Annual Report* of IGCP Project No. 653

*NOTE: MAXIMUM LENGTH OF THE TEXT REPORT IS 5 (FIVE) PAGES (starting from question 1). SINGLE SPACE, 12 POINT FONT. REPORTS EXCEEDING THIS LENGTH WILL BE RETURNED TO THE AUTHOR(S) WITH THE REQUEST OF REDUCING THE TEXT TO THE ABOVE STANDARD.

A LIST OF PUBLICATIONS HAS TO BE ADDED AS AN ANNEX.

*REMINDER: IF THIS IS THE FINAL YEAR OF YOUR PROJECT, PLEASE SUBMIT A REVIEW ARTICLE ABOUT YOUR PROJECT TO THE IUGS JOURNAL ‘EPISODES’.

The scientific information in this report will further be used for publication on the IGCP website hosted at UNESCO (please feel free to attach any additional information you may consider relevant to the assessment of your project).

IGCP project short title: The onset of the Great Ordovician Biodiversification Event

Duration: 2016-2020

Please tick this box if the report is for a Project on extended term (OET): ☐

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Date of submission of report:
December 1st, 2016

Signature of project leader(s):

Thomas Servais
Guidelines for Annual Report

Please use the following headlines to report the present status and scientific achievements of your project (write N/A where not applicable) and explain abbreviations you use in your report.

1. Website address(es) related to the project

http://www.igcp653.org

2. Summary of major past achievements of the project

The IGCP project 653 started in this year, 2016. We were informed in March 2016 of the acceptance of the project. All achievements of the project cover thus the later part of the year 2016 only.

3. Achievements of the project this year only

3.1. General scientific achievements

(Meetings are not considered as scientific achievements, they should be listed under heading 3.3.)

The IGCP project 653 started in this year, 2016. The year thus served essentially to launch the programme, through different meetings, and through the opening of a webpage: www.igcp653.org.

Over 180 scientists have already joined the programme. The programme for the next years is now being continuously filled with additional regional meetings or group meetings.

There is a major, fascinating scientific question that drives our new programme: What generated the Ordovician radiation? Related questions are: what makes the GOBE the most significant diversification in the Phanerozoic? Or what distinguished it from and what relates it to the ‘Cambrian Explosion?’

3.2. List of IGCP project meetings/symposia and IGCP related meetings/symposia with exact attendance (if possible) and number of countries

In its first year of existence, the IGCP project 653 was officially presented at several meetings. Scientists from developing countries and students and young scientists were sponsored to attend these events. In chronological order:

- Closing meeting of IGCP 591, Ghent University, Belgium, July 2016. The closing congress was attended by about 150 scientists. The IGCP 653 project was officially introduced during the closing ceremony, as IGCP 653 can be considered partly as a follow-up project of IGCP 591. Three student participants were sponsored by the project 653. http://www.igcp591.ugent.be

- The Annual General Meeting of The Micropaleontological Society, at Lille University, France, November. About 75 participants attended the meeting. One participant was sponsored by the project 653. http://www.tmsoc.org/tms-agm-2016/
- The Annual Meeting of the Palaeontological Association, at Lyon University, December 2016 will bring together about 275 palaeontologists, including about 35 Ordovician specialists. The IGCP 653 meeting will be officially presented during a coffee break by several of the leaders of the project who will attend the meeting. This official presentation follows a session of Ordovician talks, chaired by the co-leader and secretary of IGCP 653. An evening dinner of all registered IGCP 653 participants is already scheduled after the icebreaker ceremony of the meeting. Three student participants will be sponsored by the project 653. [http://www.palass.org/meetings-events/annual-meeting/2016/](http://www.palass.org/meetings-events/annual-meeting/2016/)

In addition to these three meetings by other organisers, the IGCP 653 leaders organised the official Opening Congress at Durham University. [http://www.igcp653.org/meetings/](http://www.igcp653.org/meetings/). The full programme of this meeting can be downloaded from our IGCP 653 website: [http://www.igcp653.org/wp-content/uploads/2016/03/A5-Programme-FINAL-WEB-2-REDUCED.pdf](http://www.igcp653.org/wp-content/uploads/2016/03/A5-Programme-FINAL-WEB-2-REDUCED.pdf)

The meeting was attended by over 40 scientists from all over the world (about 20 countries represented). The three-days of indoor sessions were followed by a two-day field-excursion to the English Lake District, attended by over 20 scientists. Eight participants were sponsored to attend this meeting.

### 3.3. Educational, training or capacity building activities related to the IGCP project and IGCP project participants.

In its first year of existence, the IGCP project 653 did not yet start any educational activities, training and capacity building, those are, however, scheduled for the second year 2017.

### 3.4. List of countries involved in the project (please indicate the countries active this year and make the distinction between:

The complete list of registered participants is available at the webpage of the project: [http://www.igcp653.org/participants/participants/](http://www.igcp653.org/participants/participants/)


### 3.5. Participation of scientists from developing countries, and in particular young and women scientists: exact number and please describe how this project specifically benefited women scientists, young scientists and/or scientists from developing countries

<table>
<thead>
<tr>
<th>Total number of scientists</th>
<th>Number of male scientists</th>
<th>Number of female scientists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participating scientists</td>
<td>180</td>
<td>126</td>
</tr>
<tr>
<td>Number of young scientists/students (&lt;35 years old)</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td>Number of scientists from developing countries</td>
<td>61</td>
<td>35</td>
</tr>
</tbody>
</table>
In this first year of the project, we contacted many colleagues from developing countries. The financial support at our disposal for the year 2017 was exclusively used to finance either young scientists (< 35 years) and/or scientists from developing countries. We sponsored the participation in our meetings of a total of 15 scientists, of which 7 are female scientists. Eight participants (three women) from developing countries were supported financially to attend our meetings. A total of ten students and young scientists (of which 6 female students) have been sponsored.

3.6. List of the 5 most important publications (including maps) of this year

As the project only started this year, and only covers a part of 2016, the first scientific papers acknowledging the project are just appearing in publication. All of them are logically only related to this project, and have been published without the direct support of IGCP 653. Here is a list of 5 of the first papers on the “onset of the GOBE.” These articles appear to be significant contributions that might have a wide impact in the following years:


Full bibliography of this year (listed by author in alphabetical order with the most recent work listed first) has to be submitted as an annex. Distinguish between peer review literature and other (no abstracts).

A full reference list is not provided here. The first publications that officially acknowledging the project are not yet published.

3.7. Activities involving other IGCP projects, UNESCO, IUGS or others
IGCP 653 is partly a successor project of IGCP 591. Our first meeting was therefore logically linked to the Closing Meeting of IGCP 591. Links to other IGCP or UNESCO projects will be established in the next years.

IGCP 653 is closely linked to the work of the International Subcommission of Ordovician Stratigraphy (http://ordovician.stratigraphy.org) and the International Commission on Stratigraphy.

3.8. **Scientific Legacy: Is there a need for storage of publications, field data, and other results of the project? Do you have a clear vision concerning where the data would be stored and who will be the custodian?**

The full list of publications related to our project will be available on our webpage: http://www.igcp653.org/publications/
Other results of the project will also be reported on the webpage.

3.9. **What tangible improvements has your project obtained? (Besides publications, we are interested to hear about improvements to research, scientific contacts, policy implications, etc)***

Not relevant so far, but activities are scheduled for the future years.

3.10. **What kinds of activities in respect to the benefit of society and science outreach has your project undertaken?**

Not relevant so far, but activities are scheduled for future years.

3.11. **What kind of public information (media reports, etc) has your project generated? And how do you evaluate their impact?**

Our project is just starting, but twitter accounts, for example, already largely cover our activities. A main objective of the project is to get the GOBE well known to the wider public, as are for example the ‘Cambrian Explosion’ or the ‘Permian mass extinction’ and the ‘extinction of the dinosaurs.’ We also plan the publication of a book for the general public.

4. **Activities planned**

4.1. **General goals**

Following our 5-year plan proposed for the years 2016-2020, we will plan several scientific meetings each year, at different international congresses, with in addition a major annual meeting. The full plan is continuously updated on our webpage.

In addition, as planned, we also commence our outreach and building capacities activities in 2017. In May 2017, three of the co-leaders will organise a workshop at Nanjing, China, for students (including courses to use the PAST software package in palaeontology), and public lectures for a general audience.

4.2. **Tentative list of specific meetings and field trips (please list the participating countries)**
The main annual meeting will take place in Yichang, China (October 8-12\textsuperscript{th}, 2017). Regional meetings are scheduled for the Baltic scientists (Baltic Stratigraphic Congress, Kielce, Poland, September 12-14\textsuperscript{th}), and the peri-Gondwana scientists (Figueres, Spain, September 4-9\textsuperscript{th}). We also schedule a scientific session at the Annual Meeting of the GSA (Geological Society of America) at Seattle, USA (October 22-25\textsuperscript{th}, 2017). For the trilobite workers an IGCP 653 dedicated session will be organised at the trilobite congress in July 2017 at Tallinn, Estonia. All events are announced and updated on the webpage.

5. **Project funding requested**

We request a sum of US$ 10,000 *per annum* for supporting the participation in our annual meetings and workshops of (young) scientists from developing countries. We aim in particular to support graduate and PhD students.

We will not support the participation of established scientists from developed countries.

We consider that the IGCP funds will serve as seed money, and that the approval of our project will help the leaders and the participants to manage to get other funds, e.g. from their national funding agencies.

6. **Request for extension, on-extended-term-status, or intention to propose successor project**

not relevant

7. **Financial statement ($ USD only)**

The IGCP Scientific Board would like to be informed how the IGCP funds were used.

See separate financial statement form.

8. **What additional funding besides the IGCP seed funding has your project obtained thanks to the IGCP label?** Please estimate the budget received for meetings, research or other and identify the source.

The project started in 2016 only. Several research projects have been proposed for funding from national agencies. It is difficult so far to estimate the budget received from other sources.

The opening of the project in Durham, was largely supported by Van Mildert College, University of Durham.

9. **Attach any information you may consider relevant**

not relevant