



14th Symposium of the International Fossil Coral and Reef Society "Going deeper"

FIRST CIRCULAR

We are pleased to invite you to the

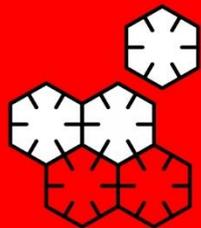
14th Symposium of the International Fossil Coral and Reef Society (IFCRS)
that will be held in
Poland on 10-16 September 2023



The aim of the conference is to **promote the latest results of coral reef research conducted from a unique paleontological perspective.**

The IFCRS conferences (13 editions to date) are the most important **global forum for scientists studying fossil corals, reefs and reef organisms in the contexts of climate change and the evolution of coral reef biodiversity.**





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Introduction

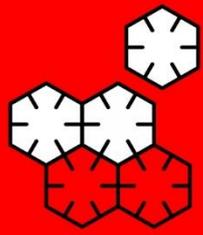
Today's **reef environments** are some of the most vulnerable marine ecosystems to **changing climatic conditions**. Climate change models assuming an increase in atmospheric CO₂ concentrations to 560 ppm by the end of the 21st century predict the **extinction** of most of today's known shallow-water reef environments due to **acidification** and **increased surface water temperatures** that cause a disruption of the symbiotic relationship between coral and algae (known as **coral bleaching**). However, recent research suggests that not all corals have the same potential to survive change, and the key to understanding these differences lies in their **geological and evolutionary past**. These organisms, representing three major phylogenetic lineages, evolved over at least 400 million years in seas with drastically changing pH, geochemical composition, temperature, and oxygenation of seawater resulting in a multitude of adaptations. Information on conditions of ancient seas can be read with extreme precision by measuring biogeochemical and isotopic signals from fossil coral skeletons as well as modern corals grown experimentally under simulations of past geological conditions.

Raman microspectroscopy of coral skeleton

aragonite

calcite

aragonite

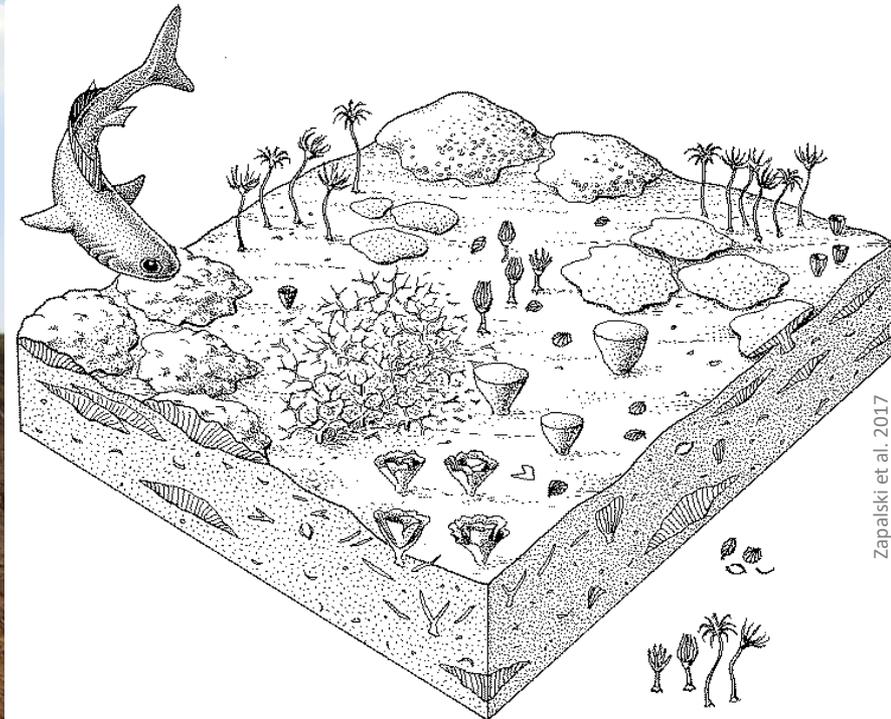


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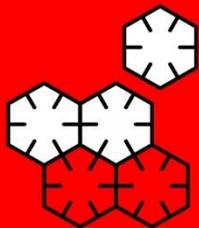
The leading theme of the conference will be the study of **corals from mesophotic and deep-water environments** (motto: "**Going deeper**"), as these environments are now potential coral refugia in the event of extinction of shallow-water reefs. The fossil mesophotic reef environments in Poland are well understood and represent the first preserved reefs of modern type in the world.



Laskowa quarry (Devonian, Givetian)



Reconstruction of the mesophotic corals habitat



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Congress venue:

European Centre for Geological Education, Chęciny (ECEG): The ECEG is a multi-functional research and development center, a meeting place for geologists from around the world. ECEG is located in an old, exploited quarry, about 500 m from the ruins of a medieval royal castle. The ECEG offers a spacious layout, fully equipped auditoriums and didactic rooms, alongside a contemporary hotel with modern amenities.

The ECEG is located in the Holy Cross Mountains (HCM) which are of great geologic interest as their rocks illustrate 560 million years of Earth's history and are exposed over a relatively small area. Briefly, the central part of HCM is composed of Palaeozoic rocks, usually referred to as the Palaeozoic core. The presence of a Mesozoic margin reflects the post-Laramide erosion that removed the Mesozoic strata from the central part.





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Provisional topics/sessions:

Corals and climate change

- Mesophotic reefs
- Ocean acidification

Studies of fossil skeletons: achievements and applications

- The fossil calibration of molecular trees
- Skeletons as paleoenvironmental proxies
- Biomineralization and diagenesis
- Advances in the taxonomy of fossil Cnidaria and other reef organisms

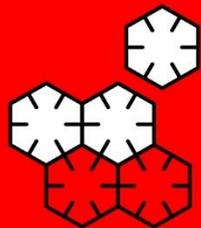
Paleobiology and Evolution:

- Biodiversity and evolutionary patterns through time: crises, radiations and the role of biogeography
- Functional morphology and photosymbiosis

Bio-Geosphere interactions

- Deep, cold-water corals and ecosystems
- Reefs in space and time: a complex interplay between evolutionary and paleoenvironmental dynamics





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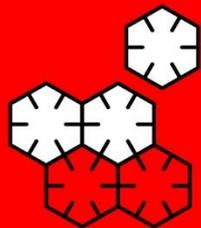
"Going deeper" – popular science session in Kraków (Cracow)

One of the most important needs of modern societies is to improve the quality of communication between scientists and the general public. Palaeontologists and fossil reef researchers who know more than any other profession about reef extinctions in the geological past, along with experts in modern reef environments, will provide fascinating grounds for debate about the possible causes of extinctions, survival, and the long-term impact of reef extinctions on global ecosystems. A popular science session organized in the center of beautiful Kraków with the participation of leading media and the general public will be an ideal event to draw attention to the subject we are so fascinated with.

Proposed topics:

- Present day and fossil coral reefs (with special focus on mesophotic environments)
- Acidification of the ocean: past and present
- Pollution and reef life...
- From water to coral and from coral to limestone - how corals and rocks are formed



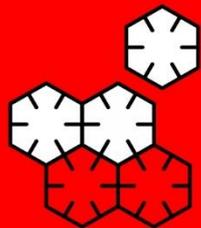


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Provisional program:

			Morning	Noon/Early Afternoon	Afternoon (social program)
05.09.2023	Tuesday	Gotland	PRE-CONFERENCE TRIP: The Silurian mesophotic coral ecosystems of Gotland		
06.09.2023	Wednesday				
07.09.2023	Thursday				
08.09.2023	Friday				
09.09.2023	Saturday	Warsaw			Welcome Party: Museum of Evolution
10.09.2023	Sunday		Meeting in Warsaw, MC TRIP: Owadów-Brzezinki + lunch with "rural housewives"	arrival to Chęciny/Jewish Culture Festival	
11.09.2023	Monday	Chęciny	Scientific Session	Scientific Session	"A brief history of Holy Cross Mountains" TRIP
12.09.2023	Tuesday		Scientific Session	Scientific Session	dinner
13.09.2023	Wednesday		Scientific Session	Poster Session	Chęciny castle/bonfire
14.09.2023	Thursday		MC TRIP: Mesophotic reefs part 1: MCE	Scientific Session	Pierogi making workshop
15.09.2023	Friday	Cracow	MC TRIP: Mesophotic reefs part 2: Julianka	arrival to Kraków/Wieliczka	Conference Dinner at Wieliczka Salt Mine
16.09.2023	Saturday		Open pop-science Session, sponsors	POST-CONFERENCE TRIP: Mesophotic reefs part 3: Opole Triassic [carbonate platform]	Kraków sightseeing
17.09.2023	Sunday	Czechia	POST-CONFERENCE TRIP: Corals from the lost Štramberg Carbonate Platform (Jurassic/Cretaceous boundary, Czechia)		
18.09.2023	Monday				

MC TRIP - mid-conference trip



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Organiser:

Institute of Paleobiology, Polish Academy of Sciences

Co-organisers:

University of Warsaw, Faculty of Geology

Adam Mickiewicz University Poznań, Faculty of Geographical and Geological Sciences

Jagiellonian University in Kraków, Faculty of Geography and Geology



Scientific Committee:

Prof. Jarosław Stolarski, Poland (Chair)

Prof. Francesca Bosellini (Italy)

Prof. Anne Gothmann (USA)

Prof. Marcelo Kitahara (Brasil)

Prof. Bernard Lathuiliere (France)

Prof. Tali Mass (Israel)

dr Paolo Montagna (Italy)

dr Nadia Santodomingo (UK)

Prof. Gregory Webb (Australia)

Organising Committee:

Prof. Jarosław Stolarski, Institute of Paleobiology, PAS

Prof. Błażej Berkowski, Adam Mickiewicz University Poznań

dr hab. Błażej Błażejowski, Institute of Paleobiology, PAS

dr hab. Bogusław Kołodziej, Jagiellonian University in Kraków

dr Katarzyna Janiszewska, Institute of Paleobiology, PAS

dr Dorota Kołbuk, Institute of Paleobiology, PAS

dr hab. Mikołaj Zapalski, University of Warsaw

dr Jan Król, Adam Mickiewicz University Poznań

dr Michał Matysik, Jagiellonian University in Kraków



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Travel and Accommodation

Detailed information on accommodation and transport will be provided in the second circular. The gathering of all participants and the icebreaker will take place in Warsaw. From there, transport to the main venue will be provided by the organizers. Accommodation and meals during the symposium will be organized at the Centre for Geological Education (Chęciny). There will be conference tours from there (transport provided). The workshops will be organized on site. We are also planning a non-science social networking program. The congress will end in Krakow, from where you can fly away or conveniently return to Warsaw. Info about accommodation and pre-conference and post-conference tours will be provided in the second circular.

Language of the Congress

English will be the official language of the Congress. No translation facilities will be provided.

Congress proceedings

Conference Proceedings are planned for publication in one issue of the regular series (2024) of the international peer reviewed journal *Acta Palaeontologica Polonica* (IF 2020: 2.062) which is housed at the Institute of Paleobiology, Polish Academy of Sciences.

www.app.pan.pl



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Registration:

Registration fees will include: welcome party in Warsaw, transport from Warsaw and during the conference tours (ending in Krakow, we will help you get to Warsaw if needed), meals, admission to scientific sessions, coffee breaks, congress kit, abstract book, Proceedings volume. We are currently negotiating accommodation charges at main conference venue at the European Centre for Geological Education (ECGE), Chęciny and depending on the final quote, the accommodation at ECGE may also be included in registration fee. Details concerning the mode of payment will be available in the 2nd Circular.

Deadlines:

Pre registration form: 31 December 2022

2nd Circular. 28 February 2023

Early registration: 30 April 2023

Late registration: after 30 April 2023

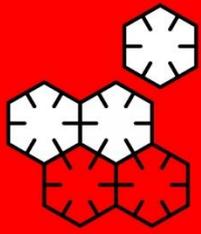
Abstract submission: 30 April 2023

Visa application

Participants who require a support letter for visa application please directly contact:
fossilcoralreefs@gmail.com

fossilcoralreefs.com

Please save the date, spread the information among colleagues, and link the website. The website will be supplemented step-by-step with relevant information on the congress.



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PRE-CONFERENCE TRIP: **Silurian mesophotic environments of Gotland**

Presentation: The aim of the trip is to show the oldest **Mesophotic Coral Ecosystems** (MCEs) known so far. The trip will focus on "blue mesophotic" (deep water) Wenlock coral communities, but we will also visit younger, potentially "brown mesophotic" ecosystems. Besides MCEs the participants will have the possibility to visit some classical outcrops of shallow water coral-stromatoporid ecosystems.

Preliminary programme (5 days fieldtrip):

September 5th – Meeting at the Nynashamn Ferry terminal, travel to Visby

September 6th – MCEs of Lower Visby Beds in Ygne-Hogklint, Hogklint reefs, Visby Walk

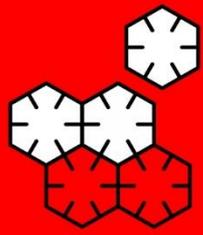
September 7th – MCEs of L. Visby B., Ireviken. Raukars and shallow water bioconstructions (Hangvar Fm.), Farö Island.

September 8th – Brown MCEs of Eke Fm., raukars and bioconstructions of Burgsvik Fm.

September 9th – ferry to Nynashamn, flight to Warsaw

Leaders: Mikołaj K. Zapalski (University of Warsaw), Błażej Berkowski, Jan J. Król (Adam Mickiewicz University, Poznań).





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MID-CONFERENCE TRIP: Exceptionally preserved Late Jurassic ecosystem of Owadów-Brzezinki, Central Poland)

The cost of mid-conference trip will be included with the registration fee

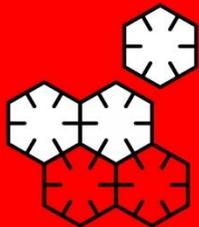
Presentation: The Owadów-Brzezinki palaeontological site located near Sławno in the NW margin of the Holy Cross Mts is one of the most important recent palaeontological discoveries in Poland. The palaeontological sites of Owadów-Brzezinki is referred to as a new “taphonomic window” of the Late Jurassic, providing insights about the evolution of life on Earth in the palaeogeographical and palaeoenvironmental context. Unusually well preserved fossils of marine and terrestrial organisms of Late Jurassic (Tithonian) age, many of them new to science, provide a good opportunity for studying the taphonomy of the ecosystem, evolution and migration of taxa, and palaeoenvironmental changes.

A short stop on the way to the Congress venue [September 10th]:

The aim of this trip is to show the Owadów-Brzezinki palaeontological site, exhibition pavilion, educational routes and panoramic viewing platform, which is located along the edge of the quarry.

Leaders: Błażej Błażejowski (Institute of Paleobiology, Polish Academy of Sciences) and Andrzej Wierzbowski (University of Warsaw)





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MID-CONFERENCE TRIP: Devonian mesophotic environments of the Holy Cross Mountains

The cost of the mid-conference trip will be included with the registration fee

Presentation: The aim of the trip is to show **Devonian Mesophotic Coral Ecosystems** (MCEs) described as the first Palaeozoic MCEs. They are dominated by platy and frondescent tabulates, with very high biodiversity comprising rugose corals, brachiopods, crinoids and others.

While nowadays these beds are poorly accessible, we will try to visit both (Eifelian and Givetian) sites.



Preliminary programme (1 day fieldtrip, September 14) :

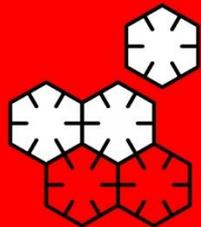
Morning – Skały MCE (Eifelian Skały Fm)

Afternoon – Kostomłoty/Laskowa MCE (Givetian Laskowa Góra Beds)

Alternatively Visean reefal olistostrome at Ostrówka.



Leaders: Mikołaj K. Zapalski (University of Warsaw), Błażej Berkowski, Jan J. Król (Adam Mickiewicz University, Poznań).



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MID-CONFERENCE TRIP: Coral colonization of the cyanobacteria-sponge bioherms (Late Jurassic, Julianka quarry)

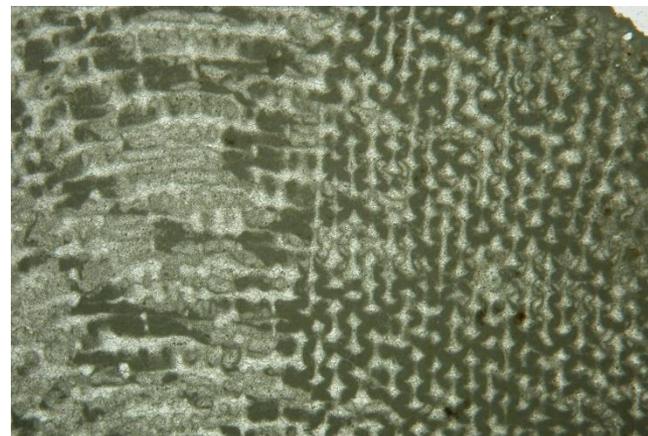
The cost of mid-conference trip will be included with the registration fee

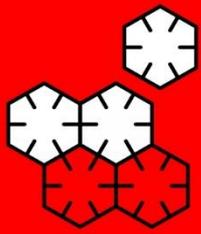
Presentation: The abandoned quarry at Julianka is located in the Fore-Sudetic monocline, in the Cząstochowa Upland. It shows the youngest Late Jurassic (Early Kimmeridgian) deposits of the area preserved below the overlying transgressive Late Cretaceous (Early Cenomanian) glauconitic sands. The late Jurassic deposits are limestones: in their lower part represented by diversified lithologies of the cyanobacteria-siliceous sponge bioherm complex, in the upper part – by the coral limestones interpreted as formed in mesophotic zone – rich in platy microsolenid corals.



A stop on the way to the Conference dinner in Wieliczka [September 15th].

Leaders: Andrzej Wierzbowski (University of Warsaw) and Jarosław Stolarski (Institute of Paleobiology, Polish Academy of Sciences).





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POST-CONFERENCE TRIP: The oldest sponge-scleractinian reef mounds in the World, Middle Triassic (Anisian) of Upper Silesia, Poland.

Presentation: This fieldtrip aims to present decameter-scale sponge mounds that contain the first scleractinian corals after the Permian/Triassic mass extinction. Around 20 coral species have been identified in those reefs so far. Although the coral microstructure is diagenetically altered, it will be possible to see branching and tabular coral growth forms. The mounds developed on a carbonate platform during one of the sea-level highstands. They are overlain by oolitic shoal facies. The influence of primary facies on diagenesis will also be discussed.

Preliminary programme (1 day fieldtrip, September 16):

Morning – Tarnów Opolski (mound with corals)
Afternoon – Kamień Śląski (spatial distribution of mounds, the intervening and overlying facies)

Leaders: Michał Matysik, Bogusław Kołodziej, Iga Ryczkowska (Jagiellonian University, Kraków).





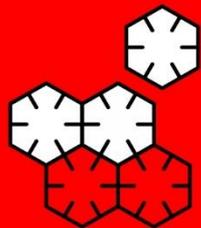
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POST-CONFERENCE TRIP: Corals from a lost Štramberk Carbonate Platform (Jurassic/Cretaceous boundary, Czech Republic)

Presentation: Štramberk is one of the most renowned paleontological sites. Tithonian–lower Berriasian Štramberk Limestone exposed in a huge Kotouč quarry in Štramberk (Carpathians, Czech Republic) occur as olistoliths and large blocks embedded in the Cretaceous flysch. Corals were already described in the 19th century by Marie Ogilvie. Starting in the 1970s they were studied by Helena Eliášová. Approximately 120 species of 50 genera are known from these limestones, which makes it the richest coral assemblage from coral reefs grown around the time of the Jurassic/Cretaceous boundary. In ca. 10 cm-size samples of reef breccia, corals of even 3–5 genera can occur.

Particularly rich at this locality are corals of the suborder Pachytheclia (=Amphiastreina) whose higher taxonomic position is one of the most debated among the post-Paleozoic corals. Similar coral assemblages occur in the Štramberk-type limestones as pebbles-blocks (exotics) in flysch deposits of the Polish Carpathians. Coral-microbial patch-reefs were formed mostly in an inner carbonate platform. The Štramberk Limestone also contains boundstones with the microencruster-microbial-cement framework with rare corals. This type of reef was developed only on the slopes of intra-Tethyan carbonate platforms.





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POST-CONFERENCE TRIP: Corals from a lost Štramberk Carbonate Platform (Jurassic/Cretaceous boundary, Czech Republic)

Preliminary programme (3 days fieldtrip):

September 17th (Sunday): meeting point in Kraków. On the way to Štramberk we will stop in Polish Carpathians to see flysch with pebbles of Štramberk-type limestones and Lower Cretaceous corals.

September 18th (Monday): Visit in the Kotouč quarry in Štramberk.

September 19th (Tuesday): departure to Kraków.

Leaders:

Bogusław Kołodziej (Jagiellonian Univ., Kraków), Zuzana Kozlová (Charles Univ., Prague), Justyna Kowal-Kasprzyk (AGH, Kraków), Petr Skupien (Technical Univ., Ostrava)

