloquium 28th - 30th of January, 2005**

<http://www.itsligo.ie/environ2005/>

Dear Colleague,

Welcome to Environ 2005, the 15th Environmental Researcher's Colloquium. We at IT, Sligo are delighted to host the colloquium once again and look forward to meeting you all here in January.

It is hard to believe that it is 15 years since the first colloquium. It is, without doubt, both the most important annual meeting of environmental scientists, and also the most sociable, so make sure that you block your diary now and book your stay in Sligo.

There will be many important topics to discuss and many useful contacts to be made, as well as an unparalleled opportunity to showcase work in progress or recently completed.

Looking forward to meeting you then,  
Kind regards,

John Bartlett  
Department of Environmental Science  
Institute of Technology Sligo

\*\*\*\*\*

## Joint IQUA/QRA Fieldmeeting to Western Ireland. 5-10<sup>th</sup> April 2005

### Provisional Programme

Optional Day: Monday April 4<sup>th</sup> - Newgrange  
or

Tour of glacial deltas at Blessington and around the Wicklow Mountains  
\*\*

Optional Day: Tuesday 5<sup>th</sup> April - Dublin.  
Dublin Natural History Museum, Trinity College  
Dublin (Book of Kells etc.)

Orientation reception in Galway (evening)  
\*\*

Wednesday April 6<sup>th</sup> - The Burren

Burren: karst landscape, landscape evolution,  
Late-glacial and Holocene vegetation and  
archaeology.  
\*\*

Thursday April 7<sup>th</sup> - Galway

Drumlins on the outskirts of Galway city, north to the limestone lowlands: karst landscapes and palaeolakes, turloughs, archaeology, Pliocene lignites, and landscape evolution.

Evening: QRA AGM  
\*\*

Friday April 8<sup>th</sup> - Connemara

Classic Connemara landscape. Landscape evolution, glacial history, nearshore marine sediments (cool water carbonates) and archaeology.  
\*\*

Saturday April 9<sup>th</sup> - Clew Bay/Killary Harbour

Clifden and mountain scenery; glacial marine (?) deltas at Letterfrack and Leenane. Castlebar and Clew Bay: drumlins, ice limits and moraines. Murrisk and Killary Harbour.  
\*\*

Sunday April 10<sup>th</sup> - Return Journey

**Downloadable circular and booking form available on**

[http://www.tcd.ie/Geography/IQUA/Meet/Met\\_Hme.htm](http://www.tcd.ie/Geography/IQUA/Meet/Met_Hme.htm)

## 4. Current Research



### **Human colonisation routes and the origins of Irish mammals**

Dr. Ceiridwen J. Edwards

Dr. Daniel G. Bradley

Department of Genetics Trinity College Dublin

Several influential studies have sought to determine the postglacial recolonisation of Europe from southern refugia. However, no concerted

effort has been put into establishing the modes of mammalian colonisation of Ireland. There are 22 terrestrial mammals in Ireland, and this fauna is unusual due to the particular combination of natural circumstances and human intervention that has led to their introduction or extinction. At the last glacial maximum there was an unglaciated area in southwest Ireland, which could have acted as a refugium for temperate species where a few species may putatively have survived the last cold spell (e.g. mountain hare). Others may have colonised Ireland naturally by sea (e.g. otter), while many were introduced or released by man, either deliberately (e.g. domesticates, red deer), or accidentally (e.g. wood mouse, rats). While current species distribution data cannot distinguish between the differing hypotheses for the colonisation of Ireland, genetic data from the same species in Ireland, Britain and elsewhere in Europe can be compared (a 'species-by-species' approach) to infer the original population sources. There are indications from some data that seafaring contacts with southern Europe may be a major theme in both wild and domestic animal introduction, perhaps reflecting patterns of human genetic affinity in Atlantean Europe. We will target both wild and domesticated animals. Modern DNA analyses will predominate, but ancient DNA techniques will be necessary to describe Irish phylogeography as many populations have been replaced by introductions within recent centuries.

Contact: Ceiridwen Edwards  
edwardc@tcd.ie

The grant was awarded under the Basic Research Grant, Science Foundation of Ireland (SFI) Programme 2004, in the section of Macro/Microbiology, and the award will be held from October 2004 to September 2007.

\*\*\*\*\*

**Robin Edwards**, Geology and Geography Departments (TCD) is currently working with Dr Ben Horton (University of Pennsylvania, USA) on a special publication for the Journal of Foraminiferal Research to be published in 2005. This will provide a synthesis of work using foraminifera and transfer functions as tools in sea-level reconstruction. The work includes material collected from Galway Bay.

Contact: [edwardsr@tcd.ie](mailto:edwardsr@tcd.ie)

\*\*\*\*\*

(In view of the upcoming IQUA Symposium below is a description of the Irish Seabed Survey - Ed.)

### Irish Seabed Survey



#### Overview and Objectives

The Irish National Seabed Survey (INSS) encompasses an area that is approximately ten times the size of Ireland's land area and represents one of the largest seabed mapping projects undertaken anywhere in the world. Maps that result from the INSS are a pre-requisite for the policy evolution, management and sustainable development of Ireland's marine resources.

The INSS is primarily about acquiring baseline information to promote and encourage research in marine science. Most of Ireland's seabed is unmapped and consequently represents a large untapped resource of potential benefit to many different sectors. In authorising this survey the government recognised that Ireland must maximise the commercial opportunities presented by its marine resources and plan measures to protect the marine environment in the most effective manner possible.

#### Background

The Marine Institute is involved directly in the mapping programme for Zone 2 of the Irish National Seabed Survey which extends from the 50 to 200 metre depth contour. The survey programme began in 2002 using the National Research Vessel 'Celtic Voyager' which is also employed in a range of other scientific surveys. In May 2003 the 'Celtic Explorer' with her additional capabilities and endurance, commenced work in the Zone 2 area and will be committed to the Sea Bed Survey until the end of 2005 in its current programme.

The data acquired by the survey is of primary geological importance. Multiyear sonar and other geophysical measurements used to map the seabed will be of value to an extensive user community. This baseline information will be of value to all those involved in the development of offshore resources including fisheries, aggregate extraction, oil and gas developments. The information will also be of significant value to mariners, offshore energy, telecommunications companies and the tourism and leisure industry.



It is important that this scientific information is considered for the sustainable management of the marine ecosystem. Understanding of the cold water coral reef ecosystem, which borders Ireland's continental shelf, has already been aided by survey work in Zone 3 (200-4500 metre contour) of this survey. This understanding will allow policy makers and developers to make informed decisions on managing this area in light of the fragile ecosystems which we now know to exist.

For more information see:

<http://www.gsiseabed.ie/>

<http://www.marine.ie/scientific+services/surveys/sea+bed/>

---

## 7. Postgraduate Research

**Jenny Watson** [j.watson@qub.ac.uk](mailto:j.watson@qub.ac.uk)  
**Palaeoecology Centre, Queen's University Belfast**

([http://www.qub.ac.uk/arcpal/postgrads/j\\_watson.htm](http://www.qub.ac.uk/arcpal/postgrads/j_watson.htm))

Jenny Watson's PhD topic is on reconstructing past climate change in Northern Europe during the Last Glacial-Interglacial Transition (LGIT; 15-10 ka BP). The temperature data will be derived from two different insect proxies: coleoptera and chironomids. The focus of the research is on testing the hypotheses of synchronous climate change in Northern Europe and on determining any differences in magnitude and response time between the two insect proxies. Two sites in Ireland will initially be investigated, with the possibility of extending the study to a site in Southern Sweden.

Quantified climate estimates will be obtained at each site from both proxies, which will be underpinned by high-precision, independently-derived radiocarbon and tephra chronologies. The results will be compared to previously published records from terrestrial sites, Greenland ice cores and marine records from the North Atlantic to ascertain which processes of the different spheres of the climate system are responsible for any temporal and spatial differences in responses. In addition the temperature data derived from the two insect proxies will be compared and contrasted to establish regularities and inconsistencies in the data. This will in turn give more insight into the reliability and accuracy of the temperatures derived from the two insect proxies. The project falls under the remit of <sup>14</sup>CHRONO, the Centre for Climate,

Environment and Chronology recently established at the school of Archaeology and Palaeoecology. <http://www.chrono.qub.ac.uk/>

Dr Nicki Whitehouse (QUB, Palaeoecology Centre) and Steve Brooks (Natural History Museum, London and UCL) are supervising this project.

\*\*\*\*\*

### **Glaciofluvial discharge regimes of the Pleistocene River Slaney Valley-retrodition and correlation with glaciomarine events.**

Elizabeth Mc Nicholas and Dr. Colman Gallagher

University College Dublin

Contact: [elizabeth.mcnicholas@ucd.ie](mailto:elizabeth.mcnicholas@ucd.ie)

The Slaney Valley and surrounding landscape reflect high glaciofluvial discharges regimes. Discrete process zones are reflected in distinct sets of landforms and correlated sediments within the valley. The process zones are indicative of dynamic ice margins and changing base levels, both isostatic and eustatic-during Oxygen Isotope Stage 2.

This research aims to identify and characterise these process zones using both sedimentological and topographic means, specifically identifying, firstly, glacial processes and sediment sources and, secondly, the transport of sediment through the Slaney system. The research is based on the observation, recording and analysis of glacial landforms and sediments. The landforms are to be used as surrogates in the interpretation and retrodition of palaeo-processes.

Aerial photograph interpretation and field data will provide the majority of data for the landform analysis, aided by maps, both geological and topographic, as well as satellite imagery. Numerous existing exposures will provide insight into the sediment, both in the identification of sources and spatial extent of the same within the system. Exposure data will include the petrography, texture, fabric and mineralogy of both matrix and clasts, and structural properties of the matrix. The combination of the two data sets should create a coherent spatial model of the relationships between forms, sediments and palaeo-processes in the Slaney Valley.

Another important element of the research is the investigation of the spatial distribution of local

base levels. OSI Digital Terrain Models (DTMs) will be the primary tool used in understanding the spatial extent of the longitudinal profiles of the Slaney and its major tributaries with specific attention given to the locations of former ice margins and proglacial lake basins.

Using a roving GPS, glaciofluvial terraces along the river will be mapped. These terraces will be systematically matched cross valley and down stream thus generating a long profile with relevant cross sections. A hydrologically relevant longitudinal profile will be estimated by plotting the thalweg depth from representative cross-sections in each process reach. Key palaeochannel hydraulic and geometrical variables will be measured and used, along with sedimentology, to retrodict key elements of the palaeodischarge regime of the glaciofluvial Slaney.

\*\*\*\*\*

#### Late Devensian/Holocene Sea-Level Change and Glacio-Isostatic Adjustment (GIA) in Ireland

Anthony Brooks [abrooks@tcd.ie](mailto:abrooks@tcd.ie)

Changes in the level of the sea with respect to the land surface manifest from the interplay of a variety of interrelated environmental factors operating over varying spatial and temporal scales. The combined effects of these variables determine relative sea-level (RSL) trends which may be preserved in the geological record (McCabe, 1997). As such, RSL data can be employed directly or otherwise to further our understanding of Quaternary environmental processes including glacial eustacy, glacial isostasy, ice sheet dynamics, de-glaciation histories, palaeo climate, and changing palaeo geographies (Long, 2003). Consideration of both the geomorphological and sedimentary records bears testimony to the fact that Ireland has experienced repeated episodes of glaciation in the recent geological past and this build up and wastage of Quaternary ice sheets has resulted in major changes in shoreline positions over the shelf seas surrounding the coast (Devoy & Smith, 2002). At the Last Glacial Maximum (LGM), the Irish landmass was located on the periphery of the British and Irish Ice Sheet (BIIS). Regional variation in ice extent and thickness induced temporally and spatially different patterns of land surface deformation in response to loading and unloading of ice. These differences in 'glacio-isostatic adjustment' (GIA), superimposed upon a general eustatic rise in sea-level generated by global melt-water input since the LGM, resulted in diverse patterns of RSL change around the Irish coastline. Quantifying these regional patterns is an essential pre-requisite to understanding the nature of coastal

evolution and must lie at the heart of management issues that consider the path of future change.

A corpus of qualitative data regarding RSL change is available from a range of locations around the Irish coast, and has permitted generalised patterns of GIA to be inferred (e.g. Lambeck, 1996). However, these data are disparate in nature, collected by a range of individuals employing differing methodologies and commonly the product of research not specifically engaged in the reconstruction of RSL change. As a consequence, they commonly lack the accuracy and precision required to produce unequivocal patterns of change, and resultant inferences about GIA are correspondingly open to debate. Fieldwork associated with this PhD will involve the collection of new, high-resolution RSL data at critical locations and time periods from sites situated around the coast of Ireland. Sea-level data will be collected in the form of sea-level index points (SLIs); in brief, a SLI possesses information on location, altitude, age, indicative meaning and where appropriate, sea-level tendency (indicating a change in marine influence.) This research will also employ recent advances in quantitative palaeoenvironmental reconstruction that utilise distributions of salt-marsh foraminifera to produce high-precision SLIs (Horton *et al.* 1999). In turn, these SLIs (in concert with screened data which has already been published), will be utilised to develop and validate a new geophysical model capable of predicting RSL change in Ireland since the LGM. This model will be based on the same tenets as those employed in the glacial rebound modelling attempts of Peltier *et al.*, (2002); Shennan *et al.*, (2002) which have shown excellent agreement with the sizeable, high quality SLI dataset from the UK.

#### References

- Devoy, R.J.N. and Smith, D. 2002. Late Glacial and Holocene relative sea level change in southwest Ireland. *In* S. Harrison and T.M. Mighall (eds), *The Quaternary of South West Ireland: Field Guide* pp. 15-16. Quaternary Research Association, London.
- Horton, B.P., Edwards, R.J., and Lloyd, J.M. 1999. UK intertidal foraminiferal distributions: implications for sea level studies *Marine Micropaleontology* 36 205-223.
- Lambeck, K. 1996. Glaciation and sea level change for Ireland and the Irish Sea since Late Devensian/Midlandian time. *Journal of the Geological Society, London* 153, 853-872.
- Long, A.J. 2003. The coastal strip: sea-level change, coastal evolution and land-ocean correlation. *Progress in Physical Geography*, 27(3), 423-434.

McCabe, A.M. 1997. Geological constraints on geophysical models of RSL change during deglaciation of the West Irish Sea Basin. *Journal of the Geological Society, London* 154, 601-604.

Peltier, W.R., Shennan, I., Drummond, R., and Horton, B.P. 2002. Global to local scale parameters determining relative sea-level changes and the post-glacial isostatic adjustment of Great Britain. *Quaternary Science Reviews*, 21, 397-408.

Shennan, I., Peltier, W. R., Drummond, R. & Horton, B. P., 2002. Global to local scale parameters determining relative sea-level changes and the post-glacial isostatic adjustment of Great Britain. *Quaternary Science Reviews*, 21, 397-408.

(Quaternary Conference Fund, New Research Workers' Awards, Postgraduate Quaternary Research Association Meetings Awards, The Bill Bishop Award) are also open to post graduate students. These range from 75 to 500 euros although all applicants are required to be members of the association. Further information can be found at <http://qra.org.uk/awards.htm#pg>.

**Anthony Brooks** (IQUA Post graduate representative)  
Contact: [abrooks@tcd.ie](mailto:abrooks@tcd.ie)

*Links to UK based Quaternary Research Associations*

<http://qra.org.uk/> Quaternary Research Association  
<http://www.bgrg.org/> British Geomorphological Research Group  
<http://www.geography.dur.ac.uk/research/groups/quaternary/> Durham Quaternary Environmental Change Research Group  
<http://www.gjgr.group.cam.ac.uk/> Godwin Institute of Quaternary Research

## 8. Postgraduate Notice

### Postgraduate Representative Report

At the spring IQUA symposium (2004) the committee voted in favour of appointing a postgraduate representative in order to guarantee coordination with the many post graduates currently researching in Quaternary related topics at Irish Universities. It was decided this was a necessary step in both helping to ensure strong attendances at future IQUA gatherings and perhaps even more importantly, for the long-term survival of the organization itself. To date, this new role has largely involved creating a database of all postgraduate students working in the field of Quaternary studies and making sure details of upcoming events are transmitted to them via email.

As well as encouraging an increase in post graduate involvement into the biannual symposiums, it is also hoped that through greater coordination with the post graduate community, it will be possible to promote a larger turn out on the various field excursions which take place throughout the year. These are important events, which offer a unique opportunity for young researchers to draw upon the expertise of the association's members in their various fields of interest. Furthermore, the field trips offer a first hand learning experience, which cannot easily be recreated through the symposium-based lectures.

For many post graduates, the cost of attending conferences or undertaking field-based exercises may be prohibitive. However, there are several sources of funding for such activities, perhaps most notably via the Quaternary Research Association (QRA). The QRA provide a number of funding opportunities for postgraduate members. In addition to contributing towards fieldwork and conferences, there is also now funding for radiocarbon dates. A new research grant, the QRA-RLAHA Luminescence Dating Award, is now available to PhD students only, whilst existing awards

## 9. Recent Publications

**Edwards R.J., van de Plassche O., Gehrels W.R., Wright A.J.** 2004 Assessing Sea-Level Data From Connecticut, USA, Using A Foraminiferal Transfer Function For Tide Level. *Marine Micropaleontology* 51 239-255.

**Edwards R.J., Wright A.J., van de Plassche O.** 2004 Surface distributions of salt-marsh foraminiferal from Connecticut, USA: Modern Analogues for high resolution sea-level studies. *Marine Micropaleontology* 51 1-21.

**Edwards R.J.** 2004 Constructing chronologies of sea-level change from salt-marsh sediments In: Buck C.E., Millard A.R. (eds.) *Tools for Constructing Chronologies: Crossing Disciplinary Boundaries*. Springer Verlag (London) Ltd. pp 191-213.

**Knight, J.** 2004. Sedimentary evidence for the formation mechanism of the Armoy moraine and Late Devensian glacial events in the north of Ireland. *Geological Journal*, 39 (3-4), 403-417.

**Knight, J., Coxon, P., McCabe, A.M. and McCarron, S.G.** 2004. Pleistocene glaciations in Ireland. In: Ehlers, J. and Gibbard, P.L. (eds) *Quaternary Glaciations - Extent and Chronology: Part 1: Europe*. Elsevier, Amsterdam, 183-191.

**Knight, J.** 2004. The Ice Age inheritance of the Irish landscape. In: Parkes, M.A. (ed) Natural and Cultural Landscapes – the Geological Foundation. Proceedings of a Conference 9-11 September 2002, Dublin Castle, Ireland. Royal Irish Academy, Dublin, 29-32.

**Knight, J.** 2004. Late Devensian tidally-influenced glaciomarine sedimentation in western Ireland. In: Bartholdy, J. and Pedersen, J.B.T. (eds) Tidalites 2004, 6th International Conference on Tidal Sedimentology. Institute of Geography, University of Copenhagen, 105-108.

**Plunkett, G.M.;** Whitehouse, N.J.; Hall, V.A.; Brown, D.M. & Baillie, M.G.L. 2004. Diatomite formation marked by Hekla 4 tephra in NE Ireland lake catchment. *Journal of Quaternary Science* 19 (1), 3-7.

**Vaughan, A.P.M.,** Dowling, L.A., Mitchell, F.J.G., Lauritzen, S-E., McCabe, A.M. and Coxon, P. 2004. Depositional and post-depositional history of warm stage deposits at Knocknacran, Co.Monaghan, Ireland: implications for preservation of Irish last interglacial deposits. *Journal of Quaternary Science*. **19 (6)**, 577-590.

**Whitehouse, N.J.** in press, 2005. The Holocene British and Irish ancient woodland fossil beetle fauna: implications for woodland history, biodiversity and faunal colonisation. *Quaternary Science Reviews*

**Whitehouse, N.J.** and Smith, D.N. 2004. "Islands" in Holocene forests: implications for forest openness, landscape clearance and "culture-steppe" species. *Environmental Archaeology* 9(2), 203-212.

**Wilson, P.** 2004. Relict rock glaciers, slope failure deposits, or polygenetic features? A re-assessment of some Donegal debris landforms. *Irish Geography* 37, 77-87.

---

## 10. News items

### Thankyou

Thanks to an IQUA field meeting ten years ago under the expert and amiable leadership of Pete Coxon and subsequent help from Michael O'Connell, Bob Quinn was able to further develop his bog and bog-oak-based theory of the antiquity and pre-celtic origins of the Irish language. His speculations are now supported by the researches

of two celtic linguists, Dr. Orin Gensler and Dr. Theo Vennemann and by the mitochondrial findings of geneticist Dr. Bryan Sykes, Oxford as well as a report by a team from Trinity, Leeds and Cambridge Colleges in the *American Journal of Genetics*, Oct. '04. Quinn's conclusions will be included in the forthcoming 2nd edition of his **Atlantean Irish: the Oriental & Maritime Heritage** whose publication (by Lilliput Press, Dec. 2004) is supported by the National Heritage Council. The book will have an introduction by Dr. Barry Cunliffe, Oxford.

\*\*\*\*\*

### Reissue of Book

"Folding and Fracturing of Rocks," by John G. Ramsay. ISBN 1-930665-89-X, paperback, 568 pages.

Folding and Fracturing of Rocks, by John G. Ramsay was one of the first major publications to develop the basic theory of stress and strain in mathematical terms for geologists and to explain how this theory could be used to solve practical problems in structural geology and tectonics.

For more information see:

<http://www.blackburnpress.com/foandfrofro.html>

\*\*\*\*\*

### ICS-INQUA joint task force on the Quaternary

*(Most of you will have received the email below already – it is include here for IQUA members who do not have email - Ed)*

#### Rationale

For over a century, the status and stratigraphic position of the Quaternary have been debated. Authoritative papers on the history of Quaternary, and its recommended stratigraphic definition and status include Berggren (1998), Lourens et al. (2004), Ogg (2004), and Pillans (2004). The INQUA Executive, through consultation with the Quaternary community in 2004, has found widespread support for defining the Quaternary as a chronostratigraphic unit with a base at 2.6 Ma. As a consequence, ICS and INQUA consider it timely to decide on the stratigraphic meaning of the Quaternary, so that it can be unequivocally placed in the standard global time scale. John Clague, President of INQUA, Felix Gradstein, Chair of ICS, assisted by outgoing IUGS President Ed de Mulder, have agreed that a task force be struck that will make a recommendation to ICS on the definition of the Quaternary in 2005.



**Task force**

The task force on the Quaternary will comprise members of INQUA and ICS, and will be charged with the single task of defining the Quaternary in a stratigraphic sense. It will formulate a single proposal that will be discussed at the Second ICS Workshop on the Future of Stratigraphy in September 2005 in Leuven, Belgium. This workshop will be attended by the chairs of all Subcommissions of ICS, and the President of the INQUA Commission on Stratigraphy and Geochronology. If the task force recommends definition in a formal chronostratigraphic sense, its proposal will go through the standard ICS consultation, voting, and ratification procedures.

The task force will consist of 8 members and will receive advice and input from its wider constituency.

The members of the task force are:

- Chair: James Gehling, Australia
- Vice-Chair: Brad Pillans, Australia
- Secretary: James Ogg, USA
- Two members of INQUA Commission on Stratigraphy and Geochronology, appointed by the executive of INQUA
- Three members of ICS Subcommission on Quaternary Stratigraphy, appointed by the executive of ICS

Felix Gradstein and John Clague

**References**

Berggen, 1989. The Cenozoic Era: Lyellian (chrono) stratigraphy and nomenclatural reform at the millennium. In: Blundell, D.J. & Scott, A.C. (eds) Lyell: the past is the key to the Present. Geological Society, London, Special Publication 143, 11-132.

Lourens, L., F. Hilgen, N.J. Shackleton, J. Laskar and D. Wilson, 2004. The Neogene Period. In: Gradstein, Ogg and Smith, 2004. Geologic Time Scale 2004. Cambridge University Press.

Ogg, J., 2004. Introduction to concepts and proposed standardization of the term Quaternary. Episodes 27 (2), 125-126.

Pillans, B., 2004. Proposal to redefine the Quaternary. Episodes 27 (2), 127.

**11. Forthcoming Conferences & Workshops**

**American Geophysical Union (AGU)** San Francisco 13 - 17 December, 2004  
<http://www.agu.org/meetings/fm04/>

**International Conference on Periglacial Geomorphology** 22 - 25 January 2005. Clermont-Ferrand, France  
[http://www.pages.unibe.ch/calendar/2005/clermont\\_fer\\_rand.html](http://www.pages.unibe.ch/calendar/2005/clermont_fer_rand.html)

**15th Irish Environmental Researchers Colloquium,**  
 28th - 30th of January, 2005, Institute of Technology Sligo  
<http://www.itsligo.ie/environ2005/>

**Drylands: linking landscape processes to sedimentary environments** (Joint BGRG/BSRG Conference) 2-4 February 2005, Geological Society, Burlington House, London  
<http://www.bton.ac.uk/environment/drylands/>

Irish Plant Scientists' Association Meeting 2005 (IPSAM2005) (incl. Session on Plants and Global Change) 30 March -1 April, 2005 University College Dublin  
[www.ucd.ie/botany/ipsam2005.htm](http://www.ucd.ie/botany/ipsam2005.htm)

**International Workshop on Sub-aerially Exposed Continental Shelves Since the Middle Pleistocene Climatic Transition** 9-13 May 2005 Hong Kong  
[www.hku.hk/earthsci/other/des\\_fram.htm](http://www.hku.hk/earthsci/other/des_fram.htm) by

**Rapid landscape change and human response in the arctic.** June 15-17, 2005, Whitehorse, Yukon, Canada  
<http://www.taiga.net/c-ciarn-north/yukon.html>

**Paleoclimate, Environmental Sustainability and Our Future.** PAGES (Past Global Changes) 2nd Open Science Meeting (OSM) Beijing, China 10-12 August 2005. [www.pages2005.org](http://www.pages2005.org)

**XVII INQUA Congress,** Cairns, Australia July 29 - August 6, 2007. For further information contact the Congress President Professor John Dodson: [johnd@geog.uwa.edu.au](mailto:johnd@geog.uwa.edu.au)

IAH/IQUA Field Meeting North Mayo, October 2004  
Picture: Pete Coxon



IQUA Sponsors

<a href="http://www.nhm.ac.uk/">http://www.nhm.ac.uk/</a>	<a href="http://www.roadstone.ie/">http://www.roadstone.ie/</a>	<a href="http://www.gsi.ie/">http://www.gsi.ie/</a>	<a href="http://www.epa.ie/">http://www.epa.ie/</a>
			