

International Geoscience Programme (IGCP)
International Subcommittee on the Ordovician System (ISOS)

Final Meeting of IGCP 653
« *The Onset of the Great Ordovician Biodiversification Event* »

10th – 20th September 2021
Lille (France)

The Ordovician of the World



Jalhay Formation, Tremadocian, Stavelot Massif, Belgium

1st Circular



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The International Geoscience Programme IGCP n°653 '*The onset of the Great Ordovician Biodiversification Event*' (2016-2020) started with an opening meeting at Durham, UK (2016), and ran for five years with annual meetings at Yichang, China (2017), Athens, OH, USA (2018), Novosibirsk, Russia (2019) and Copenhagen, Denmark (2020, online virtual closing meeting), and many other smaller meetings and field trips all around the world.

Due to the outbreak of the Covid-19 pandemic, almost all IGCP activities have been cancelled in 2020, and no on site meetings and field trips could be organized by the different UNESCO programmes. Therefore, the official closing meeting of IGCP 653 in 2020 in Copenhagen, Denmark, could only be retained as a virtual meeting (September 2020), and is currently rescheduled to take place in early 2021.

After five prolific years that have brought together researchers from all over the planet, focusing on the most significant marine radiation in the history of the Earth (the so-called 'GOBE') an absolutely final meeting of IGCP 653 is planned for Lille, France, during 2021, when the programme will be 'on extended term' (OET). The Lille meeting, scheduled for September 10th-20th, 2021, will serve as the absolutely final meeting of IGCP 653, and possibly as the opening meeting of a new IGCP project to be submitted at the end of 2020.

The 2021 Lille meeting serves also as a conference of the International Subcommittee on the Ordovician System (ISOS), between the official congresses of Novosibirsk, Russia, 2019 (13th International Symposium on the Ordovician System) and Tallinn, Estonia, 2023 (14th International Symposium on the Ordovician System).

We are happy to announce the main topic of the Lille 2021 meeting:

The Ordovician of the World



General Information

The International Geoscience Programme (at that time still labelled as an 'International Geological Correlation Programme' IGCP) n°410 ran from 1997 to 2001 (+ 2002 on extended term) under the title '*The Great Ordovician Biodiversification Event*.' The subsequent project IGCP n°503 (2004 to 2008 with an extension in 2009) 'Ordovician palaeogeography and palaeoclimate' attempted to pinpoint the origins of this major marine radiation. The different possible triggers of the biodiversification event have been discussed in a number of papers, leading to the subsequent project IGCP n° 653 '*The onset of the Great Ordovician Biodiversification Event*' that continued to document in greater detail the Ordovician radiation.

In the last few decades, this Ordovician radiation was considered by some authors to be a short 'event', that was caused by either an extrinsic (abiotic) or an intrinsic (biotic) trigger. It remains difficult, however, to find a single cause of the radiation, that appears very complex, both in terms of different palaeocontinents, and in terms of different biological clades. It became evident that the different palaeogeographical areas show biodiversification events at different times. Similarly, the different fossil groups also radiated at different moments during the Ordovician, with apparently planktonic groups showing a biodiversification prior to the benthic groups and the reef building organisms. More recently it also became evident that the different datasets show different scenarios. For example, while the Paleobiology Database (PBDB) indicates a more pronounced increase of diversity during the Middle Ordovician, the Geobiology Database (GBDB) clearly points at an 'onset' of the Ordovician Biodiversification already in the Cambrian. It is now obvious that none of the datasets used is complete. The information from some palaeogeographical areas is sometimes not included in the datasets, and, partly, or even not (yet) available. Large areas are simply not yet analysed or not yet included in the datasets and, therefore, in the biodiversification scenarios. The recent results, largely brought together in relation to the activities of IGCP n° 653 (2016-2020), indicate some potential future research questions : how can we fill the gaps in the datasets and how can we get a (more) complete picture of the Great Ordovician Biodiversification (or the Great Ordovician Biodiversification Event, that apparently was not an 'event' in the sense of a geological event) ?

The 2021 Lille meeting 'Ordovician of the World' attempts to start filling some of the gaps in the currently available datasets. In collaboration with the International Subcommission of the Ordovician System (ISOS), it is planned to provide the most complete picture of Ordovician data from all regions of the world, and for all fossil groups. Keynote speakers will be invited to present review papers of the Ordovician of several areas that have not been visited during the previous IGCP programmes related to the Ordovician. Several talks are already scheduled, focusing, for example, on the review of the Ordovician biodiversification of Antarctica, Australia and New Zealand, Iran and the Middle East, North Africa, Saudi Arabia, South America, and other regions.

In order to allow a complete view of the '**Ordovician of the World,**' we plan to organise the meeting partly 'virtual', with online presentations from colleagues who are not able to travel.



The new Lilliad buildings (Lille University Learning Center) on the Campus 'Cité Scientifique' at Villeneuve d'Ascq

The meeting starts with a **pre-conference fieldtrip to the Ordovician of Belgium** (Friday to Sunday, September 10th-12th) and a registration of participants and an ice-breaker reception on Monday, September 20th.

The **indoor sessions** with keynote talks and regular lectures (partly scheduled online) will take place in the new Congress Centre of Lille University 'Lilliad' on the Campus of the *Cité Scientifique* (Science Campus) at Villeneuve d'Ascq. They are scheduled from Tuesday, September 14th to Thursday, September 16th.

A **post-conference fieldtrip to Wales and the Welsh Borderland, UK**, is scheduled to take place from Thursday to Monday, September 16th-20th.

Social activities include the **icebreaker party** and reception on Monday September 13th, a **visit of the Natural History Museum Lille** scheduled at the end of the first day of the indoor sessions, and a **conference dinner** that will be organised on Wednesday, September 15th, at the Brewery Dubuisson, Tournai, Belgium, including a guided tour of the oldest family brewery of Wallonia (founded in 1769), near the type localities of the Tournaisian Stage (lowermost stage of the Mississippian, Lower Carboniferous) with a travel by coach to Belgium.



Natural History Museum Lille



Lille Grande Place with the 'Vieille Bourse'

Excursions

Pre-conference field excursion to the Ordovician of Belgium

A pre-conference field trip to selected Ordovician sequences will be organised before the indoor sessions. Lower Palaeozoic rocks of Belgium occur in the Brabant Massif, the Condroz Inlier, and in the different inliers of the Ardennes. All these areas were located in the eastern part of the microcontinent Avalonia, which moved from high to low latitudes during the Ordovician. All areas show different thick siliciclastic successions, with abundant turbiditic and pelagic sequences representing most Ordovician stages, and some fossil rich outcrops in the lower and upper parts of the Ordovician. The excursion will visit some of these areas with stops at classical Ordovician graptolite localities, but also famous localities of the Belgian Upper Palaeozoic (Tournai, Namur, Dinant, etc.).

Added to these are some tourist stops, such as at Waterloo (last battle of the Napoleonic Wars), and others.

Duration: 3 days, including two nights in Belgium

Estimated costs < 350 € (including travel, accomodation and food)



The famous Belgian *coticule* (whetstone) in outcrop in the Recht slate mine (Belgium)



Unconformity in the Onny River section, Caradoc, Shropshire, UK

Post-conference field excursion to the Ordovician of Wales and the Welsh Borderland, UK

A post-excursion field trip to the classical Ordovician sections of Wales and the Welsh Borderland, UK, is planned. After the excursion to some of the classic localities in northern England (English Lake District and North Pennines) during the 2016 meeting at Durham, the 2021 excursion will allow the participants to see some of the classic British localities that have long served as the reference sections for the Ordovician, such as Tremadoc, Arenig, Llanvirn, Llandeilo and Caradoc. The Caradoc type section in the Welsh Borderland will be visited in detail. Short stops will also be made in the Silurian of the area, including at Ludlow or Much Wenlock.

Duration: 5 days, including travel to the UK from France.

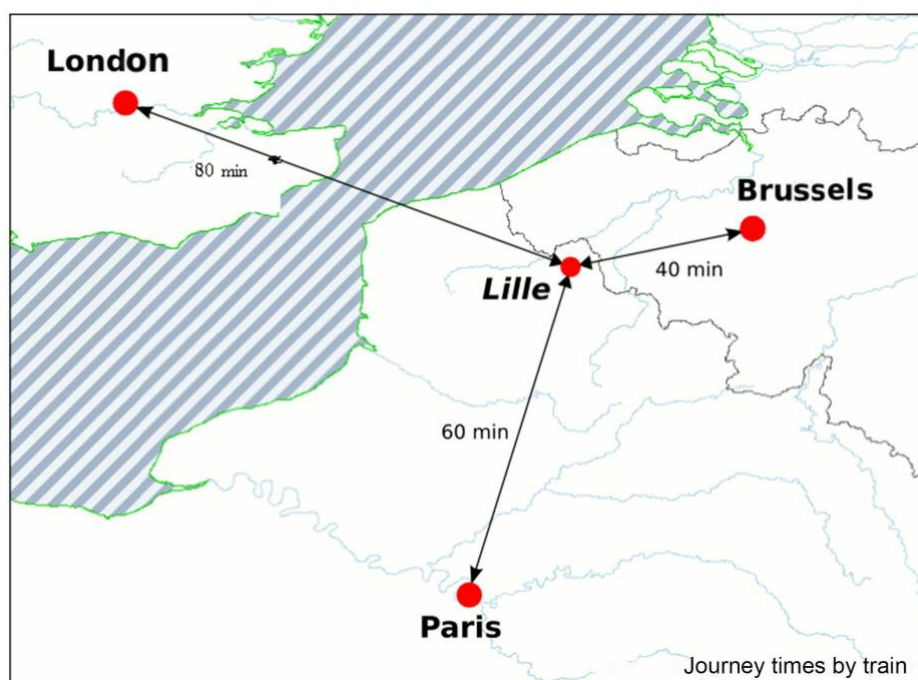
Estimated costs < 750 € (including travel, accomodation and food)

Getting to Lille

Lille University is one of the largest universities in France, with its science campus (*Cité Scientifique*), where the indoor sessions will take place, in the eastern part of the city, easily accessible by subway (12 to 15 minutes from the city centre).



Lille is located in the northernmost part of France, near the Belgian border. Although Lille has an international airport, it is probably most convenient to travel to one of the major international airports in Paris (France), Brussels (Belgium), or London (UK, especially for participants of the post-congress field trip). High speed train connections are abundant and very practical, with very short travel time to Lille. The train stations (Lille Europe for arrivals from Brussels, London and Paris ; Lille Flandres for arrivals from Paris) are in the city centre and directly connected to the subway (metro) lines. Hotels and restaurants are available in all price categories, mostly in walking distance from the metro and train stations.



Important Dates

August 2020:	1st Circular issued
January 2021:	2nd Circular issued
May 31st, 2021:	Abstract submission and registration deadline
July 2021:	Distribution of Final Circular
September 10 th -20 th	Conference

Estimated registration fees

The 'Ordovician of the World' meeting at Lille 2021 is planned to be a meeting in the spirit of the UNESCO, with registration costs limited, in particular for attendants from developing countries and students.

Registration costs for students will not exceed 100 Euros, those for regular participants should be below 200 Euros, including all receptions and lunches during the indoor sessions.

Support from IGCP and ISOS will be distributed primarily to attendants from developing countries and students. Such support is available for 2021. Please contact the organisers for details.

Conference publications

Abstract and excursion guide volumes will be distributed upon arrival and registration in Lille to all participants, and will also be available online.

A proceedings volume is planned to be published in one of the major international palaeontological journals. Further information will be available in the 2nd Circular.

In addition, a publication in the frame of a book series is planned to document the '*Ordovician of the World*' topic. Most papers will be invited (organised by the ISOS), but you are welcome to propose a chapter of the Ordovician of your region. Please, contact the organisers.

Scientific Committee

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Places to be visited



Lion's Mound, Waterloo Battlefield, Brabant, Belgium
Memorial of the last Napoleonic battle, June 16, 1815



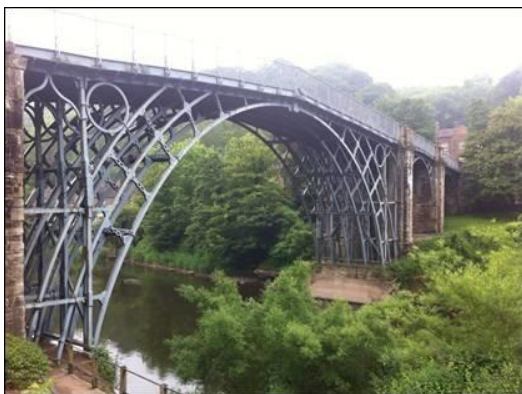
Villers-la-Ville Abbey, founded 1147, Brabant, Belgium
Constructed with Middle Ordovician 'quartzophyllades'



Citadel, Namur, Carboniferous, Belgium
Former type locality of the Namurian stage



Tremadoc Bay
Scenic view of the village in north-western Wales, UK



Ironbridge, Shropshire, UK
View of the bridge inaugurated in 1781



Ludlow Castle, Shropshire, UK
One of the first stone castles to be built in England, ca 1075