

# **Report of activity of the Pseudokarst Commission UIS between June 2022 and June 2025**

## **Functionaries of the Commission:**

Jiří Kopecký (honorary president), István Eszterhás (honorary president up to 2<sup>nd</sup> August 2020),

Jan Urban (president), Rudolf Pavuza (vice-president), Hartmut Simmert (secretary), since July 2022 Kacper Jancewicz (second secretary), Jan Lenart (executive member).

## **Members**

Jiří Adamovič, Ilya Agapov, Ivo Baroň, Bartosz Baturo, Pavel Bella, Peter Crossley, Filip Duszyński, Ludovít Gaál, Andreas Hartwig, Kacper Jancewicz, Martin Kašing, Jiří Kopecký, Konstantin Kostov, Maria Kotowska, Jan Lenart, Shirish S. Manchi, Włodzimierz Margielewski, Douglas Medville, Claude Mouret, Pauline Oberender, Jan Paul van der Pas, Rudolf Pavuza, Wioleta Porębna, Saul H. Riffel, Jill Rowling, Hartmut Simmert, Cintia Stumpf, Herman de Swart, George Szentes, Peter Tarsoly, Maurizio Tavagnutti, Marcos Vaqueiro Rodriguez, Jan Urban, Liviu Valenas, Zuzana Vařilova, Marina Vdovets, Juan Ramón Vidal Romani, Josef Wagner and Karel Žák.

During the reported period **9 new members** were adopted into the Commission, while **two ones died: William R. Halliday (20.09.2024) and Rabbe Sjöberg (5.04.2024)**. Consequently, the total number of the Commission members has **increased by 7 persons** and **comprises 39 members**. The Commission members represent the following countries (**17**): Australia, Austria, Bulgaria, Brazil, Czech Republic, France, Germany, Hungary, Italy, Netherlands, New Zealand, Poland, Romania, Russia, Slovakia, Spain and United States of America.

## **The Commission Meetings and their conclusions**

- The **last Commission Assembly** took place during the **14<sup>th</sup> International Symposium on Pseudokarst in the Sudetes, Poland, 24<sup>th</sup> May 2023**. In this meeting 10 Commission members participated in person and 2 others participated online. The Commission president, J. Urban, presented the report of its activity in the period 2015-2023, which was then discussed. Main topics of this discussion concerned new methods of cooperation, using modern media and contemporary possibilities of connection. The other aim of the meeting was election of the executive board of the Commission, and the above mentioned officers were elected. However, some of them declared their will to transfer their duties to representatives of younger generation. Therefore the important item of the further discussion of Commission plans were the place and organizer of the next, 15<sup>th</sup> International Symposium on Pseudokarst. This Symposium should be organized in 2026 and possibly it will be organized together with national speleological meeting of the Czech Speleological Society, however other possibilities will be also considered and checked.
- Before this Assembly the Commission Meeting was hold during the 18<sup>th</sup> International Congress of Speleology, Savoie-Mont Blanc in France. It was attended by only four Commission members, therefore important decisions were not taken there.

- The close cooperation, and discussion among Commission members, has been performed online for last two months preceding the Congress. During these contacts this report has been approved by the Commission members. One of the important topics of this discussion was also the proposal to change its name. The reason for such proposal is to expand the group of cavers and speleologists willing to join the Commission or cooperate with it. We intent to gather in the Commission all those working in caves of unusual and unique genesis, regardless of their more or less proven karst nature. Therefore the following alternative names were considered: “**Commission on Pseudokarst and Non-Traditional Karst**” and “**Commission on Karst and Extraordinary Karst**”. But the final decision has not been made.

## **Publications:**

- The **Pseudokarst Commission Newsletter (PCN)** has been issued once a year or two years (since the no 30<sup>th</sup> only in English). Editors of the issues were: Jan Urban and Rudolf Pavuza. Since the summer 2022 two issues: **no. 31<sup>st</sup> (March 2024)** and **no. 32<sup>nd</sup> (June 2025)** have been published. The Newsletter is still distributed both in digital version by internet and in printed copies by mail, the latter restricted to libraries and possibly authors. The **Newsletter no 31<sup>st</sup> (80 pages)** was composed of **11 papers** reporting mainly presentations or posters showed during the 14<sup>th</sup> International Symposium on Pseudokarst, as well as report on this Symposium. The thematic and spatial scope of these papers ranged from Australia and New Zealand, through Asia to western Europe. The no. 32 (39 pages) includes 6 scientific papers describing various pseudokarst or questionable karst phenomena from Asia, South and North America and several European countries.
- The **report on the Pseudokarst Commission activity in 2017-2022** was published in the UIS Bulletin 64-2/2022 (pp. 47-49).



## Webpage

The webpage of the Pseudokarst Commission is permanently active (<http://www.pseudokarst.com/>). It presents documents produced by the Commission Assembly and executive group, issues of the Pseudokarst Commission Newsletters, reports and announcements concerning meetings and other events, symposia proceedings, as well as pseudokarst cave pictures. All activities providing new data and improving the informational level of the webpage are welcome.

## Other activities

The members of the Commission as well as groups of cavers, speleologists and scientists more or less related to the national groups of the Commission were active in the operations concerning/dedicated to a pseudokarst. As indicated the reports from the individual countries (see: Appendix) these activities have developed in several directions:

- simple cave discovering and exploration;
- data collection (monitoring), completion and organization of databases;
- cave promotion, protection and educational operations,
- typical scientific studies of non karst or not-traditional, extraordinary karst caves and landforms.

## Current and planned activities

- The crucial operations and activities of the Commission have been successfully carried out, such as the **International Symposium on Pseudokarst, Commission Assembly** as well as publication of the **Pseudokarst Commission Newsletter** and **Commission website** activeness. The number of Commission members has increased and these members represent evidently a younger generation of speleologists. Nevertheless, they have not replaced the group of the Commission functionaries already active for several cadencies, which yielded a lack of modern techniques of cooperation and speleology promotion.
- Therefore the **next 15<sup>th</sup> International Symposium on Pseudokarst, planned in 2026**, seems to be crucial for the ultimate **rejuvenation of executive board** as well as **developing new methods of operation** of the Commission, new objectives and ways of their realization, adequate to modern cooperation possibilities and challenges.
- One of the significant way to developing and promoting of the Commission activity will be gathering of a wider group of cavers and speleologists exploring and studying specific, caves and landforms that represent partly karst or very close to karst ones, but not traditional karst ones. Therefore, the Commission Assembly is going to request the UIS authority (UIS Bureau – see Articles 8B and 10 of the UIS Statutes) to accept the change of the Commission name, after the in-depth discussion among the members of the Commission.
- The traditional – previously and currently realized – activeness of the Commission, is and will be continued, so the **Pseudokarst Commission Newsletter** will be published (however the form and technique of it can be changed), the website will be managed, the activity of Commission members in other media (UIS Bulletin, etc.) will be visible.
- Initial measures for a preparation of the **15<sup>th</sup> International Symposium on Pseudokarst** in 2026 will be conducted, soon.

Kraków-Wien-Dresden 5.07.2025

*Hartmut Simmert*  
Secretary

*Rudolf Pavuza*  
Vice-President

*Jan Urban*  
President

## **Appendix – report of national activities in pseudokarst explorations and studies**

### **Australia 2022-2025**

(Gill Rowling)

- Continued research into caves developed in quartz sandstones near Sydney;
- Investigations of surface erosive features in quartz sandstones which resemble karst features;
- Observations of iron (rusticle) development in sub-aqueous settings.

Publications include iron springs and small caves in quartz sandstone at Mount Banks doi: 10.12657/landfana-043-001

The “Helictite” Journal, which covers the Australasian area in general, has published an article on a sandstone cave in Thailand

<https://helictite.caves.org.au/pdf1/49.Valenas.Thailand.pdf>

(The paper on caves in sandstones of Thailand has been published also in the Pseudokarst Commission Newsletter no. 31.)

### **Austria 2022-2025**

(Rudolf Pavuza)

- Continued research on non-carbonate caves and karst like features (e.g. kamenitzas) in quite different rocks (flysch, loess, granite & gneiss) as well as the small amount of caves in tufa in Austria (which somewhere perfectly mimic classical karst caves).
- Studies of non-karst caves within classical karst areas (boulder caves, erosional caves in dolomite etc.)
- First compilation of „Caves in Ascension Island and St. Helena Island”, published in the Pseudokarst Commission Newsletter no. 31. These remote islands in the Atlantic Ocean have been neglected in the speleological literature, so far and are exclusively caves that have nothing to do with the karst phenomenon.
- Continued research on calcitic dripstones – representing true pseudokarst phenomena – in an artificial WW2 tunnel in gneiss (Rudolfstollen, Linz, Austria). Their genesis is related to weathering of Ca-feldspar, enhanced through weathering of micro-pyrites in the gneiss.
- Investigation of pseudo-dripstones, developed in the Alpine Lake Hallstatt (Austria) in a depth of 20-40 m. Their genesis seem to be related to the metabolism of certain bacteria, finally forming  $\text{CaCO}_3$ . A first synopsis was also published in the Pseudokarst-Commission Newsletter no. 32. .

### **Germany 2022-2025**

(Hartmut Simmert)

Activity of Caves and Karst Research Dresden e.V. in the caves of the Elbe Sandstone Mountains (Cretaceous):

- Long-term recording of climate data in selected caves of the Saxon Switzerland.
- Systematic karst hydrological investigation of cave water in a sandstone caves.
- Documentation of the hydrochemistry and biology of the springs in Saxon Switzerland in a practical online system.

The research is being conducted in collaboration with specialists from the responsible national park administration.

### **Hungary 2022-2025**

(Peter Tarsoly)

- Continued research on granite and basalt caves (Velence Hills, Bakony-Balaton Highlands)

- Completion of the topological analysis of the Hungarian non-karstic caves.
- Ongoing renovation and IT modernisation of the register of the Hungarian non-karstic caves.
- Active participation in the work of the King Stephen Museum (Székesfehérvár town, Fejér county, Hungary), study of use of non-karst caves by prehistoric humans.
- Investigation of the use of drones and ground photogrammetry in cave exploration and mapping.
- Ongoing morphometric analysis of the basalt caves of the Badacsony Mountain (Bakony-Balaton Highlands, Hungary)

## **Poland 2022-2025**

(Jan Urban, Paweł Gądek)

- In the Outer Carpathians: continued exploration of pseudokarst caves carried out by the Speleoclub Bielsko-Biała, Beskidy Speleoclub Association and Association for the Cave Conservation “Malinka Group”. In last a few years several large caves have been discovered and explored, such as: Cesta cave (1635 m), Jaskinia Czornego Grziba (ca 1200 m and still being explored) and Jaskinia Lotnych Piasków (726 m long). Most of the recently discovered caves are situated in massifs of Mt. Malinów and Magura in the Beskid Śląski Range.
- In the sandstone massifs of the Sudetes, especially Góry Stołowe (Table) Mountains: studies of nature and spatial development and rate of processes shaping these massif has been continued by geomorphologists from the University of Wrocław. In the following papers they compare these processes with typical karst phenomena:
  - Migoń P. et al. 2023. Surface-subsurface connectivity in the morin the morphological evolution of sandstone capped tubular hills. How much analogy to karst? *Geomorphology* 440: 108884.
  - Duszyński F. et al. 2024. Structure controlled and dissolution-facilitated? Towards a more complex understanding of the genesis and environmental controls of sandstone ruiniform relief, Stołowe Mountains tableland, SW Poland. *Catena* 246: 108462.
- The members of the Pseudokarst Commission from Wrocław were the main organisers of the 14<sup>th</sup> International Symposium on Pseudokarst hold in the Stołowe (Table) Mountains in May 2023.

## **Russia (NW) 2022-2025**

(Ilya Agapov, Marina Vdovets)

- Continued research of the tectonic cavities as well as water cavities (formed due to the impact of surf during storms) in volcanic rocks on the islands of Gogland (about 20 cavities 3-20 m long) and Bolshoy Tyuters (2 cavities ca. 3 m long) in the Gulf of Finland, Leningrad Region.
- Continued research and monitoring of tectonic and water cavities in granites near the town of Kamennogorsk in the Leningrad Region) as well as cavities in the granite blockages in Northern Ladoga Region, Republic of Karelia.
- Ongoing monitoring of the Svyataya Cave, the largest suffosion (piping) cave in sandstone in Northwest Russia (70-130 m long), Leningrad Region; published in the Pseudokarst Commission Newsletter no. 30.

## **Slovakia 2022-2025**

(Ludovit Gaál, Pavel Bella)

- Review articles on the morphology and types of volcanic pneumatogenic caves were processed and published:

- Bella P., Gaál L. 2022. Volcanic pneumatogenic exhalation-explosive and expansion caves. *Slovenský kras*, 60, 1: 5–18.
- Bella P., Gaál L. 2023. Volcanic pneumatogenic caves – morphology and genetic typology. In: Urban J., Jancewicz K. (Eds.), Abstracts. 14<sup>th</sup> International Symposium on Pseudokarst, Sudetes, Southwestern Poland, Karłów 24–27<sup>th</sup> May 2023. Inst. Geogr. and Reg. Developm., Univ. of Wrocław, Wrocław: 15–21.
- Pseudokarst caves with the occasional ice filling were checked for reason related of climatic changes, 2024.
  - Cave formed at the contact of the Paleogene carbonate conglomerate and the underlying marlstone in the northern Slovakia was surveyed and investigated, 2024:  
Littva J., Bella P., Herich P., Soták J., Danielčáková I. 2024. Cave formed at the contact of carbonate conglomerate and marlstone, Zuberecká brázda Furrow at the foot of the Western Tatras, Slovakia. *Aragonit* 29, 2: 51–60.
  - A new tree mould cave was found in the tufaceous sandstone of the Middle Slovakian Neovolcanits, January 2025.

## Spain

(Marcos Vagueiro-Rodriguez)

- Speleopark Project in the Mariña county (province of Lugo, municipalities of Burela, Foz, Alfoz, Mondoñedo): Dynamizing the territory by taking advantage of the presence of caves in granites (of morphological, archaeological, historical interest), caves in quartzites (speleothems, coastal caves), karst caves, and consequence caves. Areas with granite dissolution due to the action of the overlying metasedimentary rocks.
- Speleopark Project in the Verín county (province of Ourense, municipalities of Laza, Val do Castelo, Verín, Oimbra, Vilardevós, Monterrei): Dynamizing the territory by taking advantage of the presence of caves in granite (of morphological, archaeological interest – caves with historical paintings), caves in quartzite (speleothems, archaeology – caves with paintings), consequence caves, and patches of karst areas.
- Promotion of pseudokarst and its interpretation within the history in the national events of Geolodia, promoted by the Spanish Geological Society. Geolodia = GeologyDay, is an outreach initiative that involves geological field trips guided by geologists, free and open to the general public. Each year, a Geolodía takes place in each province on the first or second weekend of May. The Geolodías occur in areas of great geological interest and provide simple yet rigorous information. They allow participants to see these places with ‘geological eyes’ and understand how the Earth, which we inhabit and on whose natural resources we depend, works. Those who participate also grasp the value of our geological heritage and the need to protect it. Our contribution:  
     Geología 2022: Penedos de Pasarela and Traba: a stone zoo from the Paleozoic;  
     Geolodía 2023: Spelopark of A Mariña: a place where water dissolves the granites of A Mariña;  
     Geolodía 2024: Cíes Islands – Vigo Estuary: the evolution of the coast and the formation of the estuaries; caves in granites and dunes;  
     International Geolodia Spain-Portugal 2025: 100 million years of estuaries and granite caves.
- Project “SENTINEL (2023-2025)” – Threatened Cultural Heritage. Monitoring and evaluating the impact of erosive processes on historical-archaeological assets in the Atlantic Islands National Park (2955S/2022)”: mapping and correlation/dating of fossil and marine levels in the caves located on the current coastline.
- Continuing research on speleothems and biospeleothems: continuation exploring, mapping, and studying new caves located in granites.

- Incorporation pseudokarst and parakarst caves from NW Spain into the Galician Atlas of Caves of the Galician Speleological Federation: locations, tracks, 2D and 3D digital models. Development of the first global database (karst, parakarst, pseudokarst and consequence caves) with bio-speleological records for NW Spain.