



## SECOND CIRCULAR

# The onset of the Great Ordovician Biodiversification Event

## International Geoscience Programme Project 653 - Opening Meeting

25 September - 1 October 2016  
Durham, UK

### Second circular

The second circular provides an update on the arrangements for the Opening Meeting of IGCP 653, which will be held at Van Mildert College, Durham University, UK, as outlined in our first circular.

A third circular, containing the full programme for the meeting will be circulated in September, but we ask that you regularly check the project webpages for programme updates and conference details:  
[www.igcp653.org](http://www.igcp653.org)

### Meeting Programme

26 May	Registration opens	
12 August	Abstract Submission Deadline	
25 September	Arrival Reception	Van Mildert College, Durham University <i>Fork Buffet and Refreshments</i>
26 September	Day 1	<b>What is the GOBE?</b> <i>Oral and poster presentations</i>
27 September	Day 2	<b>Geography and Oceanic Setting</b> <i>Oral and poster presentations</i>
28 September	Day 3	<b>Databases and Diversity</b> <i>Oral and poster presentations</i>
	Conference Dinner	Senate Suite, Durham Castle, Durham University (optional, to be booked separately)
29 - 30 September	Field Excursion	<b>Lake District</b> (optional, to be booked separately)
1 October	Return to Durham	



Van Mildert College



## Background

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The new project IGCP 653 has now been formally accepted by the IGCP Scientific Board.

IGCP 653 can be considered to be a direct successor project of IGCP No. 410 The Great Ordovician Biodiversification Event and IGCP No. 503 Ordovician Palaeogeography and Palaeoclimate and also to some extent IGCP No. 591 The Early to Middle Palaeozoic Revolution.

As the title indicates, the main objective of our new project is to find the triggers of the different biodiversification events that together constitute the GOBE.

Further information about the project is available at [www.igcp653.org](http://www.igcp653.org)

## Registration

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Registration will open on 26 May 2016. Bookings can be made for accommodation at Van Mildert College, Durham University, the Conference Dinner and Field Excursion using the dedicated webpages, which can be accessed at:

<https://www.dur.ac.uk/conference.booking/details/?id=625>

The costs of the meeting can be summarised as follows:

<b>Registration Fee</b> <i>including Opening Reception, Hot Fork Buffet (25 September), registration materials, abstract booklet, lunch (26-28 September) and Field Guide.</i>	<b>£125.00</b>
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<b>Conference Dinner</b> <i>Senate Suite, Durham Castle</i>	<b>£50.00</b>
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<b>Field Excursion</b> <i>Lake District (includes accommodation and transport)</i>	<b>£150.00</b>
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<b>Accommodation</b> <i>Van Mildert College, Durham University (including breakfast)</i>	<b>£37.50 per night</b>
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## Abstract Submissions

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The Abstract Guidelines are a PDF document, which can be downloaded from the dedicated booking pages or can be sought upon request to [igcp653@gmail.com](mailto:igcp653@gmail.com).

Abstracts should be submitted in the format outlined in the Abstract Guidelines (including one figure as a separate attachment, if necessary) and sent to [igcp653@gmail.com](mailto:igcp653@gmail.com), marking clearly whether this is an oral or poster presentation and who will present.

The deadline for abstract submission is 12 August 2016.

## Meeting Sessions

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The opening meeting of the new IGCP 653 project is intended to be a discussion-based forum, where we plan to debate and fine-tune the key objectives of the new project.

Talks and posters are invited to inform and illustrate the following three themes:

### Day 1- 26 September

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#### **What is the GOBE ?** (Convened by Thomas Servais and Alycia Stigall)

The 'Great Ordovician Biodiversification Event' (GOBE) comprises the rapid diversification of marine organisms during the Ordovician Period. It is now clear that this adaptive radiation had already commenced for some organisms in the late Cambrian and continued for others beyond the end of the Ordovician. The GOBE is thus the sum of a number of diversifications that completely modified marine food webs and that, for the first time in Earth history, established modern marine ecosystems.

*When and where did these biodiversifications occur, that, together comprise the GOBE ?*

### Day 2- 27 September

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#### **Geography and Oceanic Setting** (Convened by David Harper and Zhang Yuandong)

The new project focuses on interdisciplinary approaches, including case studies from global localities, involving specialists from the fields of palaeontology, sedimentology, stratigraphy, geochemistry, palaeo-oceanography and palaeoclimatology, in collaboration with the Subcommission on Ordovician Stratigraphy (SOS).

*How did palaeogeography and palaeoceanography shape the GOBE ?*

### Day 3 – 28 September

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#### **Databases and diversity** (Convened by Christian M.Ø. Rasmussen and Olga Obut)

The GOBE is the sum of the individual diversifications of the different fossil groups, that took place at different time intervals at different localities. Databases have been produced for different groups, but by different methods. Diversity can be measured by a range of techniques. Disparity measures too provide insights that help inform our understanding of the GOBE.

*What are the different methods used to measure diversity and to identify the GOBE in the fossil record?*

## Field Excursion - Lake District

During this short excursion we will visit some classic localities on the Avalonian Plate exposed in the north of England, amid some spectacular scenery, that has inspired many artists, poets and writers. We will stay for two nights in Penrith, the ancient capital of the Kingdom of Cumbria; until 1070 AD Cumbria was part of Scotland. On day one, driving directly from Durham, we will visit key localities in the Lake District, west of Penrith. The Skiddaw Group (Lower Ordovician) forms a mountainous zone in the northern part of the Lakes, with Skiddaw itself reaching a height of over 900 m.

We will visit some fossiliferous localities in the thick slate succession. This is overlain by the thick Borrowdale Volcanic Group (Upper Ordovician), dominated by ash flows and lavas generated during subduction and forming some of the most prominent mountains in the region, such as Scafell, Helvellyn and Conistone Old Man. The Upper Ordovician – Silurian Windermere Group contains a wide range of sedimentary rocks, including limestones, sandstones and shales, locally fossiliferous. We will overnight in Penrith.



*Lower Ordovician Skiddaw slates exposed on Skiddaw.*



*Upper Ashgill rocks exposed in Tathyes Gill with Cautley Craggs in the distance.*

On day two we will visit Ordovician localities in the Howgill Fells (Cautley district), east of Penrith where Ordovician rocks form an eastward extension of the Kendal anticlinorium, abutting against the Dent Fault zone. The classic succession, comprising part of the regional Dent Group (Cautley Mudstone Formation and Ashgill Shale Formation) is lithologically monotonous but richly fossiliferous. The type succession for the Ashgill Series is defined here even although the name is taken from Ashgill Beck in the Lake District. If time permits we will visit the village of Dent, birthplace of Adam Sedgwick. We will overnight again in Penrith before travelling early next morning for Durham City.

As outlined in the Registration section of this circular, the Field Excursion can be booked on the dedicated Booking System.

**If you intend to take part in the Field Excursion, please signal your interest as soon as possible, so that the necessary accommodation and transport arrangements can be made.**

Please note that the deadline for sign up to the Field Excursion is **17 June 2016**.

## Meals and Accommodation

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### Van Mildert College, Durham University

Accommodation is available for the Conference Days (25 Sept - 29 Sept) at Van Mildert College, Durham University. Accommodation can be booked on the dedicated webpages:

<https://www.dur.ac.uk/conference.booking/details/?id=625>

As part of your accommodation booking, breakfast will be provided in the Ann Dobson Hall, Van Mildert College, Durham University. This accommodation is normally used by student residents. If you prefer to stay outside of the College, there are a range of hotels available. However, if you are staying outside of this accommodation, breakfast will not be provided.

Lunch will be provided at Van Mildert College on each of the Conference Days (26 Sept - 28 Sept), which are covered as part of the registration fee.

The registration fee also includes a hot fork buffet on 25 September in the Ann Dobson Hall, Van Mildert College. All other evening meals are not provided, as delegates may wish to explore the many options available within the city.

On 28 September, there is an optional Conference Dinner in the Senate Suite, Durham Castle. Before the dinner, there will be an opportunity to explore Durham's magnificent Norman Cathedral and the Castle.

## Conference Dinner

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### Senate Suite, Durham Castle

The Conference Dinner (not included within the registration fee) will be held in the Senate Suite, Durham Castle and will cost £50 per person, which can be booked on the dedicated booking site.

The menu for the dinner is as follows:

#### Reception

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#### Starter

Corn fed chicken and shiitake terrine  
*with cep emulsion, pickled mushrooms and skin crisp*

Garden pea panna cotta (v)  
*with mint jelly, pickled baby vegetables and pea shoot salad*

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#### Main

Oven roasted sea bass  
*with thyme gnocchi, tender stem broccoli, toasted pine nuts and chive vinaigrette*

Parmesan and basil pan fried polenta (v)  
*with tomato fondue, goats cheese, asparagus, crispy hens egg and hollandaise sauce*

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#### Dessert

Rich dark chocolate mousse (v)



## Venue

### Van Mildert College, Durham University



The Opening Meeting will be held at Van Mildert College, Durham University.

Van Mildert College was founded in 1965 and is one of the largest of Durham University's Colleges, with ca. 525 residents and over 1300 members.

Situated around a Lake with open grounds, the College is situated approximately 15 minutes from the city centre on foot. The College is located close to the University's Science Site on the southern edge of the historic city.

### Durham City

Few venues in the world can rival the splendour, prestige and heritage of the City of Durham. Located on a dramatic peninsula overlooking the River Wear, Durham's unique Norman Cathedral and Castle not only dominate the skyline, they are also a designated World Heritage Site.

Durham is a small and compact city, and everything is within easy walking distance. Just minutes from the bustling centre, you can enjoy the tranquillity of leafy riverside footpaths along the banks of the River Wear, or the changing seasonal displays at the Botanic Garden. Palace Green Library, the Oriental Museum and World Heritage Site Visitor Centre hold fascinating collections of international significance, as well as offering key insights into local history.

Within a short distance of Durham, visitors can experience dynamic cities, an unforgettable stretch of coastline, and a wealth of historic and natural wonders. Moreover, the sights and sounds of Newcastle and Gateshead are only 15 minutes' train journey north of Durham.



## Travel Arrangements

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### BY AIR

#### NEWCASTLE AIRPORT

Newcastle airport is approximately 20 miles north of Durham. There are connecting flights from a number of European hubs including London Heathrow & Gatwick, Amsterdam, Paris and Brussels, and the airport is also served by a number of budget airlines. See [www.newcastleairport.com](http://www.newcastleairport.com) for full details.

The Metro is available from the airport to Newcastle Central Station. The journey takes approximately 20 minutes, and Metro trains run every 7 minutes.

**If you are arriving in the evening we recommend taking a taxi from the airport to avoid the risk of missing the last trains south (see taxi section).**

#### DURHAM TEES VALLEY

Durham Tees Valley is approximately 25 miles south of Durham. Although it has fewer flights than Newcastle, there are connecting flights with Amsterdam and other cities, and it is served by budget airlines. See [www.durhamteesvalleyairport.com](http://www.durhamteesvalleyairport.com) for further details.

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### BY TRAIN

60 InterCity trains from most major centres in the country call at Durham daily including 14 trains from London. The National Express high speed service takes under 3 hours from London King's Cross on the main East Coast line. First Transpennine Express offers frequent links to Manchester, Sheffield and Leeds, while Cross Country links Durham with Scotland, the Midlands and the South West.

For train times and fare information call National Rail Enquiries on 08457 48 49 50 or +44(0)20 7278 5240 from overseas (note international rates apply), or visit [www.nationalrail.co.uk](http://www.nationalrail.co.uk). The following website is also useful for checking train times [www.thetrainline.com](http://www.thetrainline.com).

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### BY PUBLIC TRANSPORT

There are several express coach services daily from most major cities. Durham is well served by both regional express services and the local bus network.

From the city bus station - a short walk from the railway station – take the Arriva No 6 Bishop Auckland service, which runs every 15 minutes past the Colleges on South Road. For more information visit:

<http://www.traveline.info/>

<http://www.durham.gov.uk/busmap>

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## BY CAR

Durham city centre is only two miles from the A1 (M). Leave the motorway at Junction 62 on the A690 Durham - Sunderland road and follow signs to Durham City Centre.

Durham City is served by three Park and Ride sites on the key routes into the city. These are situated at Belmont, Sniperley and Howlands. A direct bus service runs every 10 minutes to the city centre from each site. The sites offer free parking for users of the Park and Ride bus service and unlimited daily travel into the city centre and back for just £2.00 per person. Park and Ride users can also use the Cathedral Bus for free. There is no car parking available at the Van Mildert College site, although the nearest Park and Ride is two minutes on foot.

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## BY TAXI

Taxis are available from Newcastle and Durham Tees valley airports.

Airport Taxis is the official taxi service for Newcastle International Airport. To make a booking, or for further information, contact: Tel: +44 (0) 191 214 6969 Web: [www.airport-taxis.co.uk](http://www.airport-taxis.co.uk)

In Durham, taxis are available from the train station, on the opposite northbound side, accessible by a subway. The taxi journey to the Colleges takes 5–10 minutes.

## Enquiries

Enquiries regarding the conference programme and abstract submission should be sent to:

E: [igcp653@gmail.com](mailto:igcp653@gmail.com)

Enquiries regarding payment, accommodation or travel should be directed to:

E: [conferenceadministration.service@durham.ac.uk](mailto:conferenceadministration.service@durham.ac.uk) Tel: +44 (0) 191 334 3904

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## Scientific Committee

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