

## SEQS REPORT ON 2020-2023 INTER-CONGRESS PERIOD

### SEQS 2020 ACTIVITIES

- 1) SEQS-DATESTRA applied for funding by INQUA for granting people to participate to the SEQS Meeting planned to be in Wrocław University, Poland and dedicated to Prof. Adam Nadachowski 70th birthday. Because of global pandemic situation the SEQS board and conference organizers from Poland decided to hold the virtual Meeting. On 28th of September 2020, under the patronage of professor Przemysław Wiszewski the Rector of University of Wrocław, the INQUA SEQS-2020 conference “Quaternary Stratigraphy – paleoenvironment, sediments, fauna and human migrations across Central Europe” was held remotely due to the COVID19. The following Organizations and Institutions took the patronage of the conference: INQUA - SEQS Section on European Quaternary Stratigraphy; INQUA – SACCOM Commission on Stratigraphy and Chronology; INQUA – International Union for Quaternary research; University of Wrocław; Polish Academy of Sciences; Committee for Quaternary Research PAS; Polish Geological Society.

The lecture and poster sessions were divided into 4 thematic parts:

- Karst and cave sequences
- Quaternary stratigraphy, chronology, geomorphology and tectonics
- Human and environment in the Quaternary
- Major regional subdivisions of the Quaternary in European and Asian regions: toward a common database (DATESTRA).

103 participants representing the following countries were registered before the conference: Austria (1), Croatia (1), Czechia (1), Spain (2), the Netherlands (1), India (1), Israel (1); Lithuania (1), Germany (3), Poland (45), Russia (23), Slovenia (1), Ukraine (13), UK (3), Italy (6).

Summaries of all presentations were presented in the volume of abstracts, which is available online at the link [https://www.inqua-seqs.org/files/SEQS2020\\_Abstracts\\_Wroclaw\\_Poland.pdf](https://www.inqua-seqs.org/files/SEQS2020_Abstracts_Wroclaw_Poland.pdf).

The total amount of scientists participated in the presentations during the conference and published their abstracts in the volume of Abstracts was 224 persons.

The organizers applied to publish the contributions of the Meeting in a Special Issue of Quaternary International.

The general decision of the virtual SEQS-2020 meeting was to postpone INQUA SEQS Conference and Fieldtrip to September 2021. Almost all the scientists participated in 2020 year in the virtual meeting plan to go to Poland next year and to visit the Quaternary sites learning about the geology of that area.

Polish organizers took on themselves all expenses for organization of the SEQS-2020 meeting, the INQUA funds on the conference organization were not used.

- 2) The activities related to the building of the DATESTRA Database continued through the continuous updating and compilation of the Database. Unfortunately, this work was not as efficient as it would be without pandemic situation.

The SEQS-DATESTRA team continued to involve in the project potential scientists during the 2020. For them there are available Guidelines for Database and Guidelines for the DATESTRA Database from Storymaps. We hope that new potential participants will add new information on the territories of some countries. At the same time, the DATESTRA participants who contributed already to the project will additionally submit new information (for example – Drs Zaretskaya and Korsakova summarized data on the new sites in the areas of the White Sea and Kola Peninsula, Dr. Markova summarized information on two sites within Volga River).

Information about DATESTRA Database is available online  
(<http://unisiena.maps.arcgis.com/apps/MapSeries/index.html?appid=e87bdb952a854f0f8928ac8d0bc045a3>).

## SEQS 2021 ACTIVITIES

- 1) Again, the in-person Conference planned for 2021 in Poland was cancelled due to COVID. We thought about giving up on any other forms of holding the conference. Potential participants as well as the INQUA and SEQS authorities requested the organising committee to reconsider their decision to cancel the meeting. The conference committee agreed and decided to organise the meeting online on December 13, 2021. It appeared to be a good decision because the interest in the proposed format and topic of the conference exceeded our expectations.

The topic of the conference was ‘Quaternary Stratigraphy – palaeoenvironment and humans in Eurasia’. The conference was organised by the Department of Palaeozoology, Faculty of Biological Sciences, University of Wrocław, and several institutions acted as co-organisers: International Union for Quaternary Research (INQUA), Section on European Quaternary Stratigraphy (INQUA–SEQS), Commission on Stratigraphy and Chronology (INQUA–SACCOM), Polish Academy of Sciences (PAS), Committee for Quaternary Research at PAS, and Polish Geological Society.

Members of the organising committee were Krzysztof Stefaniak, Guzel A. Danukalova, Markus Fiebig, Pierluigi Peruccini, Paweł Mackiewicz, Adrian Marciszak, Oleksandr Kovalchuk, Urszula Ratajczak-Skrzatek, Katarzyna Lipiec-Sidor, and Marek Ćimkiewicz.

The Conference presentations (oral as well as poster) were clustered in five thematic sessions:

1. Major regional subdivisions of the Quaternary in European and Asian regions: toward a common database (DATESTRA).
2. Karst and Cave sequences – on the occasion of the International Year of Caves and Karst areas.
3. Quaternary stratigraphy, palaeontology, chronology, geomorphology, and tectonics.
4. Humans and environment in the Quaternary – environmental and faunal changes, hominid dispersion in Europe.
5. From hot to cold – interglacial and glacial in Europe.

The first speaker in the opening ceremony was Prof. Eugeniusz Zych, Vice-Rector for Research of the University of Wrocław, followed by Prof. Thijs van Kolfschoten, President of INQUA, Dr. Marcin Kadej, Dean of the Faculty of Biological Sciences University of Wrocław, Prof. Markus Fiebig, President of INQUA – Section on European Quaternary Stratigraphy and Prof. Zdzisław Jary, Chairman of the Committee for Quaternary Research, Polish Academy of Sciences.

The sessions were moderated by Prof. Dr hab. Adrian Marciszak and Tomasz Skawiński M.Sc. from the University of Wrocław, and by Dr hab. Dariusz Nowakowski from the Department of Anthropology, Wrocław University of Environmental and Life Sciences. The session titles were in line with the main topics of the conference. Just as at the (also well attended) previous conference in organised in 2020, oral reports were scheduled to last for 10 minutes, including a discussion, and only 1 minute was given for each poster presentation. In addition, a general discussion took place at the end of the meeting.

In total, 93 participants from 9 different countries (Austria, Croatia, the Czech Republic, Hungary, Italy, the Netherlands, Poland, Russia, and Ukraine) attended the meeting. The majority of the participants represented Poland, Russia, and Ukraine. Most presentations were multi-authored. In total, 35 oral reports and 26 posters were presented. Session 3 was the most popular in terms of oral presentations and posters.

- 2) During 2021 SEQS together with INQUA-SACCOM commission a series of virtual talks and discussions devoted to the early Middle Pleistocene interval was organized.

The IUGS Executive Committee formally ratified the Global Boundary Stratotype Section and Point (GSSP) proposal for the Chibanian Stage and Middle Pleistocene Subseries on 6 December 2019. The extensively studied Chiba section of the Chiba composite section is a continuous and expanded marine sedimentary succession situated near the Pacific coast of the central Japanese archipelago. It contains well-preserved biostratigraphical data, a tightly-defined Matuyama–Brunhes (M–B) paleomagnetic polarity boundary, and numerous tephra beds, allowing the establishment of a robust and precise chronostratigraphic framework. This sequence has important implications for the stratigraphical subdivision of the northern European early Middle Pleistocene.

Correlation with the ocean sediment marine isotope stage (MIS) scheme is difficult because of a lack of control points in the terrestrial sediments.

The talks organized under the SEQS umbrella had a main aim to present the current state of knowledge on the early Middle Pleistocene period and on this to base the subdivision and potentially the formalisation of the subdivisions during this interval.

To initiate this project a planning meeting was held on Friday 29 January 2021. It was chaired by Philip Gibbard, with Anastasia Markova, Thijs van Kolfschoten, Markus Fiebig, Pierluigi Pieruccini, Adele Bertini, Leszek Marks, Charles Turner and Guzel Danukalova participating. The following points were discussed:

- a. Formulation of the problem to be addressed.
- b. Formulation of the key issues and the key regions to be included.
- c. Create a list of colleagues to be invited as project members.

The next step is discuss the way we will organise the project i.e. a. schedule a number of ZOOM meetings, create a Dropbox folder to store all the available data, presentation of the output (QI Special Issue, INQUA Congress session)

After a productive discussion, it was agreed that the points discussed should be adopted as follows:

- a) The investigations should focus on the early Middle Pleistocene, i.e. specifically the Cromerian Complex Stage (terminated by the base of the Elsterian glacial Stage), but that the consideration of the latest Early Pleistocene would also be required. Some flexibility might be needed depending on the nature of the sequences in a specific region.
- b) It was agreed that the project should focus on key regions, from Britain (and the North Sea basin) in the west to the Russian Plain in the east and from the Baltic to the Mediterranean region in the south. A series of key regions would be identified within this area with working groups for each region to progress the investigations. The sequences in the these areas, including both terrestrial (fluvial, lacustrine, glacial and loess sequences) and marine evidence, would then be compared and correlated. Correlation to the ocean isotope stage chronology would be included as an important goal.
- c) The names of many colleagues were suggested as important contributors to the project work, with individual attending members present agreeing to contact the colleagues not present. These colleagues will be integrated into the appropriate working groups as the project develops.
- d) The need to gather all relevant publications and associated documentation of critical sites for all participants to access was agreed. A Dropbox folder would be established for this purpose. It was thought that the DATESTRA-SEQS website could provide a vital central place to locate sites and to link to the literature.
- e) It was agreed that the first priority was to identify those sites across the region where the Brunhes/Matuyama magnetic reversal boundary actually occurred in a sedimentary sequence. This should be followed by a cataloguing of all sites which could provide a spectrum of palaeontological evidence for biostratigraphy for the period but did not include the palaeomagnetic boundary.

- f) The position of the major glacial events (e.g. Donian Glaciation) should then be related to the multiple disciplinary evidence assembled.
- g) Ultimately the results of the project should be presented as a special issue of *Quaternary International* and also presented at a special session of the INQUA Congress. Progress reports could also be presented if appropriate in other settings.
- h) The project will initially be guided by Markus Fiebig, Thijs van Kolfschoten and Philip Gibbard.
- i) It was decided to aim to present initial progress in at second planning meeting on Friday 12 March at 11h00 CET. Such a meeting will potentially be organised regularly to keep all participants up to date on progress.

**List of participants – INQUA-SEQS Project Early Middle Pleistocene (04.02.2021)**

Austria	Markus Fiebig markus.fiebig@boku.ac.at University of Natural Resources and Life Sciences
France	Maria Sanchez Goni maria.sanchez-goni@u-bordeaux.fr ANTOINE Pierre Pierre.ANTOINE@lgp.cnrs.fr
Germany	Kristine Ash — kristine.asch@bgr.de — the Department Geoscientific Information, International Cooperation, Bundesanstalt für Geowissenschaften und Rohstoffe (BGR).
Italy	Pierluigi Pieruccini pierluigi.pieruccini@unito.it University of Torino, Adele Bertini adele.bertini@unifi.it University of Florence, Via G. La Pira 4 50121 Firenze
Netherlands	Thijs van Kolfschoten T.van.Kolfschoten@arch.leidenuniv.nl Freek Buschchens TNO - Geological Survey Of The Netherlands, Princetonlaan 6, P.O. Box 80015, NL-3508 TA, Utrecht, The Netherlands treasurer@inqua.org Wout Krijgsman — mailto:w.krijgsman@uu.nl, Department of Earth Sciences, Utrecht University, Budapestlaan 17, Utrecht 3584 (Specialist in Palaeomag -His group was working in Azerbaijan — and they got there M/B boundary in series of sites)
Poland	Lesek Marks lmar@pgi.gov.pl
Slovenia	Nadja Zupan Hajna — Karst Research Institute Research Centre of the Slovenian Academy of Sciences and Arts, Postojna, Slovenia, nadja.zupan-hajna@zrc-sazu.si They have M/B boundary in Račiška pečina section (cave).
Spain	Gloria Cuenca Bescós cuencag@unizar.es
Russia	
<u>Central / European part of Russia, Black Sea area</u>	Anastasija Markova — amarkova@list.ru, Institute of geography Russian Academy of sciences, Moscow Dr. of Sci. (Prof) Alexander Agadjanian (Palaeontological Institute of Russian Academy of Sciences) aagadj@paleo.ru
<u>Middle Urals /Trans-Urals</u>	Alexander Borodin — bor@ipae.uran.ru, Institute of Plant and Animal Ecology Ural Branch of Russian Academy of Sciences, Ekaterinburg
<u>Southern Urals / Fore-Urals, Volga area and North Caspian depression</u>	Guzel Danukalova — danukalova@ufaras.ru, guzel59@mail.ru, Institute of Geology – Subdivision of the Ufa Federal Research Centre of the Russian Academy of Sciences, Ufa. Andrey Zastrozhnov — Andrey_Zastrozhnov@vsegei.ru, Russian Geological Research Institute (VSEGEI), St. Petersburg Dr. of Sci. (Prof.) Tamara Yanina (Moscow State University, Geographical Department) paleo@inbox.ru

<u>Southern Russia (Don area, Northern Fore-Caucasus, Azov area)</u>	Alexey Tesakov — tesak-ov@yandex.ru, Geological Institute, Russian Academy of Sciences, Moscow Vadim Titov — vvtitov@yandex.ru, Southern Scientific Centre Russian Academy of sciences, Rostov-on-Don.
Ukraine	Gerasimenko Natalia — n.garnet2@gmail.com, Taras Shevshenko National University of Kyiv, Department of Earth Sciences and Geomorphology, Volodymyrska str., 64/13, Kyiv, 01601, Ukraine
United Kingdom	Phil Gibbard plg1@cam.ac.uk Charles Turner chasturner@aol.com

### **LIST of SEQS meeting “Early Middle Pleistocene environments and stratigraphy: an SEQS project”**

- **SEQS meeting “Early Middle Pleistocene environments and stratigraphy: an SEQS project” held on 12 March, 2021.** The meeting included presentations on key regions, the Netherlands, the Russian Plain and the Mediterranean.
- **SEQS meeting “Early Middle Pleistocene environments and stratigraphy: an SEQS project” held on 14 May, 2021.** The meeting included next presentations  
Thijs van Kolfschoten, Freek Buschiers. Netherlands Cromerian  
Nadja Zupan Hajna. Cromerian in Cave sequence (Slovenia)  
Richard. British Cromerian 1  
Krysti Penkman. British Cromerian 2
- **SEQS meeting “Cold intervals” held on 10 September, 2021** (chaired by Leszek Marks).  
The meeting included next presentations:  
Mads Huuse: North Sea sequences  
Pierre Antoine: Cold intervals Northern France (Somme basin)  
Zoltan Puspoki: Hungarian sequences
- **SEQS meeting «Mediterranean» held on 15 October, 2021** (chaired by Adele Bertini and Maria Sanchez Goni). The meeting included next presentations:  
Slobodan Markovic: Loess (from the previous meeting on 10.09.2021)  
Introduction by Adele Bertini and Maria Sanchez Goni  
Presentations and discussion  
Maria Fernanda Sanchez-Goni: The Early-Middle Pleistocene in the Iberian margin  
Elda Russo Ermolli: Middle Pleistocene pollen records from southern Italy  
Laura Sadori: Long Quaternary records from the Balkans  
Summary by Maria Sanchez Goni and Adele Bertini
- **The SEQS meeting «Early Middle Pleistocene» held on 12 November, 2021** (chaired by Thijs van Kolfschoten). The meeting included next presentations:  
Introduction by Thijs van Kolfschoten  
Presentations and discussion  
Andrey Zastrozhniyov and colleagues. A.P. Karpinsky Russian Geological Research Institute (VSEGEI), Saint-Petersburg, Russia. Overview of the major early Middle Pleistocene sections exposed in the Russian Plain highlighting the Brunhes/Matuyama boundary, the Don glaciation, the Oka glaciation in order to show the complexity of the early Middle Pleistocene in the region.  
Tamara A. Yanina, Faculty of Geography, Lomonosov Moscow State University, Moscow, Russia  
Data on the early Middle Pleistocene of Ponto-Caspian region.  
Alexander K. Agadjanian, Borissiak Paleontological Institute, Russian Academy of Sciences, Moscow, Russia. The small mammal and malacological data of the Don basin area

Vadim Titov, Southern Federal University, Rostov-on-Don, Rostov, Russia. The early Middle Pleistocene large mammal biostratigraphical data of your region and the potential for long distance correlation.

Charles Turner, Cambridge University, U.K. Overview of the early Middle Pleistocene palaeobotanical data from the region. A summary of the data presented and suggestions how to correlate the data with other parts of Eurasia.

Summary by Thijs van Kolfschoten and Phil Gibbard

## SEQS 2022 ACTIVITIES

SEQS had to correct its plans because the 2022 situation was hard due general situation in the world.

1) After the end of the pandemic crisis SEQS planned the 2022 Meeting organized by Dr. Nataliya Zaretskaya (Institute of Geography, Russian Academy of Sciences) scheduled for 21–28 August 2022. The topic of the meeting would have been: ‘East European Palaeolithic sequences: Stratigraphy, Geomorphology, Chronology, Palaeoenvironment’ that will take place in the so-called East European Palaeolithic Belt (Russia).

This conference did not take place due to the political and military situation in Ukraine. Therefore, for 2022 the activities of SEQS were suspended since many SEQS colleagues come from Russia, Ukraine, and adjacent countries and they actively collaborated since the 80s but nowadays this is no more possible. In fact, one of the main goal of SEQS is to link together the Eurasian continent allowing across-continent correlations of the Quaternary Stratigraphy.

2. The SEQS Board leaded the SEQS members to the INQUA Congress in Roma/ There were many activities dedicated to this main event of the Quaternary community. In detail it is described below.



## SEQS for INQUA Roma 2023

SEQS has submitted 3 proposals for sessions to the XXI INQUA Congress in Rome 2023 titled:

- 1) Eurasia, one continent one common past: cross-continental stratigraphical correlations, chaired by Markus Fiebig, Pierluigi Pieruccini and Guzel Danukalova
- 2) Early Middle Pleistocene environments and stratigraphy chaired by Phil Gibbard, Thijs van Kolfschoten, Charles Turner and Pierluigi Pieruccini
- 3) Quaternary mapping across the world and the IQUAME European experience, chaired by Kristine Asch, Marco Pantaloni, Pierluigi Pieruccini and Luca Guerrieri

**Session 1 and 2** were merged together by the Organizers due to the number of submitted oral presentations and posters. However, the Session 1 (namely Session 52) was finally accepted with 6 oral presentation (including the keynote by Martin Head) and 5 posters. Unfortunately, again, the political crisis will not allow most of the Russian colleagues to join us in Rome. The session will be held Wednesday the 19<sup>th</sup> 16,15-18,15.

**Session 3** has been successfully accepted and assessed, with 7 oral presentations and 10 posters. The success of this session is hopefully also a new deal and a new collaboration framework for the future SEQS activities.

**SEQS Business Meeting** is planned in Rome Wednesday 19th of July 2023 from 18,15-19,15 pm, location (room number) and remote access (link) will be announced later.

**PUBLICATIONS**  
**during 2019-2023 Inter-congress period**

1. Bridging Europe and Asia: Quaternary stratigraphy and Palaeolithic human occupation. *Edited by Markus Fiebig, Guzel Danukalova, Khachatur Meliksetian.* Quaternary International, V. 509, P. 1-120 (10 March **2019**).
2. Quaternary stratigraphy and hominids around Europe: SEQS 2017 meeting. *Edited by Pierluigi Pieruccini, Markus Fiebig, Guzel Danukalova, Vincenzo Celiberti.* Quaternary International, v. 534, p. 1-210 (December, **2019**)
3. Quaternary stratigraphy and karst & cave sediments: The INQUA-SEQS 2018 meeting. *Edited by Guzel Danukalova, Markus Fiebig, Nadja Zupan Hajna, Pierluigi Pieruccini, Andrej Mihevc.* Quaternary International, v. 546, p. 1-244 (30 April, **2020**).
4. The Quaternary of continental Europe: stratigraphical perspectives and tools for correlations. *Edited by Guzel Danukalova, Markus Fiebig, Pierluigi Pieruccini.* Quaternary International, v. 605-606, p. 1-365 (20 December, **2021**).
5. Quaternary Stratigraphy – Sediments, Palaeoenvironments, Fauna and Human Migrations across Central Europe (2022). *Edited by Guzel Danukalova, Markus Fiebig, Pierluigi Pieruccini, Krzysztof Stefaniak, Artur Sobczyk.* Volume 632, Pages 1-206 (20 September **2022**)
6. Eurasian Animals and Quaternary Environments: The Contribution of Palaeontology to the SEQS-DATESTRA 2020 Virtual Meeting (Wrocław, Poland) – QI Special Issue Dedicated to Adam Nadachowski. *Edited by Krzysztof Stefaniak, Thijs van Kolfschoten, Urszula Ratajczak-Skrzatek, Artur Sobczyk, Marek Kasprzak.* Quaternary International, Volume 633, Pages 1-182 (30 September **2022**)
7. Updated Quaternary stratigraphical information from Central and Eastern Europe (INQUA-SEQS 2021 Meeting, Poland). *Edited by Guzel Danukalova, Markus Fiebig, Pierluigi Pieruccini, Krzysztof Stefaniak .* Quaternary International, **2023**. in preparation.
8. The Quaternary mammalian record from Central and Eastern Europe: new data and new insights. *Edited by Krzysztof Stefaniak, Thijs van Kolfschoten, Urszula Ratajczak-Skrzatek, Dariusz Nowakowski, Adrian Marciszak.* Quaternary International, **2023**. in preparation.

