



# **Irish Quaternary Association (IQUA)**

## **Spring Meeting and AGM 2019**

**13 April 2019**

**Auditorium**

**National Botanic Garden**

***Programme and Abstracts***



14  
**CHRONO**



Queen's University Belfast  
**AMS Radiocarbon Dating**

*...over 45 years  
of experience...*

- ✓ *results: - typically less than 10 weeks  
- fast track available  
- accurate and precise\*  
-  $\delta^{13}\text{C}$  included (&  $\delta^{15}\text{N}$  for bones)*
- ✓ *small sample size*
- ✓ *full sample pretreatment (all types)*
- ✓ *expert sampling & calibration advice*
- ✓ *10% student discount*

*\* Check our website for VIRI results*

Contact us for current price and turnaround:  
[www.chrono.qub.ac.uk](http://www.chrono.qub.ac.uk) [chrono@qub.ac.uk](mailto:chrono@qub.ac.uk)

+44 (0)28 9097 3104

# Programme

**10:00-11:00: IQUA AGM**

11:00-11:30: Tea/Coffee break

**11:30-11:50: Michelle Curran** - *The Mid-Holocene climate transition in the Northeastern Atlantic: Implications for future storminess in the Ireland / UK region*

**11:50-12:10: Niamh Millward** - *The reconstruction of submerged Irish archaeological landscapes through the study of coastal peat deposits*

**12:10-12:30: Sam Roberson** - *The Irish Quaternary Cycle: two weeks along the West coast of Ireland*

12:30-14:30: Lunch Break

**14:30-15:30: Quaternary Themed Tours of the Herbarium of the Botanic Garden** by Colin Kelleher (2 groups; 30 mins long)

15:30-18:00: Public Event (only for pre-registered attendants)

**15:30-16:00: Registration**

**16:00-16:10: Launch of the "Giants of the Quaternary Science" book and exhibition**

**16:10-18:00: Ireland and the Ice Age** - Prof Pete Coxon, Prof John Sweeney, Dr Bethan Davies, chaired by Lorna Siggins



The Irish Quaternary Association would like to invite you to a set of talks about the formation of the **Irish landscape** in the last 2.6 million years.

**Acclaimed Speakers**

- Prof Peter Coxon
- Prof John Sweeney
- Dr Bethan Davies
- Lorna Siggins (Chair)

**Free event** but registration is required on eventbrite. See [www.iqua.ie](http://www.iqua.ie) for details or follow the link below.



## Ireland & The Ice Age

Saturday 13<sup>th</sup> April 2019

4pm to 6pm

National Botanic Gardens, Glasnevin, Dublin 9

## **The Mid-Holocene climate transition in the Northeastern Atlantic: Implications for future storminess in the Ireland / UK region**

*Curran, M., Rosenthal, Y., Wright, J. and Morley, A.*

School of Geography and Archaeology, NUI Galway

Email: [m.curran18@nuigalway.ie](mailto:m.curran18@nuigalway.ie)

### **Abstract**

There is increasing evidence that accelerated warming at high-latitudes is associated with increased climate variability at mid-latitudes, including the frequency and intensity of storms. However, due to short instrumental records our understanding of how ocean-atmosphere dynamics operate during warmer than present climates remains limited. Here we present a palaeoceanographic investigation of the mid-to-late Holocene transition (7,500 years) to test the hypothesis of an eastward shift of the Icelandic Low under warmer than present climate scenarios. Reconstructions of bottom water temperatures (BWT) and stable oxygen isotopes (Mg/Ca,  $\delta^{18}\text{O}$ ) using the benthic foraminifera *Hyalinea balthica* (*H. balthica*) reveal warmer than present BWT of up to  $2.6 \pm 0.7^\circ\text{C}$  and heavier  $\delta^{18}\text{O}$  sw values of up to  $0.5 \pm 0.3 \text{ ‰}$  on the Irish Continental shelf until circa 4.1 ka. We infer from these results that Atlantic waters were more prevalent in the eastern edge of the SubPolar Gyre (SPG) and link this oceanographic signature to an eastward shift of the Icelandic Low. We then place our local record into an extra-regional context, using a combination of modern observations and existing palaeo-records, which enables us to assess the impact of changing atmospheric modes on ocean-atmosphere climate linkages within the North Atlantic Region. The enhanced influence of warm Atlantic waters recirculating along the boundaries of the SPG under this scenario, would potentially have enhanced melt rates of marine-terminating glaciers on the east Greenland Shelf.

## **The reconstruction of submerged Irish archaeological landscapes through the study of coastal peat deposits**

*Millward, N.*

School of Archaeology, University College Dublin

Email: [niamh.millward@ucdconnect.ie](mailto:niamh.millward@ucdconnect.ie)

### **Abstract**

Coastal peat deposits are a recognised source of well-preserved organic biological remains that can be used to reconstruct past landscapes and environmental conditions. This project seeks to survey coastal peat deposits at specific sites along the West, North-West and South-West coast of Ireland. The material that will be studied in this project includes insect remains and pollen. This project will focus on the prehistoric period in Ireland and will attempt to better understand human activity and the human relationship with coastal woodlands during prehistory. This project also hopes to preserve the information locked within coastal peat deposits, as changes in climate have led to an increase in erosion of these types of environments.

## The Irish Quaternary Cycle: two weeks along the West coast of Ireland

*Roberson, S.*

Geological Survey of Northern Ireland, Belfast

Email: [samrob@bgs.ac.uk](mailto:samrob@bgs.ac.uk)

### Abstract

The Irish Quaternary Cycle is a journey through Ireland's geological landscapes formed over the past 2.6 million years. This paper will present the 1000 km journey across Ireland, exploring the glaciated landscape and talking about how this legacy affects us today. The talk will describe the motivations for the journey as part of IQUA's celebration of all things Quaternary in the run up to the 2019 INQUA Congress in Dublin.



INQUA 2019  
DUBLIN  
IRELAND  
25th - 31st July 2019