Hybrid lecture on Tuesday 11th February 2025

Unravelling complexities in the deglaciation of northeast Ireland: A high-resolution multiproxy approach

Presented by

Alex Clark BSc MSc

Date: Tuesday 11th February 2025
Venue: 'Beldam Room', Eastern Gateway Building, Brunel University,
off Kingston Lane, Uxbridge
Post code: UB8 3PN

Venue opens and refreshments from 6.30pm. Lecture starts at 7pm

Alex is currently a final year PhD student based at the Centre for Quaternary Research, Royal Holloway, University of London and the British Geological Survey (BGS), due to submit his thesis in September 2025.

Alex has always loved studying geography and trying to unravel mysteries of the past, leading him to now specialise in researching the climates and environments of the most recent geological period, the Quaternary (the last 2.6 million years).

During his BSc Geography and MSc Quaternary Science degrees, Alex especially enjoyed learning about ancient ice sheets and volcanoes (a far cry from his upbringing in Sussex), which form a big part of his PhD researching past ice sheet behaviour over Ireland with its important implications for the last Devensian British-Irish Ice Sheet.

Abstract

The last British-Irish Ice Sheet existed approximately 32,000-16,000 years ago (late Devensian), mantling much of Britain and all of Ireland, reaching as far west as the European continental shelf edge. A complex interwoven combination of drivers influenced the eventual decay of this highly dynamic ice sheet against a backdrop of fluctuating climatic conditions. Studying these drivers at centennial to millennial scales allows us to understand the potential trajectories of future ice sheet loss over Greenland and Antarctica, beyond the scope of relatively short-term modern observations.

Cannons Lough sedimentary basin

Glacially-transported boulder at Fair Head, Co. Antrim

State-of-the-art palaeo-ice sheet models have improved our understanding of broad scale dynamics of British-Irish Ice Sheet retreat from its maximum extent. However, the timing and nature of ice sheet retreat as it approaches its complete demise during a period of abrupt, high-magnitude climate change around 18,000-15,000 years ago is less well constrained. The northeast of Ireland, which lay at the centre of the last British-Irish Ice Sheet, provides an excellent opportunity to investigate ice-climate dynamics in this later stage of deglaciation, offering insights into how smaller ice centres break up and react to both dynamic and climatic drivers.

Sediments exposed in a coastal cliff section at Runkerry, Causeway coast

In this talk, Alex will discuss his research examining palaeo-ice sheet dynamics in this sector of the last British-Irish Ice Sheet and its wider implications. I will present results from a new glacial geomorphological map of northeast Ireland which reveals hitherto unexplored retreat dynamics of a splitting ice sheet. Moreover, he will discuss his Royal Holloway and BGS team's efforts to produce a novel multi-proxy chronological framework of ice retreat, including the first annual resolution glaciolacustrine varve chronology in Northern Ireland and a comprehensive cosmogenic nuclide dating campaign. Our results challenge the current paradigm of ice sheet decay over Ireland and Britain, and will be useful for improving on current ice sheet models.

Late Glacial sediments at Cannons Lough

Accessing the venue

The lecture is being held in the Bedlam Room on the ground floor of the Eastern Gateway Building that also houses the university's Main Reception.

Getting to Brunel University London (also see Campus map below)

BY BUS From Heathrow Central: A10 "Heathrow Fast", every 15 minutes, (alight Hillingdon Rd at 'The Greenway' and use footpath to campus). COWLEY ROAD From Stockley Park: A10 "Heathrow Fast" as above. From West Drayton railway station: U3 (alight Cleveland Road) U1 (alight Kingston Lane) 222 (alight Cowley Road and use path to campus). From Uxbridge (underground) station: U3 (alight Cleveland Road) U1, U4 and U7 (alight Kingston Lane) 222 and U5 (alight Cowley Road and use footpath to campus).

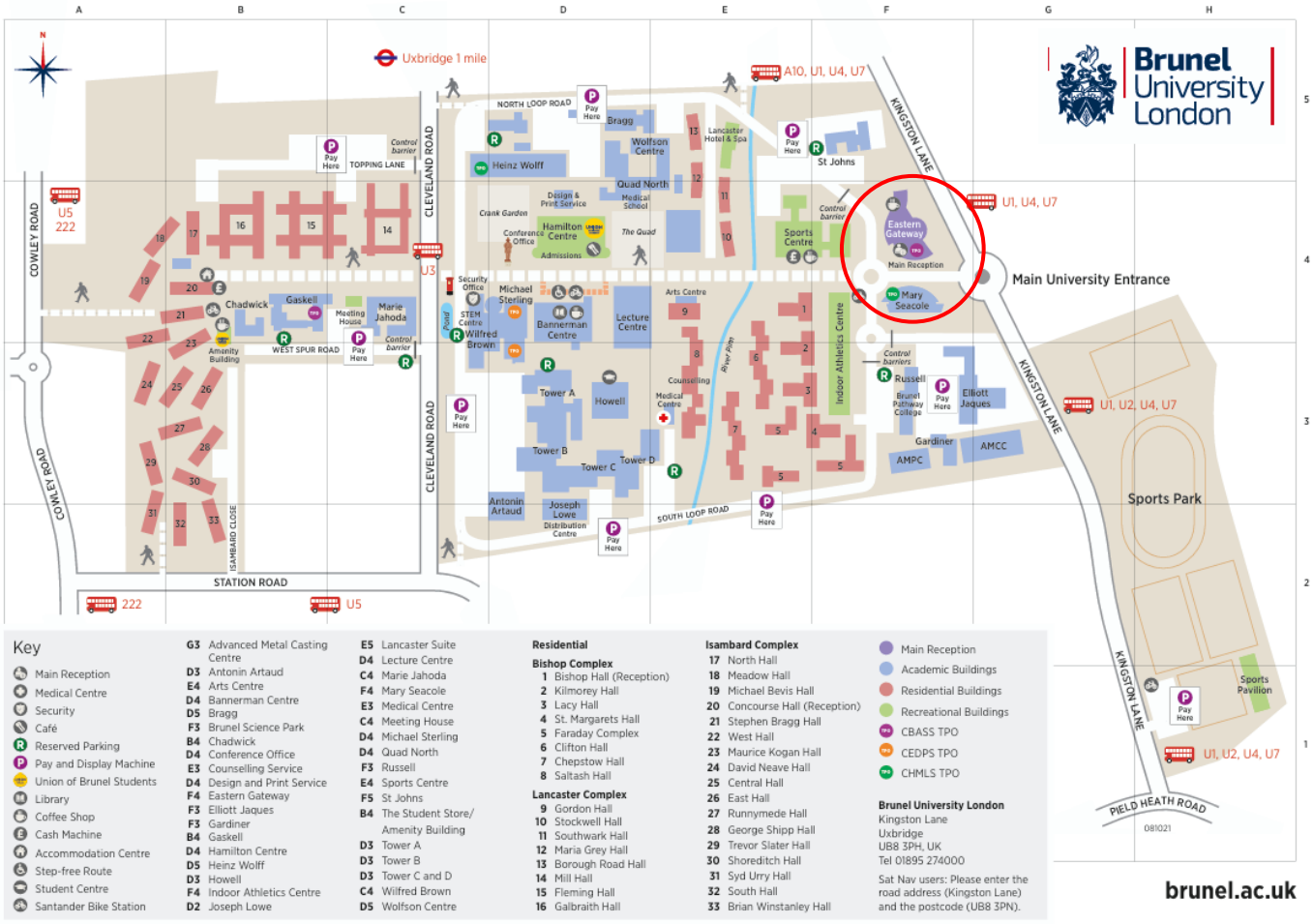
BY UNDERGROUND Uxbridge Station (Transport for London) take the Metropolitan Line from central London (and Piccadilly Line during peak hours). Then take a taxi, or bus U1, U3, U4 or U7. (Alternatively there is a 1 mile walking route.) BY RAIL West Drayton (First Great Western Link) is the nearest main-line station (approx 1.5 miles from the campus). Services from London Paddington or the West (Bristol). From West Drayton station take a bus towards Uxbridge: 222 (alight Cowley Road), U5 (alight Station Road), U3 (alight Cleveland Road) or U1 (alight Kingston Lane). West Ruislip Station (Chiltern Railways) is the main-line service from London Marylebone and the North (Aylesbury, Banbury and Birmingham) and is approximately 4 miles from the campus. From West Ruislip Station take the U1 bus towards West Drayton, alight Kingston Lane.

BY ROAD Entry by car is via Kingston Lane only. Sat Nav users: Please enter the road address (Kingston Lane) and the postcode (UB8 3PN). You will be directed to Kingston Lane, which is very close to our main entrance. From there, please follow the signs.

Parking on the Uxbridge Campus and in the local area is very restricted. Barriers control access to the site and all vehicles must display a valid permit. On arrival, pay-and-display parking is available. In addition, parking may also be pre-booked (restrictions apply).

Parking Charge Notices will be issued for illegally parked vehicles and vehicles not registered for a Brunel Virtual permit. If not registered for a Brunel Virtual permit all vehicles must use the Pay & Display.

VISITOR PARKING FOR DISABLED BLUE BADGE HOLDERS Accessible parking bays are available at various locations around campus. Please register for a virtual permit with the Main Reception in the Eastern Gateway Building and display your Blue Badge**.**



This event is free of charge, but registration is essential, priority will be given to Fellows and Student Fellows of the Geological Society who are members of the Home Counties North Regional Group. Fellows and Student Fellows of all other Geological Society Regional Groups, together with students from Brunel University, are welcome to register their places, also free of charge.

Please book your places, stating in-person or online attendance, on a first-come-first-served basis by e-mail to homecountiesnorthregionalgroup@gmail.com.
REGISTRATION TO ATTEND IN PERSON CLOSES AT MIDNIGHT ON SUNDAY 9TH FEBRUARY

For more information on the Home Counties North Regional Group visit the website
http://www.geolsoc.org.uk/hcnrg

CPD (Continuing Professional Development) hours – This Home Counties North Regional Group event qualifies for your CPD hours spent travelling to/from and attending the event. The content is intended to be suitable for early career through to experienced geologists and related professionals.

This event is supported by RSK, and Soil Consultants

Geological Society, Burlington House, Piccadilly, London, W1J OBG Tel: +44 (0)20 7434 9944 Fax: +44 (0)20 7439 8975 Email: enquiries@geolsoc.org.uk Web: www.geolsoc.org.uk

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