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Union Internationale de Spéléologie

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- UIS proposal for UNESCO Caves and Karst Day proclamation
 - UIS Delegation visit of the 19th ICS venue in Brazil
 - Events and expeditions supported by the UIS
 - A new UNESCO World Heritage on an evaporitic karst area of Italy
- and much more...*



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the activities of the UIS and the state of the art
of international speleology.

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de Spéléologie

Founded in Postojna, Slovenia, 1965

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Before submitting articles for the UIS Bulletin, please

CLICK HERE!

**Deadline for submissions for the
next issue (N° 66-1): June 15, 2024**

COVER PHOTO:

Cave of Bromélias*

Ibitipoca State Park - IEF/MG - Lima Duarte, Minas Gerais, Brazil

Author: Gabriel Lourenço (SEE-Sociedade Excursionista e Espeleológica)

* This and other caves in quartzite rock are among the attractions scheduled for participants of the 19th International Congress of Speleology in 2025

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REMEMBER: SAVE A TREE; DO NOT PRINT IF UNNECESSARY

Editorial

THE SPELEOLOGY WE WANT IN THE COMING YEARS

By Nivaldo Colzato (Brazil)

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Dear speleologist, caver, and cave lover around the world, we are glad to share with you one more issue of the UIS Bulletin, this time bringing news of the UIS and international speleology not for a period of six months, as usual, but covering the entire year 2023.

Despite the sadness over the loss of some renowned karst scientists, the economic decline in many countries and regions around our planet as well as regrettable war conflicts that directly interfere with the daily activities of millions of people, we can state that the year ending was very positive for speleology.

Some examples are portrayed in the pages of this issue. The UIS project to finance part of the costs of events and expeditions, for example, has seen an increase in the number of proposals submitted each year. [Pages 46 to 63](#) of this issue bring summary reports of five of them that were carried out in 2023. Those interested in requesting UIS support, please, [click here](#).

On [page 7](#) UIS Past President George Veni brings us a general view of the results of the largest project in the history of the UIS, the International Year of Caves and Karst 2021/22 (IYCK), which was joined by 263 partner organizations from 51 countries, including 23 international ones. It is estimated that its 1,096 events recorded until May 2023 have contributed to more than 100 million people becoming aware of caves and karst and their importance. The IYCK was therefore a huge success.

We can also celebrate the significant progress in the UIS negotiations to proclaim September 13th as the Caves and Karst Day by UNESCO. In her column on next page, UIS President Nadja Hajna gives more details about this project and also comments on the negotiations for the UIS to become a full member of the International Science Council (ISC), an important step for the UIS to be even more recognized worldwide as a scientific association.

In a similar sense, on [page 24](#) you will see the Austrian Academy of Sciences (OeAW) has just become an affiliated organization of the UIS. This process, which was led by Johannes Mattes—UIS Secretary General—serves as an inspiration for similar associations from other UIS member countries to do the same.

Still in the scientific field, talks are underway to establish the UIS Commission on Planetary Caves.

In July, part of the UIS Bureau landed in Brazil for a series of commitments, such as attending the 37th Brazilian Congress of Speleology (CBE), checking the organization of the 19th ICS 2025, knowing the venue in Belo Horizonte, and visiting some caves and karst attractions that are on the list of field trips for 2025. A brief description of the presence of the UIS Delegation in Brazil begins on [page 14](#).

During the CBE, the UIS was called to the stage for a Round Table entitled “*Advances and Trends of International Speleology*.” Such activity was previously organized with the purpose of serving as a “warm-up” for what we will have during the 19th International Congress of Speleology (ICS) in 2025, in which is planned the major celebration of the 60th anniversary of the UIS.

As the motto of the event is “*History to the Future*,” it will offer a special opportunity for reflections about what we did, what has been done, and what the speleological community can do in favor of caves and karst and also for speleological associations.

Assessing the past, we see that significant advances have already been made. The UIS Bulletin itself has published countless achievements over its 50 years and 79 issues, this one included. At present we also have many important actions in progress. Let us therefore join efforts for a bright future.

As the year 2024 precedes the 60th anniversary of the UIS, it is a good opportunity to provoke reflections on how we want to see speleology in the coming years. In a very simple and short way, it is easy to say “what” we want:

- *Increase in the speleological community*
- *Stronger speleological associations*
- *Laws aimed at protecting caves and karst*
- *Global recognition of the importance of caves and karst for people's well-being*
- *Proclamation of Caves and Karst Day by UNESCO*

There are 17 months left until the 19th ICS. If we advance in all five items mentioned above, we will have even better reasons to proudly celebrate 60 years of the UIS. So, let us reinforce our energy in pursuit of our goals.

Together we are stronger.



The President's Column

CAVES AND KARST GLOBALLY

By Nadja Zupan Hajna (Slovenia)

UIS President

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I can summarize here that the global project of the UIS International Year of Caves and Karst (IYCK) has been successfully completed. Thank you again to all who participated. Now we can enthusiastically turn to new challenges in international cooperation between cavers and scientists and the protection of caves and karst. As UIS, we are becoming more and more recognized by other international organizations, especially because of past and present work, global activities in the framework of IYCK 2021/2022, and presence at UNESCO and also at International Science Council events.

At the UIS Bureau virtual meeting on February 9 2023, we decided to further develop the goals of UIS IYCK and try to apply for **UNESCO Day of Caves and Karst**. As UIS President, I talked with the representative of the Slovenian National Commission for UNESCO, the Ministry of Natural Resources and Spatial Planning, the Ministry of Higher Education, Science and Innovation, and the Ministry of Foreign and European Affairs about the possibility of submitting the proposal through the Slovenian delegation to UNESCO in Paris, since UIS is registered in Slovenia. They fully supported the idea and we decided that I would prepare the concept of the proposal and ask the secretariat of UNESCO in Paris for an opinion if they support such applications. On May 12, 2023, a “zero” proposal ([concept plan, see page 6](#)) was submitted to Mr. Amani, Director of UNESCO Water Program, for consideration.

From May 10-12, I and Johannes Mattes (UIS Secretary General) participated in the International Science Council (ISC) 2023 mid-term member meeting: “Capitalizing on Synergies in Science” in Paris. UIS is an associate member of the ISC (recently category 3) and did not have voting rights as our membership fee was too low to be a full member. This year we presented UIS and its multidisciplinary scientific potential on several occasions during the meeting.

The importance of small scientific fields that address hidden earth resources (water in karst aquifers, special ecosystems and habitats in karst, threats to the karst underground, pollution problems) and climate changes (in speleothems and cave sediments) in an interdisciplinary manner, e. g. speleology, karstology, speleobiology, karst hydrogeology based on underground explorations (caving) can contribute to water supply, knowledge of climate changes over time and many other challenging problems.

We were well received and made many connections to geoscience and social sciences unions. After the meeting, UIS received an invitation from ISC HQ

to become a full member of ISC. ISC Board strongly encourages **UIS to apply for full membership in ISC (category 1 - international associations)** and explain the financial constraints and apply for a reduction in membership fee (depending on what UIS can pay). We discussed the offer at the UIS Bureau meeting in Curitiba (Brazil) and applied for Category 1 member status at the end of October.

As UIS President, I was present at the **4th International Planetary Caves Conference**, May 4-7, where I addressed the participants on behalf of UIS and gave a presentation on karst and caves on Mars. We discussed with the participants the possibility of **establishing a UIS Commission on Planetary Caves** in the near future.

I also gave a speech on behalf of UIS at the opening of the **30th anniversary of the International Karst School (IKS) “Classical Karst”** under the patronage of UNESCO in Postojna (Slovenia) on June 19.

Due to the patronage of UNESCO, and the request of UIS regarding the possibility of proclaiming a UNESCO Day of Caves and Karst, and the obvious support of UNESCO, its representative, **Mr. Abou Amani (UNESCO Director of Water Program)**, came to the occasion.

In his speech, he highlighted the importance of karst systems, karst aquifers as natural reservoirs and water supply, the importance of karst as a carbon sink by absorbing carbon dioxide as a contribution to mitigating climate change, UNESCO World Heritage and Global Geopark sites, cultural and biodiversity sites. He suggested to the UIS and the entire cave/karst community that through the efforts of UNESCO and its programs, we can work together to better understand, protect, appreciate, and utilize the potential of karst areas to contribute to a more sustainable and prosperous future for all.



Postojna, Slovenia, June 19, 2023 - Nadja Zupan Hajna, President of UIS, speaking at 30th IKS about UIS and the proposal for UNESCO Day of Caves and Karst Day.

PHOTO: C. MAYAUD



Postojna, Slovenia, June 19, 2023 - UIS working lunch with Mr. Abou Amani (left), and representatives of the Slovenian National Commission for UNESCO. PHOTO: N. ZUPAN HAJNA

He concluded by saying: “Following the *International Year of Karst and Caves*, UNESCO is committed to working with all of you to raise awareness and improve our knowledge of these important landscapes.”

During Mr. Amani’s visit, UIS representatives, President Nadja Zupan Hajna, Vice President Zdeněk Motyčka, Past President Derek Ford, past Secretary General Pavel Bosák, and past Bureau member Paul Williams met with him for an informal dinner, and he again strongly supported the UIS proposal for a UNESCO Day of Caves and Karst.

Due to all these positive communications regarding the UIS proposal to establish a UNESCO Day of Caves and Karst, the UIS (myself and Zdeněk Motyčka) also met for a **working lunch with Mr. Abou Amani, and representatives of Slovenian National Commission for UNESCO** Mr. Darko Štrajn and Ms. Marjotka Hafner, and Ms. Meta Bole, representative of the RS Ministry of Foreign Affairs to discuss further work on proposal preparation, submission, and estimated timeline for reaching UNESCO. Mr. Amani has already reviewed the UIS concept plan and believes it is well prepared.

During the meeting, UIS received very good advice on the preparation of the proposal and support from representatives of the Slovenian National Commission for UNESCO and Slovenian Departmental Ministries. All also agreed to propose September 13 as UNESCO Day of Caves and Karst since September 16 (UIS founding day) is already a kind of international day, and September 13 is a day when UIS was invited to celebrate the International Year at UNESCO in 2021.

They said it is a very good date because it does not favor any particular country and essentially links UIS to UNESCO. They also stressed that UIS member countries should reach out to their UNESCO delegations in Paris (through governments, responsible ministries, permanent representatives) to inform them about the UIS and Slovenian joint proposal (i.e. in



Postojna, Slovenia, June 21, 2023 - UIS lunch with FSE President Jean-Claude Thies (right), and FSE Secretary General Alena Gessert (second from right). PHOTO ANONIMOUS

2024) to be attentive and supportive at the UNESCO Executive Committee as well as at the UNESCO General Assembly, which will vote in the fall of 2025.

During lunch, UIS was also invited **to apply for the status of a non-governmental organization associated with UNESCO** through the Slovenian National Commission for UNESCO. The application would mean that UIS will organize the annual central commemoration of the Day in cooperation with UNESCO and its members, and it is obligatory to propose already the sponsor for the first commemoration/event (2026) and ideally also for the second event (2027). We also supported this offer at the UIS Bureau meeting in Curitiba, Brazil.

During the 30th International Karst School, we (I, Zdeněk Motyčka and Mladen Garašić, UIS Treasurer) also had the opportunity to meet and have lunch with the new President of the **Fédération Spéléologique Européenne (FSE)**, Jean-Claude Thies, and the Secretary General of the FSE, Alena Gessert. We agreed on further cooperation and joined forces to bring cave and karst protection to the highest level, and the FSE pledged support for the implementation of the “International Day of Caves and Karst”.

On May 26, I met with the representatives of the **Karst Commission of the International Association of Hydrologists (IAH)** Avihu Burg, Peter Malik, Benjamin Tobin, Augusto Auler, and Zoran Stevanović, where I presented to them the intention of UIS to propose UNESCO Day of Caves and Karst. They agreed to collaborate and support when the UIS starts the process.

Through social media and UIS national delegates, we will inform you of the preparation and submission of the UIS application to proclaim UNESCO Caves and Karst Day a global day of education, conservation, and public awareness of caves and karst. We also ask for your help and support in contacting the national commissions for UNESCO and supporting their decision making in Paris.

Proposal for UNESCO Caves and Karst Day Proclamation

International Days celebrate and inform about important global issues, many of which not well known to the public. Caves and karst occur everywhere on our planet. They are estimated to cover over 20% of the world's land surface. About 1.2 billion people inhabit the karst. However, few people are aware of, or understand the great value of this unique landscape.

Karst is a landscape of characteristic relief, caves, and underground water conduits formed by dissolution processes. In most karst areas, there is usually no water on the surface. The karst surface is rocky, often without dense soil cover, and therefore unsuitable for cultivation. However, caves and karst are invaluable resources.

Karst aquifers provide nearly 20% of the world's drinking water and include the largest wells and springs on Earth. Groundwater in cave streams, the major flow paths of karst aquifers, is the only place where the "invisible" groundwater beneath the earth is truly visible and can be directly measured, studied and taught. Karst aquifers are the most complex, least understood, most difficult to model, and most easily contaminated water supplies. They are often capable of rapidly transmit pathogens and chemicals unnoticed for tens of kilometers into vital human and ecological water sources since open caves and associated conduits provide essentially no filtration of contaminants.

Caves and karst host many of the most diverse, important, and rare ecosystems on Earth, supporting ecological diversity above and below ground. The world's most significant cultural and archeological sites are often located in karst and non-karst caves.

Hundreds of caves around the world are open to tourism. More than 90 World Heritage Sites and more than 70 UNESCO Global Geoparks have been established in whole or in part because of caves and karst. There are hundreds of millions of tourists visiting caves every year, representing important source of revenue for many economies.

While caves and karst are beneficial to all societies, they also present some unique challenges. They are generally poorly understood. Few scientists and natural resources managers are adequately trained to properly study or manage them. Many governments do not recognize caves and karst at all and are unaware of their great importance and potential risks. At the same time, specialized cave and karst conferences are now commonplace, and national cave and karst research institutes have been established in eight countries worldwide. Effective understanding and management of caves and karst requires broad, international understanding and appreciation by local and national governments, scientists, managers, and the public.

The International Union of Speleology - UIS successfully completed its International Year of Caves and Karst 2021 project (extended to 2022 due to the Covid pandemic). The goal of UIS IYCK 2021 was to promote, support, and facilitate cave and karst exploration, scientific research, management, education, and exploration internationally, and to enhance international cooperation. During that period, about 1100 activities were organized by national speleological and other professional organizations and institutions, as well as by various international organizations from 65 countries.

With the establishment of the International Day, cave and karst recognition activities can continue worldwide every year into the future. Over time, they would increase the awareness of stakeholders (international institutions, state administrations, local communities, science, education, tourism sector, the public, etc.) on the existence of these natural phenomena, on the importance of understanding natural processes, and on the need for their protection and sustainable use. Awareness is a key prerequisite for action to safeguard these unique landscapes.

Following UIS IYCK 2021, UIS proposes to proclaim UNESCO Caves and Karst Day a global day of education, conservation, and public awareness of caves and karst.

THE UIS INTERNATIONAL YEAR OF CAVES AND KARST 2021/2022

An early summary

By Dr. George Veni (USA)

UIS Past President, 2017-2022

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For the past few years, I've written many times about the [International Year of Caves and Karst](#). At first, I informed and prepared you for the Year, and then encouraged you to participate and updated you on our collective progress. Now that the International Year is over, it is time to tell you what we accomplished. I am currently working on a detailed report of the results, but here is an early summary.

The International Year occurred in 2021 and 2022, extended because of COVID to allow in-person events. The level of activity changed throughout both years. Attached is a graph that shows the number of events organized each month. In both years, the Northern Hemisphere spring months saw by far the most events. The summer and winter months had the fewest events as many people were busy with holidays and vacations.

In May 2022, I wrote in UIS Bulletin volume 64, number 1 that 498 International Year events had occurred over the previous 17 months. I never dreamed that for the next issue I would report that almost 400 more events had occurred by mid-December. A couple weeks later when the year ended on 31 December, the events totaled almost exactly 900. But that was not the end.

UIS and International Year website manager, [Jasmina Rijavec](#), began contacting people who announced they would organize events, and had not sent her a report for the website. I assisted and more event reports arrived, including many that were forgotten and many that were at first not considered International Year events. By the end of May 2023, we reached the final incredible total of 1,096 events around the world!

These events were made possible by the UIS with its 263 partner organizations from 51 countries, including 23 international organizations. While these numbers are impressive, what is more impressive is the number of people they reached. I have not added all the

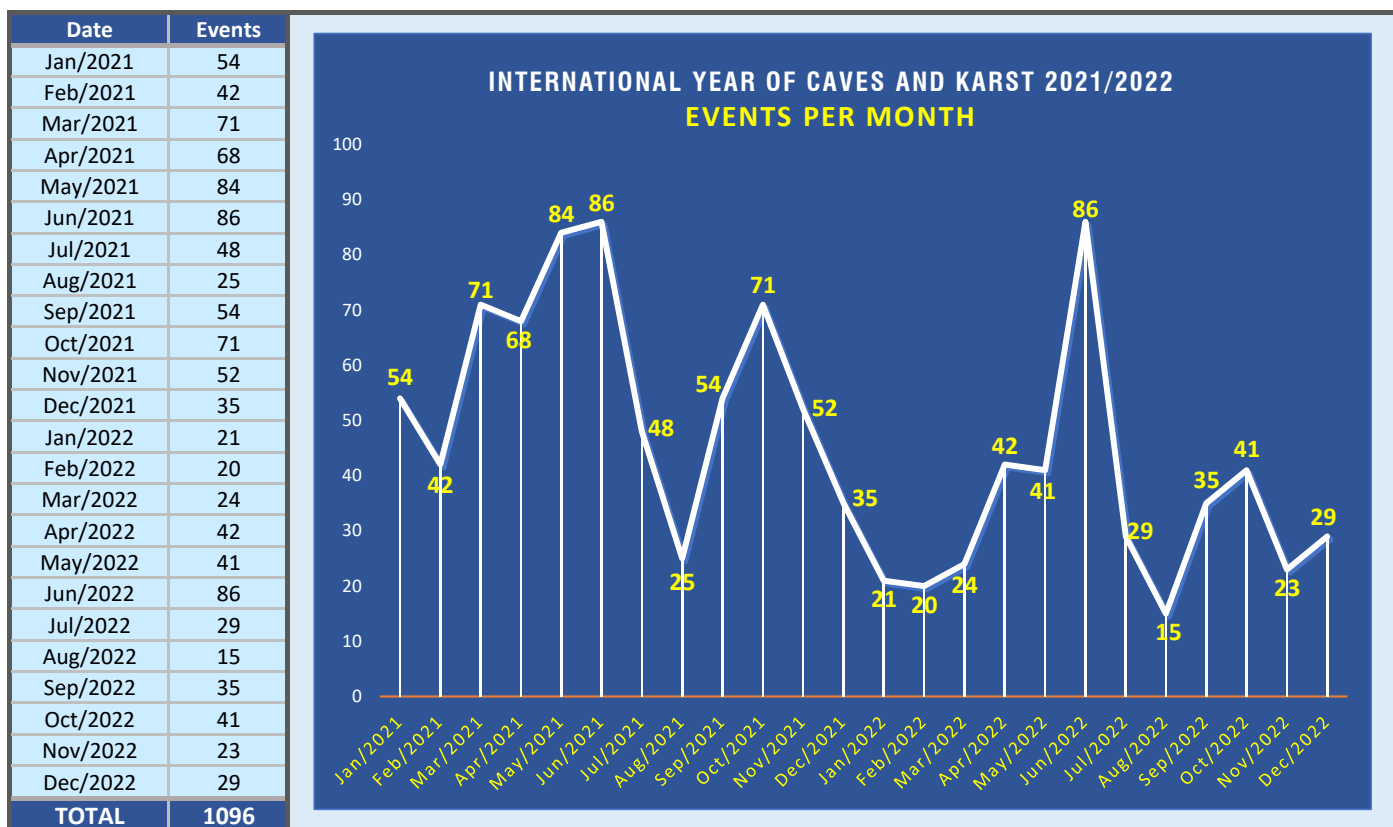
reported attendance figures yet, but I expect more than 100 million were made aware of caves and karst, and their importance.

I believe the single biggest step for speleology was when the United Nations Educational, Scientific, and Cultural Organization (UNESCO) invited UIS to celebrate the International Year at UNESCO Headquarters on 13 September 2021. This led to UNESCO inviting UIS to organize a session on karst aquifers at the United Nations First Groundwater Summit, also at UNESCO Headquarters, in December 2022.

Some people think the UIS works at too high a level. I know that UIS doesn't yet work at a high enough level. The UIS gives grants and has commissions and programs to support cave expeditions, research, and conferences. Meanwhile, some cavers around the world complain and ask, "Why isn't something done to protect caves?" or to protect karst aquifers or cave animals, or to spend more money on research, etc. The answer is that cave organizations do not usually work at high enough levels with governments to make these changes. The UIS is now starting to reach those levels.

The International Year meetings with many of the world's governmental leaders have increased the leaders' knowledge of caves and karst and the existence of the UIS. Those meetings have already proven helpful to reduce environmental impacts on karst in some areas, and have led to new and higher level opportunities for the UIS ([see page 4](#)). Only the UIS can work internationally for cavers at these levels. And it is why UIS supports cavers in many ways—because cavers produce the information that makes research and protection and high level improvements possible. For this reason, the theme of the International Year was, Explore, Understand, Protect.

Thank you for your support of the International Year of Caves and Karst, and all you will do for caves and karst in the years ahead.



The number of International Year of Caves and Karst events plotted by month over the Year's 2021-2022 period.

ANOTHER MULU EXPEDITION

Andy Eavis, Honorary President, and past President of UIS organised another expedition to Mulu, Malaysia, this November 2023. This is a follow-on trip from last year's Mulu Caves 2022. The original intention was only laser scanning but there was quite a lot of unfinished business by way of science and exploration, so the original 5-man team expanded to 25 people!!

It is estimated that well under 50% of the caves of Mulu have so far been explored, and Clearwater Cave is currently over 220 km long and the 8th longest cave in the world. There are a number of connections that could be made that would put it up the rankings, and it's even within the realms of possibility, with connection to others it could rival Mammoth/Flint Ridge as being the longest cave in the world!!

In addition to that, many of the passages are enormous. Clearwater could possibly claim to be the largest cave in the world by volume. Laser scanning last year traversed through 5 km of enormous cave. This year 2023 the scanning objective was

another 5 km of huge passage, including Cave of the Winds, Hyperspace Bypass and Clearwater Three—all gigantic.

Exploration in the high-level passages will continue the discoveries made in 2022, and science, particularly microbiology and air/condensation corrosion will continue under the guidance of Hazel Barton and Andy Farrant. It is hoped that next summer the UIS bureau will call in on Mulu, one of the finest caving regions in the world. As Nadja Zupan Hajna, the President of UIS, put it, it's good for international caving bureaucrats to have an opportunity to do some of the finest caving in the world.

The bureau members will see firsthand how sympathetic show cave design can enable tourists to visit spectacular caves without a major impact on the passages. In addition, the prosperity of the region has been enormously improved by the influx of tourists, bringing great benefits to the local people, largely because of the caves.



Clear Water Cave, in Mulu: Maybe the largest cave in the world by volume.

Andy Eavis (UK)
December 2023

UIS DOCUMENTS

GUIDELINES FOR CAVE AND KARST PROTECTION

Updated and Translated

By Dr. George Veni (USA)
UIS Past President 2017-2022
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Union Internationale
de Spéléologie



International Union for
Conservation of Nature

In 1997, the International Union for the Conservation of Nature (IUCN) published a 53-page booklet titled, *Guidelines for Cave and Karst Protection*, which is available for free download from IUCN at <https://portals.iucn.org/library/sites/library/files/documents/1997-026.pdf>.

It was edited by four experts in cave and karst management and science, with contributions and reviews by many other experts worldwide. This booklet was highly important because while some of its information was scattered in several textbooks, conference proceedings, and other reports, here it was placed into one report and expanded so its crucial information could be easily accessed and used.

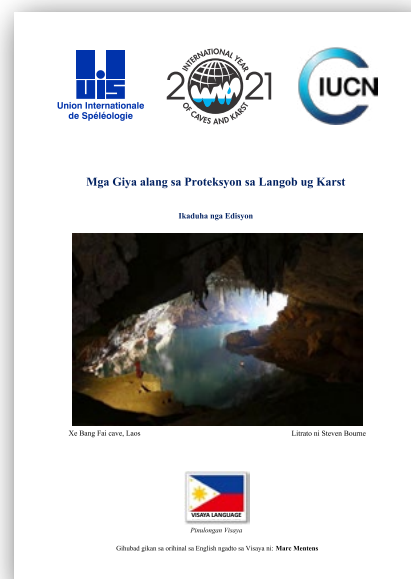
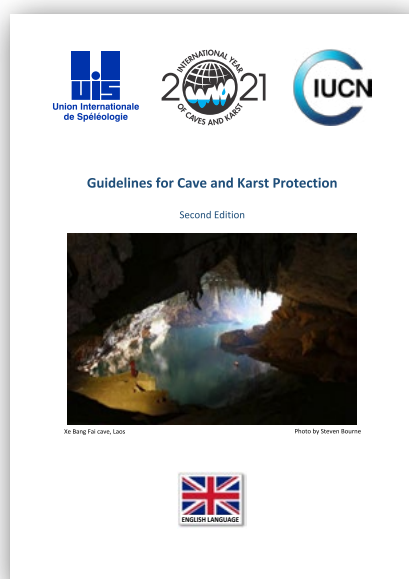
When the International Year of Caves and Karst was announced for 2021-2022, one of the original editors, Dr. David Gillieson, along with Dr. John Gunn, Dr. Augusto Auler, and Mr. Terry Bolger, felt it was time to update and expand the booklet into a book as their contribution to the International Year. Rather than use a reduced page size, the second edition of *Guidelines for Cave and Karst Protection* is 124 full-size pages with

information from 16 contributing expert authors and was reviewed by 22 additional experts, in total represent 17 countries on five continents.

The second edition provides full sections on topics briefly mentioned in the first edition and introduces sections with completely new topics. As with the first edition, a summary list of the guidelines discussed in each section is given at the end of the section. Each section offers detailed explanations that make the need for the guidelines clear to the reader.

To those who are familiar with caves and karst, some of the explanations and guidelines will seem obvious, but remember, the guidelines are also written for the many people who manage caves and karst but have little experience with or knowledge of these resources.

The IUCN was not able to publish this second edition and UIS was asked to be the publisher, with the IUCN's support listed.



The full guidelines are available in three languages to date: English, Russian, and Visaya (Philippines).
Many others translations are coming. [CLICK ON THE IMAGE TO ACCESS THE RESPECTIVE DOCUMENT.](#)

To minimize costs and environmental impacts, only a small number of the second edition were printed for distribution last year to the UIS delegates at the 18th International Congress of Speleology, and to partners and contributors. It was designed for distribution primarily online and is available for free download through the UIS and IUCN websites.

The first edition of Guidelines for Cave and Karst Protection included a listing of all 31 guidelines at the end of the booklet, including translation of that summary list into French and Spanish. No such translations are given at the end of the second edition, but something different and better is being done. The UIS has contacted members around the world and asked for translations into 40 languages for posting on the UIS website.

The translations are occurring in two parts. First, the summary list, which now has 76 guidelines, is being translated. Second, the full publication is being translated too. Here is the status of the translations:

- 40 languages requested
- 1 declined
- 3 not needed because English is understood well in those countries
- 21 summaries are complete and 18 are in progress
- 3 full reports are complete
- 17 full reports are promised
- 4 full reports are not clear if they will be translated
- 12 full reports are not likely to be translated by current translators

To find the translations, go the UIS website, <http://uis-speleo.org/>. They are currently in the Publications area, but that may change before you read this to better organize the increasing number of translations.

If you want to help with the translation, first visit the UIS website to see what has been done and if you don't see your language translated in summary or the full document, contact me at gveniasassociates@gmail.com.

Translations may be in progress and your help may not be needed, but if the scheduled translator is not able to complete a translation, it would be very good to know that you are available.

Also, I need volunteers to translate the full report for six languages (Bulgarian, Czech, French, Korean, Spanish and Vietnamese) and assistance in other languages may be needed too. Translating the full report is a lot of work, but if you think you can do it, please contact me.

On behalf of the UIS and IUCN, I thank the editors, contributors, reviewers, and photographers who made this important and excellent second edition of *Guidelines for Cave and Karst Protection* possible, and to the many translators who are making it more broadly accessible around the world.

Below are the covers of the summaries in 21 languages to date. Click on each image to access the respective document.



GLOBAL EVENT WITH THE PARTICIPATION OF UIS

UNITED NATIONS: CONFERENCES AND SPELEOLOGY

by
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 UIS Adjunct Secretary
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United Nations



UN
 2023 WATER
 CONFERENCE

NEW YORK
 22-24
 MARCH
 2023

The United Nations (UN) 2023 Water Conference was initiated for the Midterm Comprehensive Review of the UN Decade for Action on Water and Sanitation (2018-2028). By hosting its first water conference since 1977, it called attention to the urgent need to discuss Earth's most life-giving element.

Information and pre-congress involvement were more difficult to get as UIS already discovered at the Sustainable Development Goals Major Group for Non-Government Organizations (NGOs) meeting. Only one member of the speleo community was able to participate, the German Speleological Federation (VdHK), and did so online.

More important was that UN accredited NGOs, like the VdHK, could send written input. The UIS did not have time to participate fully, having just organized an event for the UN's First Groundwater Summit ([see UIS Bulletin 64, 2](#)), but assisted VdHK and in just 3 days a paper was drafted by Hans Jürgen Hahn, George Veni, John Gunn, and Baerbel Vogel. It is the first paper on speleology submitted at the UN level!

The link to the VdHK Water Paper to the UN Water Conference is: <https://sdgs.un.org/documents/verband-der-deutschen-hohlen-und-karstforscher-ev-51807>.

A total of 150 papers with recommendations were accepted. The link to the other papers is: <https://sdgs.un.org/conferences/water2023/stakeholders>.



Baerbel Vogel at the round table on Sustainable Development Goal 6 on Clean Water, UN Regional Conference Europe in Geneva, Switzerland. PHOTO: JÖRG DREYBRODT

UN REGIONAL CONFERENCE EUROPE IN GENEVA, MARCH 2023

This was the third time Jörg Dreybrodt participated at this conference in Geneva, Switzerland, and again water was a topic at a side event. Baerbel Vogel engaged online for the round table on UN Sustainable Development Goal 6: Clean Water. The chair of the session encouraged the online participants to ask for the floor, so Baerbel had 2 minutes to summarize the paper mentioned above.

The clear message for cave and karst conservation was even referenced by the following speaker, on behalf of the Civil Society Organizations. Sascha Gabizon, Executive Director of Women Engaged for a Common Future (WECF) particularly highlighted that speleology addressed another important issue related to water: the impact of mining.

UIS COMMITTEE ON INTERNATIONAL GOVERNANCE

At the last UIS Bureau meeting, a new committee was founded on the subject of international governance. UIS is more and more involved with international organizations and politics where major and global changes are possible.

To share work and possibilities, the committee shall be open to every engaged caver. It aims to address international organizations like the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and other UN related programs like the United Nations Environment Program (UNEP) or the Non-Government Organizations Major Group for the UN Sustainable Development Goals with a focus on speleological topics.

UIS has been working since 2017 on the UN level, so there is a certain amount of knowledge known to UIS and available to committee members. UN conferences take place on every continent and UIS would be happy to send committee members to give reports.

The UIS committee meetings will take place virtually. As the committee has just been created, more information will be available and shared later in future issues of the UIS Bulletin.

To be involved in the UIS Committee on International Governance please get in touch with:

Baerbel Vogel: b.w.vogel@gmx.de

George Veni: gveniassociates@gmail.com



Verband der deutschen Höhlen- und Karstforscher e.V.

German Speleological Federation

German Speleological Federation
c/o Bärbel Vogel, Hauptstr.5 87484 Nesselwang, Germany



www.vdhk.de

Statement of the German Speleological Federation for the UN Water Conference 2023

Drafted by Bärbel Vogel (VdHK President)
Assistance: Prof Dr. John Gunn, Dr. George Veni, Dr. Hans Jürgen Hahn



Photo: Alexandra Bengel

Karst covers about 20% of Earth's land surface and supplies around 10% of the world's population with water! ⁽¹⁾

Karst is a landscape formed from the dissolution of rocks such as limestone, dolomite, and gypsum. It is characterized by underground drainage through natural pipes (conduits) some of which are large enough for humans to explore (caves). Where karst is present on the land surface it is characterised by sinkholes, disappearing streams, and springs. However, some karst conduits travel long distances beneath landscapes developed on other rocks that display no evidence to suggest water is flowing through the limestone at depth.

Water flows rapidly through conduits (up to km/day) and there is little or no filtration, so karst aquifers are very vulnerable to contamination. Moreover, contaminants can spread over large distances harming people and subterranean species and ecosystems. Pollutants may also become trapped in karst aquifers and then be released over time at springs⁽²⁾. Karst groundwaters are particularly susceptible to transmission of bacteria, for example from poorly designed waste-water systems, and of pollutants, such as pesticides and herbicides from agricultural land, hydrocarbons from roads and fuel storage facilities and sediment from agriculture, extractive industry and development. There are also many examples of over-abstraction of groundwater from karst, which commonly leads to subsidence or catastrophic collapse on the surface⁽³⁾.



Caves and karst groundwater-dependent ecosystems harbour many species some of which are endemic to a single cave system. Even small impacts can result in detrimental, potentially irreversible, changes to subterranean habitats, including natural underground biofilms that consist of many specially adapted microorganisms⁽⁴⁾. Deforestation, intensive agriculture, and mining are major threats to cave fauna causing severe biodiversity losses. In contrast to their direct impacts on surface karst and its unique biodiversity, the underground impacts are largely indirect and relate primarily to changes to water quality and quantity⁽²⁾. Mining activities can change underground waterways in and beyond a karst area, commonly causing springs to dry up. during high precipitation events water can develop new underground passageways causing severe damage on the surface. 'Water mining', where extraction exceeds recharge, is a particular problem in karst because of the ease of water removal from caves and large conduits⁽²⁾.

An understanding of karst, its groundwater systems, and their complex interrelationships is important for:

- **sustainable use**
- **resource protection**
- **disaster risk reduction**
- **subterranean biodiversity.**

VdHK calls on the UN Water Conference to recognize (a) that karst groundwater is a biodiversity hotspot and (b) that total catchment management is more vital for karst landscapes than many other lithologies. In particular:

- Countries should treat karst water as a fragile and finite resource, implementing laws to control and discipline water extraction, as well as allowing appropriate funding for quick reaction in case of contamination. In particular, recommendations regarding the proper design and implementation of septic tanks and the location of landfills should be put into practice.
- Managers should recognise that in karst catchments, surface actions result in direct or indirect impacts underground or further downstream.
- Agricultural activity has the potential to cause significant adverse impacts on karst geoecosystems. Land managers should (a) give particular attention to any proposed changes in land use and (b) provide guidance appropriate to the type of farming and the particular conditions on the ground in order to minimise impacts on water quantity and quality.
- Any proposal for a new mine or quarry in karst should be subject to a detailed environmental assessment that considers both features in and on the boundary of the area, as well as the potential for distant impacts via surface water and karst groundwater .
- Buffer zones should be established around karst water sources, such as springs, wells and caves.

(1) World Karst Aquifer Map

<https://numis.niedersachsen.de/trefferanzeige?docuuid=473d851c-4694-4050-a37f-ee421170eca8>

(2) IUCN/WCPA Guidelines for Cave and Karst Protection

<https://www.iucn.org/resources/jointly-published/guidelines-cave-and-karst-protection-second-edition>

(3) IUCN/WCPA Guidelines for Geoconservation in Protected and Conserved Areas

<https://portals.iucn.org/library/sites/library/files/documents/PAG-031-En.pdf>

(4) Cave Animal of the Year

<https://hoehlentier.de/en/>



19th INTERNATIONAL CONGRESS OF SPELEOLOGY

38th Brazilian Congress of Speleology

20-27 July 2025 - BELO HORIZONTE - MINAS GERAIS - BRAZIL



UIS DELEGATION IN BRAZIL

The present and future of international speleology on the agenda

Besides the annual in-person meeting, UIS Bureau Members landed in Brazil in July 2023 to attend the 37th Brazilian Congress of Speleology, check the organization of the 19th ICS 2025, know the venue in Belo Horizonte, and visit some caves and karst attractions.

By Nivaldo Colzato (Brazil)

UIS Vice-President of Operations/UIS Bulletin Editor

19th ICS Representative at the UIS

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From July 25th to August 10th, some UIS Bureau Members traveled to Brazil for a series of activities, including attending the 37th Brazilian Congress of Speleology (CBE), holding the annual in-person meeting of the Union, checking the organization of the 19th International Congress of Speleology (ICS), including the official visit of the venue. In addition, the UIS delegation had the opportunity to visit some Brazilian karst and cave attractions that will be offered as field trips of the 19th ICS in 2025.

Regarding the UIS Bureau meetings, going back in time we remember that the annual frequency was established by the third UIS Bureau, in 1976, due to the need to better discuss the increased demand for issues to be resolved or actions to be taken.

During decades, the in-person meetings were the only way members had to gather the whole group. More recently, once virtual meetings have become a reality and a solution adopted by many companies and organizations, within the UIS this resource has allowed to increase the number of meetings, however, the tradition of at least one annual in-person remains.

Besides that, they are currently scheduled to coincide with an international, regional or national speleological event in one of its member countries.

Since 1995, the in-person meeting between two UIS congresses is held in the country that will organize the next ICS so that the UIS Bureau can check the state of the art of the organization of the ICS that is approaching. In addition, it is the opportunity to know and meet the organizing committee, the host city of the congress, the venue, the options and types of accommodation, means of transport, attractions for the Wednesday excursions, as well.

Below is the UIS Delegation who gathered in Brazil to keep the UIS tradition and carry out these important activities:

Nadja Zupan Hajna (Slovenia, President)

Nivaldo Colzato (Brazil, Vice-President of Operations)

Johannes Mattes (Austria, Secretary General)

Mladen Garašić (Croatia, Treasurer)

Nathalia Uasapud (Colombia, Adjunct Secretary)

Marc Mentens (Philippines, Adjunct Secretary)

Andy Eavis (United Kingdom, Past President 2005-2013)

José A. Labegalini (Brazil, Past President 2001-2005)

George Veni (USA, Past President 2017-2022)

Jean-Pierre Bartholeyns (Belgium, President of the UIS Karst and Cave Protection Commission)

THE 37th BRAZILIAN CONGRESS OF SPELEOLOGY (CBE)

The most important speleological event in Brazil, the CBE is regularly organized every two years. The 37th edition was held between 26th and 29th of July 2023 in Curitiba, capital of Paraná state, in the south region of Brazil, on the premises of the [FAE Business School](#). While it was held by the Brazilian Speleological Society (SBE) and the Brazilian National Center for Research and Conservation of Caves (ICMBio/CECAV), the organization was in charge of the Speleological Study Group of Paraná (GEEP-Açungui) and the University Group for Speleological Study (GUPE).

The event, which theme was **“Brazilian Speleology in Perspective: Search for Unity for Multiple Realities”**, was attended by 223 participants. All Brazilian regions were represented, as well as people from 11 countries (*Austria, Belgium, Colombia, Croatia, Italy, Mexico, Philippines, Slovenia, Spain, United Kingdom, and United States*).

The 37th CBE Program included activities such as field trips and pre-congress short courses, lectures, debates, oral presentations, and panels. Furthermore, this issue of the event brought an innovation, which was EspeleoArt, a cultural branch of the congress that featured exhibitions relating art and speleology in different public spots of the city of Curitiba.

General numbers of the congress:

- **223** participants from the five regions of Brazil and 11 other countries
- **7** Field Trips, including one for parents and their children
- **6** Mini- Courses
- **5** Debates
- **6** special conferences
- **1** Round Table
- **3** Poster Sessions with 26 papers
- **10** Oral Sessions with 39 papers
- **136** sets of gifts distributed, such as 101 books, 9 overalls, and 26 of other types

One of the official participations of the UIS in the event was the Round Table entitled **“Advances and Trends of International Speleology.”** Nivaldo Colzato (Vice-President of Operations) was the moderator, while Nadja Hajna (President), and Nathalia Uasapud (Adjunct Secretary) completed the group together Elizandra Goldoni Gomig, the newly elected President of the Brazilian Speleological Society (SBE).

After brief words from Nivaldo, each of the three women had 15 minutes each one for oral presentation about the proposed theme, taking into account their point of view and their personal experience in speleology, both within the speleological scenario in their country and internationally.

On July 26, the Organizing Committee of the 37th CBE offered to the UIS Members a special field trip to the region of Ponta Grossa (120 km far from the venue) where the group could visit first the *“Furna do Buraco do Padre”*.



The FAE Business School building, the venue of the 37th CBE. Modern facilities contributed to the success of the event.

PHOTO: NIVALDO COLZATO



Nadja Zupan Hajna, UIS President, talking during the 37th CBE Opening Ceremony. PHOTO: LUIS BATISTA



Round Table with participation of the UIS members: reflection on advances and trends in international speleology.

PHOTO: LUIS BATISTA

UIS Adjunct Secretary Nathalia Uasapud (Colombia) during her presentation at the round table.

PHOTO: LUIS BATISTA



LEFT TO RIGHT: Nivaldo Colzato (Vice-President of Operations), Nadja Zupan Hajna (President), Nathalia Uasapud (Adjunct Secretary), and Elizandra Goldoni Gomig (SBE President).

PHOTO: LUIS BATISTA

Such karst feature is located within the Campos Gerais National Park, on the eastern edge of the Paraná Basin. It consists mainly of a large crack in sandstone rock with a waterfall around 30 meters high that flows into an amphitheater (furna) and forms a small sandy bottom lake.

After this tour, the group was taken to Vila Velha State Park. Created in 1953, this park provides to the visitors the opportunity to walk through interesting sandstone formations. Some collapsed dolines also in sandstone rock with lakes in the bottom completed this pleasant field trip that is on the list of pre- and post-congress trips in 2025.

Many thanks to the geologist Rodrigo Aguiar Guimarães, President of the GUPE speleo team, who kindly accompanied the group throughout the journey and brilliantly shared his vast scientific knowledge about the region, specially details about the genesis of the sandstone formations visited.

In the night of the same day, the UIS representatives participated in the 37th CBE opening ceremony, especially the President Nadja Zupan Hajna, who was invited to come on stage, where she made a brief statement on behalf of the Union.

UIS Bureau Meeting

As previously agreed with the 37th CBE organizers, a special room was reserved exclusively for the UIS to carry out the annual meeting as well as other institutional activities during the period of the congress.

Thus, the first session of the UIS Annual in-person meeting 2023 was held on July 27th. On the occasion, to celebrate the presence of the UIS in Brazil, the 19th ICS Organizing Committee (OC) presented UIS Delegation with a personalized mug, a backpack, some embroidery of the congress logo, and a batch of stickers to them to promote the UIS congress 2025 in their countries and at the speleological events they attend around the world.

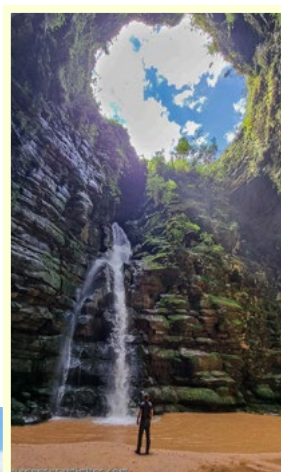


Personalized mug and backpack to celebrate the UIS Bureau meeting in Brazil were given to the UIS Delegation, as well as stickers and 19th ICS embroidery logo to promote the event around the world.



The UIS Delegation among other friends at the Campos Gerais National Park Visitors Center, in Ponta Grossa-PR.

PHOTO: ARCHIVE NIVALDO COLZATO



The 30 meters high waterfall at the Furna Buraco do Padre, the main attraction of the Campos Gerais National Park (Ponta Grossa-PR).

PHOTO: © VIAGENS E CAMINHOS



General view of the Vila Velha State Park: Pleasant walk through 15 meter high sandstone formations.

PHOTO: NIVALDO COLZATO



The group in a classic photo of the visit. In the background is "the cup," Vila Velha park's most famous sandstone formation.

PHOTO: ARCHIVE NIVALDO COLZATO

In addition to these gifts, the UIS Bureau Members were offered by the 19th ICS OC free accommodation and food in Curitiba during the 37th CBE.

To advance some subjects relating to the 19th ICS that would be presented and discussed in the second session, the UIS Delegation was also given a printed copy of the 19th ICS First Circular, which is edited in Portuguese, English, and Spanish. The purpose of delivering these copies was so that they could read and evaluate the general content and information to express their opinion two days later, during the second session.

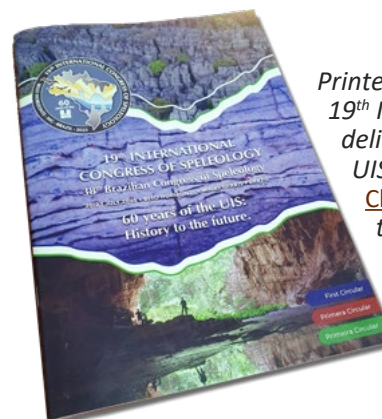
The 19th ICS OC thanks the Bureau Members for their comments and suggestions to improve the first circular, which official version in digital format was published in early November. [Click here](#) to access the document.

The second session of the UIS Bureau meeting was on July 29th. As previously agreed, we had the participation of the 19th ICS OC to show to the UIS the state of the art of the 19th ICS organization. The PowerPoint presentation included the following items:

- Congress Operator Agency already hired
- Communication Plan
- Agreement with Accor Hotel group to ensure low-cost rates for congress participants
- The congress Venue
- Preliminary Scientific Program
- SpeleOlympics
- Excursions and field trips
- Budget already guaranteed
- Potential sponsors in case of need for more money
- Main partners
- Future plans

During and after presentation, the 19th ICS OC could answer questions and concerns from those present and heard important advice that will certainly be taken into account. At the end, the general comments were very positive and foreigners in the room expressed total satisfaction with the current stage of the congress organization. They are, therefore, very optimistic and confident that Brazil will organize an excellent UIS congress in 2025.

Some members of the UIS Bureau who were unable to travel to Brazil participated in the two sessions of the meeting virtually. The Minutes of the meeting are on [page 70](#) of this issue.



Printed copy of the 19th ICS First Circular delivery to the UIS Delegation. [Click here](#) to download the digital version.

PHOTO: NIVALDO COLZATO



July 29 2023: Joint meeting between the UIS Delegation and the 19th ICS Organizing Committee, where the UIS was presented the state of the art of the organization of the event in Brazil in 2025: The impression left was very positive.

PHOTO: LUIS BATISTA



The six UIS Bureau Members who attended in-person the annual meeting in Brazil. **LEFT TO RIGHT:** Marc Mentens, Johannes Mattes, Mladen Garasic, Nadja Zupan Hajna, Nivaldo Colzato, and Nathalia Uasapud. PHOTO: LUIS BATISTA



Members of The 19th ICS Organizing Committee presented at the meeting with the UIS. PHOTO: LUIS BATISTA



UIS Delegation and the 19th ICS OC, all together: Union and synergy aiming to organize an excellent congress in 2025.

PHOTO: LUIS BATISTA

SpeleoArt Exhibition

As already mentioned here, one of the attractions of the 37th CBE was the SpeleoArt, which for the first time in the history of Brazilian congresses was organized outside of the venue. Counting on the coordination of Birgitte Tummler—who is member of the Artists & Biologists Unite for Nature Group—and the collaboration of Curitiba City Hall together the State Secretariat for Culture, the main tourist spots of the city received exhibitions related to caves and karst, especially paintings, sculptures, and rock art panels.

The main reason to expose speleo arts outside of the congress venue was to bring knowledge about the underground world and karst landscapes to the general public and for a longer time.

In one of the places—the [Natural History Museum](#)—a very simple cave was built, in which children visitors were “challenged” to find some troglobian animals that were “hidden” in different parts of the cave.

The [Botanic Garden](#) received a series of panels reproducing rock paintings in caves from different regions of Brazil.

The [Casa Gomm](#)—a wood house that was built in England and brought to Curitiba in the 1910s, and now serves as headquarters of the Cultural Heritage Coordination (CPC) of the state Department of Culture—received mainly paintings made by 17 artists from different regions of Brazil inspired by the underground universe.

The approximate numbers of visitors of the EspeloArt Exhibition until the week of the congress were:

Casa Gomm (paintings): **3.000**
 Alfredo Andersen Museum: **1.500**
 Natural History Museum: **18.000**
 Gibiteca: **7.000**
 Botanic Garden: **4.000**
 Museum of Photography: **5.000**



Exposition of rock paintings at the Botanical Museum.



FOTO KRAW PENAS/SEC

Casa Gomm, the wooden house from the 1930s housed an art exhibition (above). Below are three paintings that were part of the collection exclusively commissioned for this event.

FOTOS: NIVALDO COLZATO



Special donation during the Closing Ceremony

The whole UIS Delegation attended the 37th CBE Closing Ceremony, where the UIS President Nadja Hajna was invited to come to the stage again.

In addition, UIS Adjunct Secretary Mark Mentens was called to explain to the public the donation of some helmets and harnesses he had made to the 37th CBE organizers to distribute to beginning cavers who were not afford.

Mark coordinates such a project in Indonesia aimed at training and forming new cavers. As a result, he usually was given equipment to distribute to the young cavers. That's why he decided to bring some to Brazil. In his brief words, Mark encouraged those present to adopt the same initiative in their speleological haunts.

Mark's inspiring gesture was the last official participation of the UIS Delegation in Curitiba. Important contributions were exchanged with Brazilians, at the same time that old friendships were strengthened and many new ones emerged.

UIS Adjunct Secretary Marc Mentens at the 37th CBE Closing Ceremony explaining his project in favor of young cavers.

PHOTO: NIVALDO COLZATO



FROM CURITIBA TO BELO HORIZONTE (BH)

After the Brazilian congress ended, some UIS Members remained in Curitiba to visit some karst attractions in the region, others returned home and a third group, composed by Nadja, Andy, Mladen, Johannes, Nivaldo, and José Ayrton, along with some members of the 19th ICS OC, flew to Belo Horizonte, capital of Minas Gerais state, the host city of the 19th ICS.

As the official meeting between the UIS and the 19th ICS OC had already been held in Curitiba, this second appointment of the UIS in Brazil aimed to know mainly the facilities of the Minascentro Convention Center, the venue of the 19th ICS, and some local and regional attractions for 2025.

During the tour inside the venue, the UIS team was told the current ideas to occupy each area of the immense building, whose three floors make up a total area of 23,000 m².

In summary, it was a very fruitful visit. Comments and suggestions were noted and accepted. After all, the congress belongs to the UIS, and Brazilian count on the unconditional support of its Bureau to organize the best event as possible.

The first day in Belo Horizonte was completed with lunch at Central Market (*Mercado Central*), one of the most famous and frequented spots in the city, and a city tour to recognize some attractions that will be available in 2025 as a day trip.

The next day, the Van that was available to the group headed towards the vicinity of Belo Horizonte, to one of the most important karst regions in Brazil, considered the birthplace of Brazilian speleology, archeology, and paleontology. The places specially visited were the state parks of Sumidouro, in Lagoa Santa, and of Cerca Grande, in Matozinhos, both in the list of one day excursions of the 19th ICS as well as pre- and post-congress excursions.

In the first one, the group visited the Cave of Lapinha, a show cave, while in the second the main attraction is the limestone massif that holds caves and one archeological site (*Lapa Cerca Grande*) that features around 100 cave drawings representing hunting scenes and animals ([click here](#) to see the panel in 3D). In the 1830s, the place was visited by the Danish Peter Wilhelm Lund, who explored the region and found remains of many extinct Pleistocene animals.



Limestone massif in the Cerca Grande State Park (60 km north of Belo Horizonte): caves and important prehistoric remains still under study. PHOTO: NIVALDO COLZATO.



Minascentro Convention Center, in Belo Horizonte, the 19th ICS Venue: Members of the UIS and the 19th ICS OC at the main entrance (top photo), and on the stage of the main theatre (below), which has 1.570 seats. PHOTOS: ARCHIVE MLADEN GARASIC.



UIS Members at Liberty Square, in de centre of Belo Horizonte. Surrounded by important museums, it is included in the list of Wednesday trips during the 19th ICS.

PHOTO: ARCHIVE NIVALDO COLZATO.



UIS Members at Lapa Cerca Grande arqueological site in the park of the same name. PHOTO: ARCHIVE NIVALDO COLZATO.

FROM BELO HORIZONTE TO THE PERUAÇU VALLEY

After finishing the works in Belo Horizonte and vicinity, Nadja, Mladen, José Ayrton, and Nivaldo, as previously scheduled, traveled to the north of the state to the Peruaçu Caves National Park (PCNP), one of the attractions selected for pre- and post-congress trips in 2025. For this program, the group was joined by Leo Giunco, a longtime friend of Nivaldo and José Ayrton, who lives in the region and provided personal and logistical support for the general organization of the proposed program.

Giunco even scheduled a visit to Januária City Hall, where we were received by the local mayor and some municipal secretaries to register the presence of the UIS in the region. During this informal meeting, UIS members highlighted the importance of caves and karst for the economic development of the region through tourist exploration.

Other meetings were scheduled by Giunco with tourism and environment secretaries from Itacarambi and São João das Missões, which, together Januária, form the three municipalities that house the PCNP.

The meetings and conversations were registered by local journalists and cameramen, who recorded videos and statements that were later published on social media, newspapers and local TV channels. In this way, the UIS could communicate more comprehensively not only with the caving community, but also with the local and regional population, about the importance to protect the rich natural and cultural heritage they have.

During the three days in the Peruaçu Valley, the group was accompanied by José Santana, also a great friend of ours, who lives there and is an official park guide. The karst, caves, huge galleries, canyons, arches, and the many archaeological sites spread across the valley were very appreciated by the visitors.

Considering that the site is one of the attractions of the 19th ICS and is in the process of being declared as Natural World Heritage Site by UNESCO, the comments left by Nadja and Mladen regarding paths, signage, maps, and quality of information for tourists were greatly appreciated, including by Dayane Sirqueira, head director of the park who joined us for a day to the visit of Janelão Cave, the largest and best-known cave in the park.



Carlucio Cave. PHOTO: NIVALDO COLZATO



LEFT TO RIGHT: Nadja, José Santana, Mladen, Leo Giunco, Dayane (head director of the park), Gisele, Nivaldo, Eliane, and José Ayrton in the main gallery of Janelão Cave, the most famous in the Peruaçu Valley. PHOTO: ARCHIVE NIVALDO COLZATO



THE BIG MAN ARQUEOLOGICAL SITE:

Discovered in February 1993 by Carlito, Eduardo, and Nivaldo (on the left in the photo)—members of the Monte Sião Speleo Team—it is still waiting for the archaeologists to be researched. In these 30 years, in addition to the discoverers, only 11 people were there. Among them, the only foreigners Nadja and Mladen. The largest image that inspired the name of the site is 1.43 m high, the largest ever found in the region.

PHOTO: LEONARDO GIUNCO

FROM THE HUGE KARST OF PERUAÇU TO A SMALL ARTIFICIAL CAVE

Coming back from the north of Minas Gerais, the group traveled to the extreme south of the state, specifically the city of Monte Sião (1.100 km away of Peruaçu Valley), where José Ayrton lives.

In the museum of the city there is the Carlos Faraco Cave, a small artificial cavity that was inaugurated in 1995 during the 23rd Brazilian Congress of Speleology, event organized by the Monte Sião Speleo Team, of which José Ayrton and Nivaldo are active members. At the time, this cave became the first one to be built inside a museum in Brazil.

Considering that Monte Sião is a tourist city—well known for its knitwear industrial hub—and the closest “real” cave to the city is more than 400 km away, this artificial one is intended to promote caves and speleology for people who lives far in a region with no karst.

Several members of the UIS have already been there, such as past Presidents Adolfo Eraso Romero (Spain) and Arrigo Cigna (Italy), or as past Adjunct Secretaries José Palacios Vargas (Mexico) and Jean-Pierre Bartholeyns (Belgium).

In August 2023, therefore, it was Nadja, Mladen and George Veni’s turn to register their names in the museum’s visitors’ book, this being the last speleological activity of the UIS members in Brazil in 2023.



CARLOS FARACO ARTIFICIAL SHOW CAVE, IN MONTE SIÃO, MINAS GERAIS - LEFT TO RIGHT: José Ayrton, Nadja, Mladen, George, and Nivaldo. Opened in 1995 to promote speleology in a city 400 km away from the nearest karst region.

PHOTO: ARCHIVE NIVALDO COLZATO

FINAL CONSIDERATIONS

In general, we can conclude that the presence of the UIS Delegation in Brazil was successful.

The time spent in Curitiba were very positive and productive. According to Nadja Zupan Hajna, UIS President, *“the UIS Bureau had a very good meeting with the organizers of the 19th ICS 2025 and represented the UIS at the 37th Brazilian Congress of Speleology in that city. Brazilian speleologists were very proud that we were there because their work is gaining even more importance with international support and recognition”*.

Nadja expressed also that the members of the 19th ICS OC are very enthusiastic, well-organized, and hard-working. *“It looks like there will be a wonderful UIS Congress in 2025”*, she concluded.

The evaluation of the Minascentro Convention Center (the venue) in Belo Horizonte was very positive too. The building provides all facilities to host an event of the magnitude of the UIS congress. As a recommendation to the organizers, Nadja expressed the importance of controlling the timing of presentations and other activities of the congress.

The 19th ICS OC thanks the UIS members who were in Brazil to attend our national congress of speleology, be aware of the level of the 19th ICS organization, and visit some of caves and karst attractions reserved for 2025.

Regarding the 19th ICS itself, whether in Curitiba, Belo Horizonte, Peruaçu Valley or anywhere else the UIS Delegation stayed, the event was always remembered and promoted. The unity and enthusiasm of Brazilians for this second congress in our land is very encouraging. Therefore, it will return to Brazil, after 24 years, in a highly favorable atmosphere.

The organization will continue following the [UIS Congress Guidelines](#) and keeping close contact with the UIS Bureau. Together we are stronger to offer to the international speleological community the best as possible.

As written in the [19th ICS First Circular](#), *the ICS, in addition to the official program, will be a wonderful opportunity to build and strengthen friendships and enrich networks with colleagues around the world.*

May it result, therefore, in the same way as the presence of UIS in Brazil in 2023, that is, a beautiful gathering between speleologists, where affection, respect and friendship were present in each activity, in each place, in each moment of fraternization.

Finally, may the 60th anniversary of the UIS be proudly celebrated in Brazil in 2025. May the participants of the 19th ICS return home not only satisfied with a memorable event, but also with great enthusiasm to continue practicing speleology, forming new generations of cavers, and working hard to protect the world’s speleological heritage.

For more information about the 19th ICS, please access www.speleo2025.org.



Panoramic view of Ouro Preto.

PHOTO: CÉCILE PHILIPPE

A VISIT TO OURO PRETO AND ITS HISTORIC MINING AREA

Minas Gerais, Brazil

by **Johannes Mattes** (*Austria*)

UIS Secretary General

secretary@uis-speleo.org

After completing the official part of the UIS Bureau presence in Brazil (see previous report by Nivaldo Colzato), my wife Cécile Philippe and I had the opportunity to visit the historic mining town of Ouro Preto, about two hours' bus drive from Belo Horizonte. Thanks to the great hospitality of the members of the local speleological community, who guided us through the city, on surface and underground field trips and excursions, we gained a comprehensive insight into the culture, nature, and geoscientific significance of the region, from a historical and a contemporary point of view.

Founded in the 1690s, Ouro Preto ("black gold") was the center of the 18th century gold rush in the then Portuguese colony of Brazil. Twenty percent of the gold mined had to be remitted to the Portuguese crown, fueling industrialization in Europe. In 1876, Brazil's first mining academy, the Escola de Minas, was founded in Ouro Preto, modeled on the École des Mines in Paris. In the following decades, its (inter)national faculty, students and other scholars who grew up in Ouro Preto such as the Austro-Brazilian engineer Guilherme (Wilhelm) Schüch (1824–1908) played a key role in the geoscientific survey and natural-historical exploration

of the country. With the exhaustion of the gold mines and the rise of Belo Horizonte as the administrative center of Minas Gerais, Ouro Preto's economic and political influence declined in the second half of the 19th century. However, many churches, houses and fountains built in late baroque colonial architecture remained as testimony to its past prosperity and the exceptional talent of the architect and sculptor Antônio Francisco Lisboa, better known as Aleijadinho (c. 1730–1814). For this reason, the city was declared a World Heritage Site by UNESCO in 1980.

Ouro Preto's rich cultural and natural heritage makes the town, and especially the surrounding mining areas, an ideal destination for excursions during the upcoming ICS 2025. It is also home to one of the first speleological societies in the Americas, the Sociedade Excursionista e Espeleológica (SEE), founded in 1937 at the Escola de Minas, predating the national organizations in Cuba (1940) and the United States (1941). We were particularly impressed by the Society's extensive archive, which include a collection of maps and detailed records of its activities since its founding.

Current projects deal with the speleological exploration of Minas Gerais and beyond, education, digitization of cave maps and the dissemination of speleological knowledge through lectures, excursions and museum exhibitions (see <https://see.ufop.br>). Particularly noteworthy is the ongoing research into the mining history of the region and the localization and scientific documentation of mining galleries. In this regard, I would like to refer to an article by JAD Cavalcanti *et al.* in Geohertige (2021), pp. 1-29, and recommend to all speleologists attending the upcoming ICS to take the opportunity to visit Ouro Preto on a guided excursion.

Our special thanks go to Claudia Pessoa, Secretary General of the ICS 2025, Francisco de Assis Silva, Senior Engineer Geologist, and Emilio Evo Magro Correa Urbano, Professor of Geological Mapping at the University of Ouro Preto, who showed us the rich region around Ouro Preto, sparing neither time nor effort. Although our stay was only from August 3 to 7, we felt as if we had been there for several weeks.



(FROM LEFT TO RIGHT): Claudia Pessoa, Johannes Mattes, and Paulo Eduardo Lima at the office of the Sociedade Excursionista e Espeleológica. PHOTO: CÉCILE PHILIPPE



Francisco de Assis Silva in a historical mine near Mariana. PHOTO: CÉCILE PHILIPPE



Dinner with the Brazilian hosts. PHOTO: CÉCILE PHILIPPE



THE AUSTRIAN ACADEMY OF SCIENCES: A NEW AFFILIATED ORGANIZATION OF UIS

by Johannes Mattes (Austria)
 UIS Secretary General
secretary@uis-speleo.org

ÖAW
 ÖSTERREICHISCHE
 AKADEMIE DER
 WISSENSCHAFTEN

At its meeting on December 13, the UIS Bureau approved the association with the Austrian Academy of Sciences (OeAW). Thus, the latter became an affiliated organization of UIS, with all rights and obligations. Full accreditation, however, is subject to ratification by the next UIS General Assembly (in July 2025).

The OeAW was founded in 1847 as the Imperial Academy of Sciences in the former Habsburg Monarchy. It is both a learned society with over 700 members and Austria's leading non-university institution for basic research.

The Academy currently operates 26 institutes with more than 1,400 employed researchers in the natural sciences, social sciences, and humanities.

Since its foundation, the Academy has promoted the exploration of karst regions in all territories of the Habsburg Monarchy. The first Academy official, the geographer Adolf Schmidl (1802–63), is internationally

considered the “father” of speleology (Trevor Shaw).

He coined the German term “Höhlenkunde” (cave study) in the Academy's journal series—50 years before it was introduced in French and English—and defined the subject as a research field at the interface of geography, geology, paleontology, meteorology, biology, (pre)history and ethnology.

The contributions to karst geomorphology and hydrology published in Vienna in the 1880s/90s by Albrecht Penck (1848–1945), Alfred Grund (1875–1914) and Jovan Cvijić (1865–1927), among others, gained worldwide recognition and turned the local place name “Krš/Carso/Karst”, originally used for a barren plateau in the hinterland of Trieste, into an internationally established scientific term.

PHOTO ABOVE: *The lecture hall of the Austrian Academy of Sciences.* SOURCE: OeAW



The main building of the Academy in the Vienna city center. SOURCE: WIKIPEDIA

In the interwar period, a Scientific Commission for Cave Research was set up at the OeAW on the initiative of its Vice-President Richard Wettstein (1863–1931). In 1921, it carried out a multi-disciplinary expedition to the ice cave Eisriesenwelt (Salzburg), as well as excavations in the Drachenhöhle near Mixnitz (Styria)

Until 1938, there existed also a chair for speleology at the University of Vienna and an own research institute at the Ministry of Agriculture and Forestry, which was headed by the prehistorian Georg Kyrle (1887–1937). After the end of WWII, this tradition was continued and the Third International Congress of Speleology was held in Vienna/Salzburg/Obertraun in 1961

Due to the unique international position of speleology in Austria, Minister of Science Hertha Firnberg founded a Federal Institute for Speleology in 1975, which was later transformed into a department of the Natural History Museum. Its head, the geographer and speleologist Hubert Trimmel (1924–2013), was involved in the founding of UIS (1965) and guided the organization as Secretary General and President from 1969 to 1993.

The UIS Bureau is very pleased to have such a prestigious and influential scientific organization as the OeAW as a partner and looks forward to future cooperation. The Presidium of the OeAW has nominated the author, who is working as a historian of science at the University of Oslo (Norway) and the OeAW, as its official representative to the UIS.



Adolf Schmidl, the “father” of speleology, had a “Habsburg” biography. Born and raised in Bohemia, he worked at the Academy of Sciences in Vienna and later became a professor of geography at the Polytechnic Institute in Budapest. He devoted most of his scientific work to the karst areas around Postojna (today Slovenia).

SOURCE: J. MATTES





UIS INFORMATICS COMMISSION (UISIC)

Cave and karst documentation, mapping, and data

By Peter Matthews (Australia)
UISIC Past President 1986-2022
matthews@melbpc.org.au

Web: <http://uisic.uis-speleo.org>
Forums: <http://uisic.uis-speleo.org/forum/>

OPPORTUNITY TO ADVANCE CAVE DOCUMENTATION UIS Informatics Commission Presidency

An opportunity has arisen for someone who is keen on improving and facilitating all forms of cave and karst documentation: the UIS Informatics Commission needs a new President after its inaugurating president stepped down from 36 years in the role.

The Commission is active on several fronts, and has the benefit of a technically oriented Vice-President. We are now looking for a new leader who:

- *is passionate about cave and karst documentation.*
- *is keen to promote the benefits of our work to the general speleo community, and to the relevant scientific, management, and cave protection communities.*
- *has a vision for the future of the Commission and its work.*
- *is keen to encourage our existing team of volunteers in their various roles.*

Examples of the Commission's work to date:

ALREADY PUBLISHED:

- **Survey & mapping:**
 - Basic cave mapping symbols.
 - Surface mapping symbols.
 - Survey & mapping grades.
- **Linked Data facility - KarstLink.**
- **Multi-lingual Dictionary - 300 concepts in 28 languages so far.**
- **Cave & Karst Glossary - 2700 terms so far.**
- **Worldwide cave periodicals catalogue and exchange mechanism.**
- **Data dictionary for cave data with 600+ fields.**
- **Speleo subject classifications.**
- **Chapter on cave databases and documentation in "Encyclopedia of Caves" (2nd & 3rd editions).**

- *Contributions to the development of the Karst Information Portal.*

IN PROGRESS:

- *KarstLink Linked Data ontology further development, especially for in-cave measurements, and guidelines or new KarstLink applications.*
- **Survey & mapping:**
 - Artificial cavity symbols.
 - T-Lidar 3-D cave scanning.
- *Karst Data Interchange (a simple data transfer format).*
- *Data Transfer Guidelines (sharing vs. protection).*
- *Continued development of the Multi-lingual Dictionary and Glossary system.*
- *WikiCaves liaison (Global online cave database).*
- *UIS Bibliography Commission liaison.*
- *Karst Information Portal liaison.*

You can find out more detail about the Commission and the work that our volunteers are doing from our website and our forums:

Website: <http://uisic.uis-speleo.org>

Forums: <http://uisic.uis-speleo.org/forum/>

HOW TO APPLY

As there may be more than one applicant for this position, please send an email to Peter Matthews (matthews@melbpc.org.au), setting out why you would be the best candidate.

Also happy to discuss via Skype, Zoom, phone, or whatever.



UIS INFORMATICS COMMISSION (UISIC)

Cave and karst documentation, mapping, and data

By Peter Matthews (Australia)
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UIS ONLINE GLOSSARY NOW AVAILABLE

Since the announcement in the December 2022 UIS Bulletin about the project for an online UIS Cave and Karst Glossary, it is now available as part of the UIS Dictionary System for use by cavers, scientists and managers.

THE RECENT RELEASES:

- The 2700-term Stage 1 of the UIS Glossary of cave and karst definitions/descriptions. This first version uses English definitions.
- Web links from most of the bare terms of the long-established 28-language UIS Caver's Multi-lingual Dictionary to their English definitions in the Glossary.
- An extra web page in the Multi-lingual Dictionary now also groups the Dictionary concepts (terms) according to their speleological subject as well as the original Hungarian alphabetic order.

The work is being done under the UIS Dictionary Sub-commission of the UIS Informatics Commission. Further developments are expected to include:

- Refinement of some of the definitions after feedback.
- Many extra terms added to the Glossary to widen its scope.
- Stronger linkages between the multi-language TERMS in the Glossary and the Multi-lingual Dictionary.
- Definitions also in other languages that are then linked to from their respective concepts in the Multi-lingual Dictionary.
- A convenient method of uploading terms and definitions in other languages.
- A convenient web interface for the addition of peer-reviewed definitions by scientists in the various speleo disciplines.
- Integration with the UIS KarstLink Linked Data Ontology.
- Ongoing cosmetic and typo fixes (please alert us to any needed).
- And of course proper presentation of the several scientific equations that are currently displayed only in plain text format.

Of course everyone interested is invited to follow or contribute to the project. Ongoing discussion is via the forum, and project details can be found on the project web page. We especially invite other speleo glossary workers to alert us to their potential future contribution for when we are ready to accept multi-lingual and karst discipline additions.

MORE DETAILS CAN BE FOUND AT THESE LINKS:

The Glossary: <http://uisic.uis-speleo.org/uisglossary-en.html>

The M-L Dictionary: <http://uisic.uis-speleo.org/lexuni.html>

Dictionary Intro: <http://uisic.uis-speleo.org/lexintro.html>

Glossary Project: <http://uisic.uis-speleo.org/lexgloss.html>

Glossary Forum: <http://uisic.uis-speleo.org/forum/viewforum.php?f=19>

KarstLink: <http://uisic.uis-speleo.org/exchange/karstlink/index-en.html>

Dictionary Sub-commission Leader: Mladen Garasic (HR) - mgarasic@grad.hr

Dictionary System Leader: Peter Matthews (AU) - matthews@melbpc.org.au

Dictionary System Assisting: Mike Lake (AU) - mikel@speleonautics.com.au

Arts and Letters Commission

Come to embark on an inspiring journey together

By **Taraneh KHALEGHI** (Austria)
 President UIS Arts and Letters Commission
tk.khaleghi@hotmail.com



I was appointed as President of the Arts and Letters Commission in 2022, succeeding Ian Chandler, who led the commission for many years. Since 2002, I have been a member of the Speleological Society in Obersteier in Austria (VHO). Since 2014, I have served as a board member in this society, actively engaging internationally and artistically for a decade.

In the tapestry of speleology, where science and wonder intertwine within the Earth's hidden realms, the role of artistic expression and literary exploration is indispensable.

Embracing this esteemed new position, I fervently believe that the artistic and literary talents flourishing within our speleology community, akin to precious gems concealed within a cave's heart, deserve a platform to shine and be celebrated.

By offering a platform for these talented souls to connect, communicate, and collaborate, the Arts and Letters Commission aims to enrich the collective experience and weave an artistic tapestry that resonates with the spirit of exploration.

We strive to curate spaces where artists' creations intertwine with scientists' discoveries, fostering an

exchange that not only broadens our perspectives but also deepens our appreciation for the marvels that lie beneath.

Through curated exhibitions and contests, our aspiration is to unveil breathtaking artworks inspired by the hidden recesses of our planet, offering a symphony of colors, forms, and emotions that pay homage to both human creativity and the intricate beauty of nature.

In this journey, I am humbled by the opportunity not only to celebrate the vibrant fusion of art and speleology but also to honor the very essence of exploration – the quest to understand, to marvel, and to create.

Therefore, I invite all artists, writers, poets, musicians, and imaginative minds, if the notion of collaborating, exchanging ideas, or exploring potential projects resonates with you, please don't hesitate to contact me.

I would be glad to embark on an inspiring journey together, delving into the depths of creative expression within our fascinating world of caves.

The UIS Cave Rescue Commission *announces*



14th International Cave Rescue Conference (ICRC)

6 – 9 June, 2024
Cantabria, Spain.



Foto: Alejandro Menéndez González



GOBIERNO
de
CANTABRIA



Click here to access the First Circular

For registration, click here



France HABE Prize 2022

Prix France HABE 2022

By Jean-Pierre Bartholeyns (Belgium)
 President of the UIS Karst and Cave Protection Commission
jp.bartholeyns@gmail.com

INTRODUCTION

The France HABE Prize is awarded by the Commission on Karst and Cave Protection of the International Union of Speleology (UIS). The prize is named in memory and honour of Dr. France HABE (★11/01/1909-†12/10/1999) of Slovenia (Yugoslavia), who among his many other accomplishments served as President of the UIS Protection Department (1973-1997).

The Prize is proposed every year. It will be awarded if a worthy candidate is nominated and accepted. Its purpose is to promote the protection of karst and caves for generations to come.

Their natural legacy are proven sources of increasingly rich information about the history of our planet and humanity, enabling people to act more thoughtfully, efficiently, and sustainably for the future of our environment.

The Jury of the France Habe Prize is composed by two members of the Scientific Committee of the UIS Karst and Cave Protection Commission and its President. They note each submission following an evaluation about the presentation, compilation, photography, scientific content, and originality of the activity point of view. They decide unanimously to award the France Habe Prize at an amount fixed by the UIS Bureau of € 300 to the best and most original contribution.



1970's: France Habe in Zelške Jame
 (The caves of Zelške), Rakov Škocjan, Slovenia.
 PHOTO © JOURNAL ACTA CARSOLOGICA

FRANCE HABE PRIZE 2022: THE WINNER

As announced in the past issue of the UIS Bulletin, the France Habe Prize 2022 was attributed to the Associazione LaVenta, from Italy, for its work and study carried out on the Puerto Princesa Underground River, Palawan, Philippines, a well-known tourist cave.

The Jury congratulates also the six other participants for their actions and activities in Israel, Italy (2), Philippines, Slovakia, and Slovenia but also for their investment in karst and cave protection often for so many years. The winning project is presented on the following pages.

CAVE AND KARST PROTECTION / FRANCE HABE PRIZE 2022 WINNER

MAY CAVE MASS TOURISM AND ENVIRONMENTAL CONSERVATION REALLY COEXIST?

The case of Puerto Princesa Underground River, Palawan (Philippines)

by Antonio De Vivo

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Paolo Forti

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Associazione LaVenta (Italia)

Caves represent a very important tourism target worldwide, and surely produce a significant economic income in several developing countries. Besides, caves represent the ideal place to communicate to a wide public the conservation topics and issues related to the karst environment. This, thanks to the information supplied by cave guides during the visits (if properly and professionally formed, of course).

Unfortunately, though, the transformation of a natural cave into a tourist product first, and its management later on, may (and as a matter of fact frequently does) significantly and sometimes irreversibly alter the cave naturalness and its hosted ecosystems. This is why cavers and their associations are almost always strongly against this kind of transformation.

On the other hand, the idea that a tourist cave be a cave "lost" from the point of view of environmental conservation is not an axiom; much depends upon how such transformation takes place and, above all, upon its management once it is turned into a show cave.

In order to avoid the axiom (as advised by the UIS Department of Protection and Management in its Show Caves Guidelines), it is fundamental that expert environmentalists, and cavers in particular, may collaborate with the managers of the cave since the very first phases (planning) of its tourist-bound transformation.

FRANCE HABE PRIZE 2022 WINNER



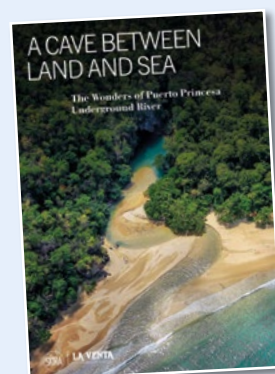
LA VENTA
ESPLORAZIONI GEOGRAFICHE

LA VENTA
Associazione Culturale
Esplorazioni Geografiche
(Italy)

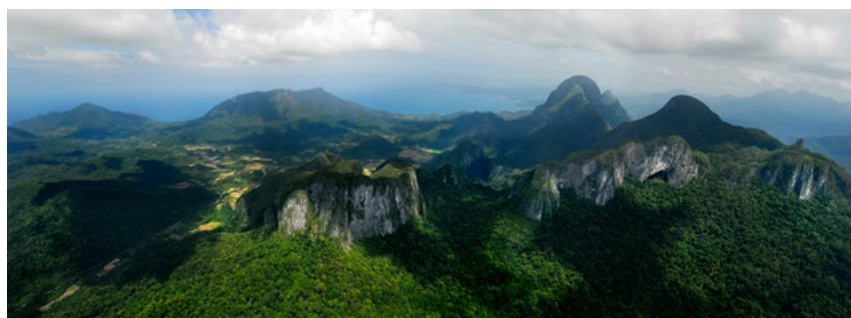
for the project

**PUERTO PRINCESA
UNDERGROUND RIVER**

Palawan,
Philippines



Saturday 30 July 2022, at the Closing Banquet of the 18th ICS, in Le Bourget-du-Lac, France: Jean-Pierre Bartholeyns (left), President of the UIS Cave and Karst Protection Commission, and Francesco Sauro, LA VENTA President, who received the recognition on behalf of his team. PHOTO: JOSÉ A. LABEGALINI



Mount St. Paul. PHOTO: PAOLO PETRIGNANI / LA VENTA



The PPUR estuary on the St. Paul Bay, South China Sea
PHOTO: PAOLO PETRIGNANI / LA VENTA

A very striking example of what was just stated is represented by the Puerto Princesa Underground River in Palawan, Philippines. Since several years now, this cave is one of the most visited worldwide (335,000 in 2015, 324,000 in 2016, 299,000 in 2017, 342,000 in 2018, 331,000 in 2019; and after the dramatic drop caused by the pandemic and the Odette (RAI) typhoon at the end of 2021, 120,000 in 2022 and 112,000 in the first 6 months of 2023). Despite these figures, the cave has remained absolutely natural, having undergone no temporary or permanent alteration since the beginning of its tourist exploitation.

The Puerto Princesa Underground River (Natuturingan is its original Batak name), located on the north-western coast of Palawan, is the world largest underground estuary; it crosses Mount St. Paul, a limestone massif reaching the altitude of 1,028 m. A National Park since 1971, a UNESCO World Heritage Site since 1999, the cave was the destination of then rare tourist visits since the early 1980s of the past century.

PPUR is recognized as a true wonder worldwide, and its exploration history seems to confirm this international interest.

Visited and explored by Americans, Australians, Filipinos and Italians, the cave has a long, not yet totally documented, exploration history.

The first sources to mention the Underground River are from 1850. It is cited by Captain Bates of the British Navy in the logbook he kept of a reconnaissance mission along the west coast of Palawan, but it is unclear whether he entered the cave or not.

About 40 years later, in 1887, Dean Worcester, a U.S. citizen, visited the first part of the underground river, leaving just a short report on his excursion to the local government.

The first actual speleological exploration of the system is described in the 1912 annual report of the United States' Superintendent, Coast and Geodetic Survey. A section of the report is dedicated to E. R. Frisby's and J. Bach's exploration and survey of the first navigable stretch of the river in October 1911. The survey extended as far as the rockslide now called Rockpile, which lies 4.5 kilometres from the entrance.

Some writings reporting "APO" (a confraternity called Alpha Phi Omega), names and several dates of the 1930s of the past century are still visible in different parts of the cave, but we couldn't find any information on the authors.

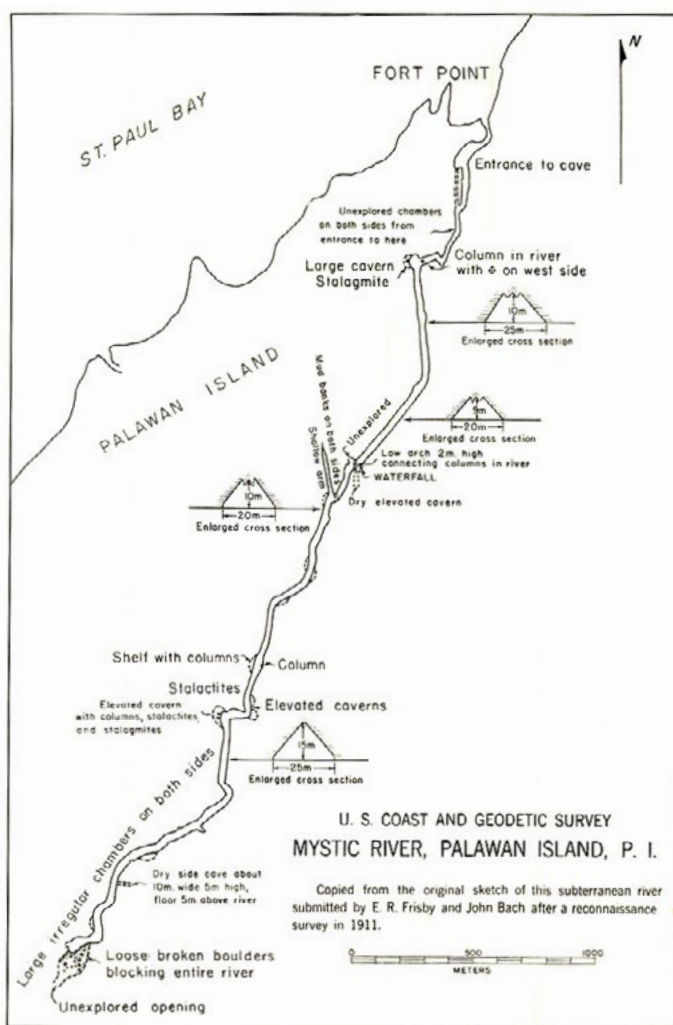
In the 1960s the cave was visited by a local, Federico Celino, who lowered himself on vines from the Daylight Hole (the upstream entrance of the system) and what would later on be called the Australians' Inlet.

The 1960s also saw an American expedition, which is described in detail in a report by Richard Johnson and Robert Fisher dated 30 May 1964. They had been inspired by an article published in the Sunday Times, which told about a large, underground river. Citing a 1930 survey, of which we could find no trace, Johnson and Fisher recount their decision to set off with



World Heritage Site panel at the entrance of the Park

PHOTO: LEONARDO PICCINI / LA VENTA



Mystic River (survey of 1911).

© 1912 US COAST AND GEODETIC SURVEY ANNUAL REPORT.

the express intention of surveying the cave. A thing they did accomplish, with in-depth details.

1971 was the turn of Hungarian geologist D. Balasz, who remapped the cave and produced the first geological description of the St. Paul karst area.

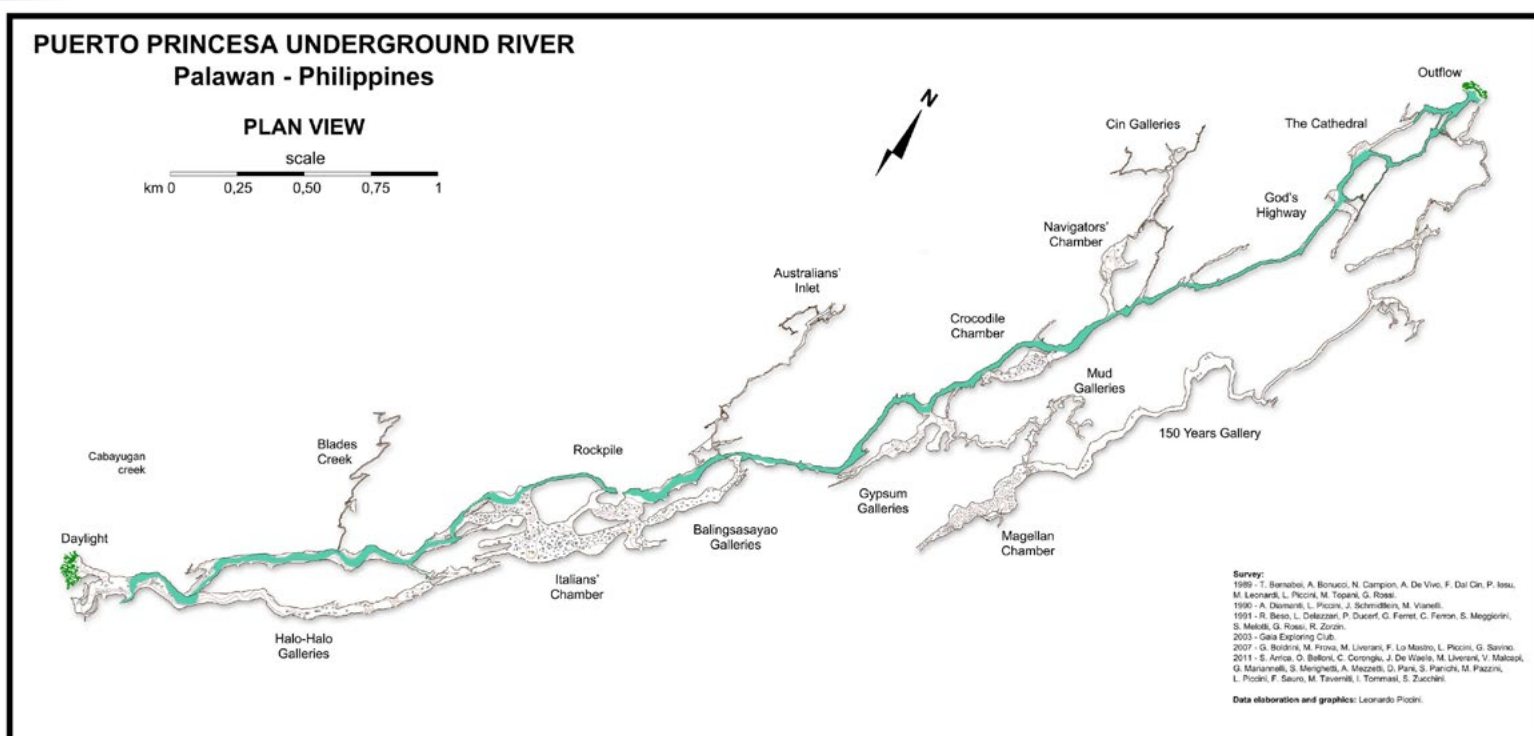
In the early 1980s two important Australian expeditions took place. The first, in 1980, was organized by Traditional Explorations and the Sidney Speleological Society; the latter, in 1982, by Environmental Studies Association of Victoria for Associated Research Exploration and Aid. For the first time, the whole active branch, from the Inflow to the Outflow, was explored and mapped.

The late 1980s saw the beginning of the Italian expeditions, organized, at first, by the Italian Speleological Society. Starting from the early 2000s, also local clubs (Gaia Exploring Club from Manila, and La karst from Puerto Princesa) began to explore the cave.

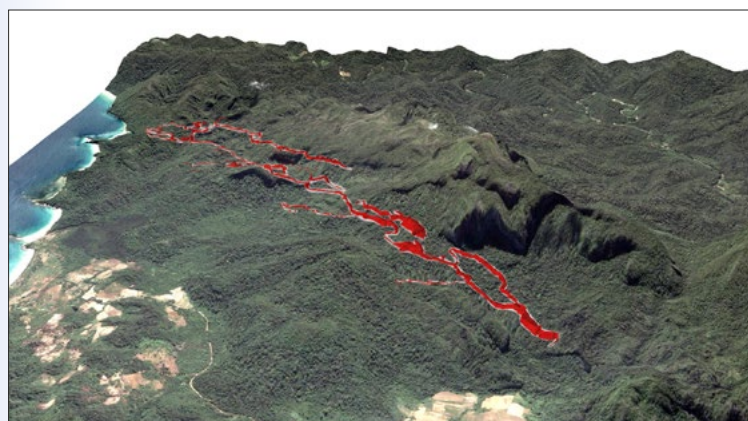
But the greatest contribution to the knowledge of this huge karst system is no doubt attributable to the Association La Venta, that organized a high number of expeditions and research projects from the mid 1990s to the present time, and brought the development of the cave to the present figure, over 35 km.



Cave camp at Rockpile. PHOTO: VITTORIO CROBU / LA VENTA



Puerto Princesa Underground River (PPUR) map. © ARCHIVE LA VENTA



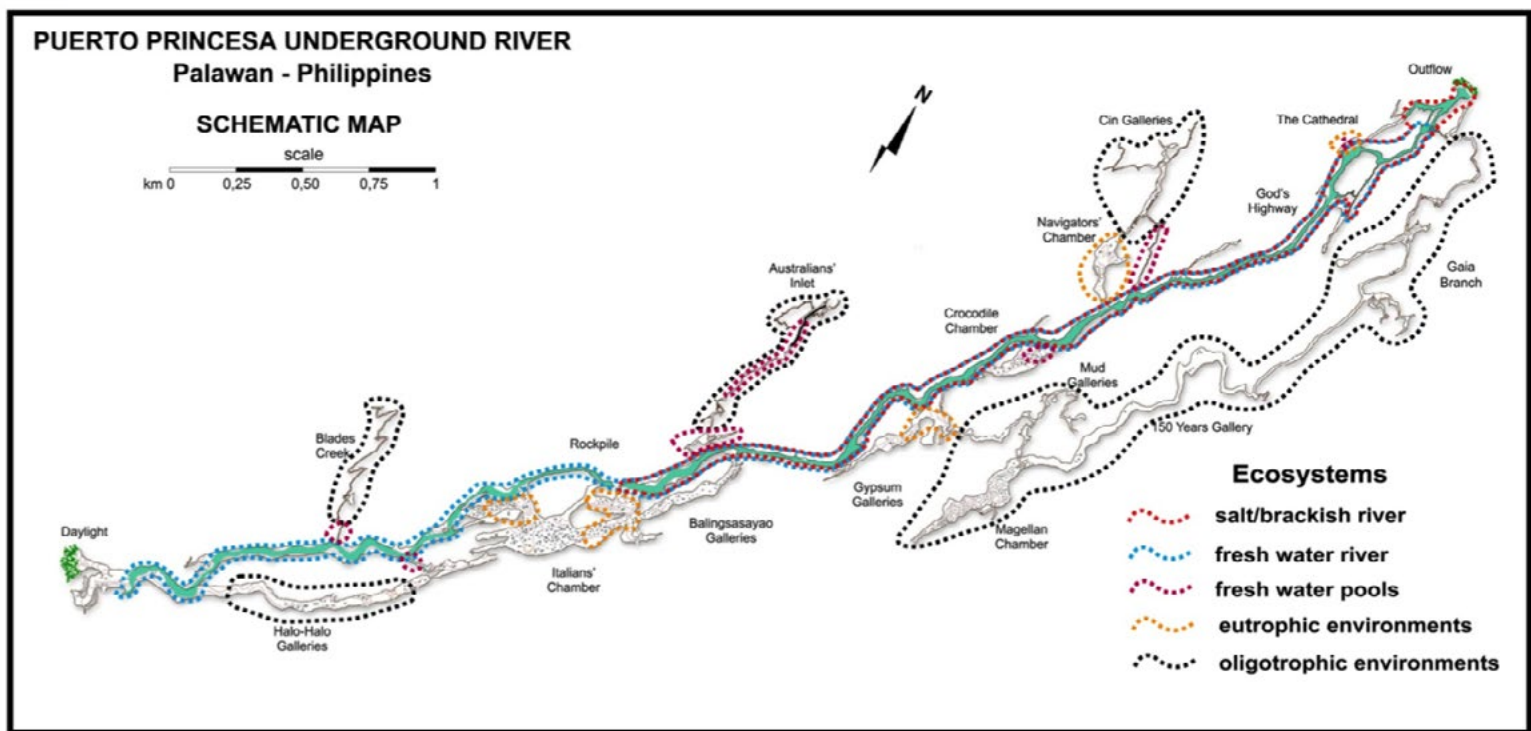
3D image of Mount St. Paul and PPUR.

PHOTO: NICCOLÒ IANDELLI, LEONARDO PICCINI / LA VENTA



Paddling along the upper part of the river.

PHOTO: PAOLO PETRIGNANI / LA VENTA



Sketch map of PPUR describing the 5 existing ecosystems. AUTHOR: PAOLO AGNELLI

The cave, also due to its peculiar hydrological regime (affected along its main branch by the tidal flow to over 5 km of development), plays host for huge colonies of bats and swallows, and as many as five different ecosystems (salt and brackish water, freshwater river, freshwater pools, eutrophic, oligotrophic), some of which are particularly important and fragile due to the presence of endemic species, even new for science.

The tourist portion of the cave (approx. 1.5 km of 35 km of total development) has been managed since the beginning depending on the conservation of the cave's naturalness: even today, despite the huge daily influx of tourists, the cave is featured by the total absence of artificial paths (visitors enter and leave the cave on small oar outriggers canoes) and permanent lighting systems.



Banca with tourists at the entrance of PPUR

PHOTO: NATALINO RUSSO / LA VENTA



Bancas on the lagoon at the entrance of PPUR.

PHOTO: ALESSIO ROMEO / LA VENTA

Furthermore, the cave access is prohibited to tourists from before sunset to after dawn, in order not to interfere with the entering and exiting flows of bats and swallows.



Giant colony of bats. PHOTO: PAOLO PETRIGNANI / LA VENTA



*Swallows (*Collocalia Fuciphaga*) flying in the entrance gallery of PPUR.* PHOTO: PAOLO PETRIGNANI / LA VENTA



Swallow brooding in its nest. PHOTO: VITTORIO CROBU / LA VENTA

But this is not all: the only moderate artificial light allowed is handled by the guides, who know how not to bother the bat and the swallow colonies. With regard to acoustic disturbances, this has recently been totally eliminated supplying each visitor with an audioguide with earpiece (text supplied by La Venta).

As regards the external air and acoustic pollution caused by the bancas carrying the tourists from Sabang to the cave entrance, the PAMB (Protected Area Management Board) is also planning, for the near future, to implement electric engines in place of internal combustion engines



St. Paul Bay - Bancas waiting for tourists back from their visit in PPUR. PHOTO: PAOLO PETRIGNANI / LA VENTA

How could all this happen?

Simply because, since the beginning, there has been an effective collaboration between the Park Authority, managing the cave and, consequently, the UNESCO Site, and cavers, in particular referring to the Association La Venta, just founded at the beginning of the 1990s.

The Park has always put at the cavers' disposal both its organization and its personnel, giving them the chance to explore, study and understand the karst system; even more important, the Park has proven to be available to evaluate and follow management indications and proposals supplied by La Venta at the end of each expedition. Such indications and proposals aimed at improving the tourist offering without disregarding the total safeguard of the cave environment.

In over 30 years, La Venta has explored and mapped approximately 50 km of galleries in PPUR and other caves of the St. Paul karst, carried out studies on the effect of tides on the cave's hydrology, as well as biological, geological, and mineralogical research. This work has resulted in three documentaries, two books, and numerous published articles.

But the turning point is represented by the most recent project, "Support for Sustainable Eco-tourism in the Puerto Princesa Underground River Area," organized by La Venta in collaboration with Tagbalay Foundation of Manila in the framework of the "Philippines – Italy Debt for Development Swap Program."



Presenting the project to the members of the Protected Area Management Board, Puerto Princesa.

PHOTO: ARCHIVE LA VENTA

The main aims of the Project, carried out between 2016 and 2017, may be summarized as follows:

(1) *Ensure the continuous preservation of PPUR and its surrounding areas, through:*

- *Evaluation of the Puerto Princesa Underground River and its ecosystem's response to possible high-impact tourism in order to scientifically define its "limits" in terms of tourists/day, tourists/month and tourists/year.*

- *Confirmation and verification of previous scientific findings within the Underground River system, particularly with regard to the discoveries of rare minerals, flora and fauna that can be recorded and for which ample*

protection is required for sustainability considerations.

- *Allow for continuous monitoring of the cave's environmental status, particularly the energy levels, the ecological balance, flow of the river and other matters of scientific concern.*

- *Collaborate with local scientists in the research and documentation, to ensure full turnover of knowledge to Filipinos and to develop a group who will have a stake in the preservation of the underground river.*

- *Create a group of "trainers" knowledgeable on the science of caving, as an additional mean of passing on technology to all current and future cave personnel, tour guides, etc.*

(2) *Support the socio-economic development of the communities surrounding the PPUR area and thereby prevent ongoing environmentally harmful practices resulting from lack of income, through:*

- *Search for and development of new caves and tributaries within the area of the Puerto Princesa Underground River to help local personnel to better manage and maintain the sustainable development of eco-tourism in the area, in anticipation of increased tourism activity in the future. The intention was to sustain the environmental condition while helping create more local employment and livelihood opportunities to assist in poverty alleviation.*

- *Training and orientation of the local population in order to improve their capacity to satisfy visitors and maintain the pristine features of the Puerto Princesa Underground River and other karst systems/caves within the protected area.*

- *Training of locals in other skills necessary for tourism site management.*

In order to best meet the demands of this Project, La Venta has signed specific collaboration agreements with the following institutions:

- University of Bologna, Department of Biological, Geological and Environmental Sciences
- University of Trieste, Department of Mathematics and Geoscience
- University of Florence, Department of Earth Science
- University of Florence, Museum of Natural History
- University of Torino, Department of Physics
- University of Almeria, Spain, Department of Biology and Geology, CAES Global Change

This two-year project has not only led to important scientific discoveries in the fields of biology, mineralogy, paleontology, all reported in a bulky final report and the book ***"A Cave between Land and Sea – The wonders of Puerto Princesa Underground River"*** but, above all, has created the opportunity to train a group of cave guides from the point of view of cave exploration and cave science; guides able to motivate tourists on the absolute need to protect cave ecosystems and speleothems.



Cave grass in the 150 Years Gallery.
PHOTO: RICCARDO DE LUCA / LA VENTA



Calcite crystals in the 150 Years Gallery.
PHOTO: ALESSIO ROMEO / LA VENTA



Calcite formation in the 150 Years Gallery. PHOTO: ALESSIO ROMEO / LA VENTA



Helictites in one of the fossil branches.
PHOTO: MARCO VATTANO / LA VENTA



Speleothems in the Milky Way Branch.
PHOTO: VITTORIO CROBU / LA VENTA



Feline skeleton in the 150 Years Gallery.
PHOTO: PHOTO BY VITTORIO CROBU / LA VENTA



Fossil of Halitherium Sp. along God's Highway, embedded in the wall. PHOTO: NATALINO RUSSO / LA VENTA



During the training course held by La Venta. PHOTO: MARTINO FROVA / LA VENTA



Training on rope techniques during the course.

PHOTO: MARTINO FROVA / LA VENTA



3D survey during the course.

PHOTO: MARTINO FROVA / LA VENTA



Participants to the course held by La Venta. PHOTO: MARTINO FROVA / LA VENTA

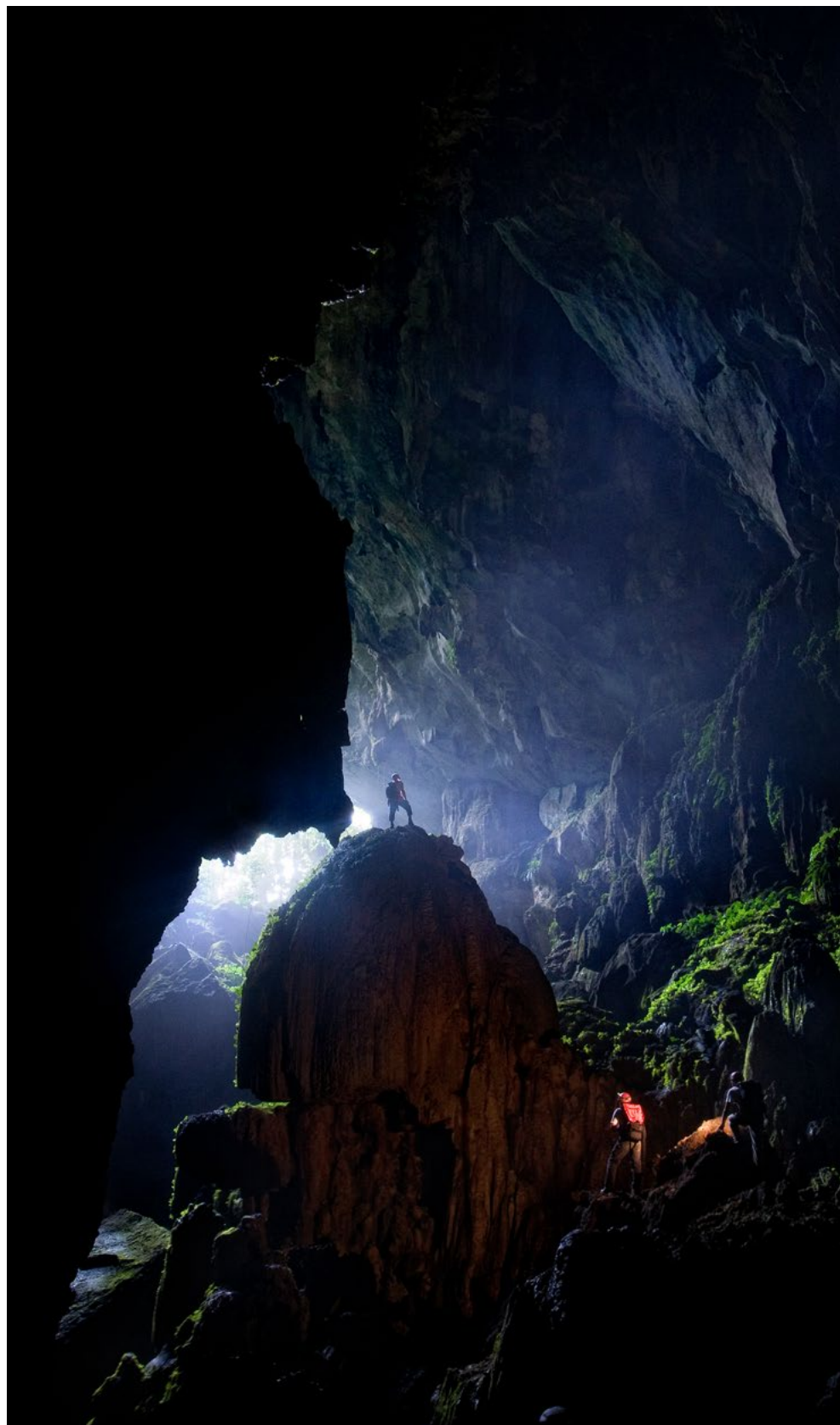
In these last years, to confirm the awareness that cavers' contribution is of primary importance, the PAMB has included cavers from a local speleological association into the Park personnel. Not coincidentally, cavers who have collaborated with La Venta throughout the project.

The importance and originality of La Venta's activity in Palawan has been acknowledged by the International Union of Speleology during the 18th International Congress held in France in 2022, awarding the France Habe Prize, aiming to promote among the world speleological community karst and cave protection activities in an integrated ecological way.

But, regardless of the satisfaction for the prize, La Venta is proud to have tangibly demonstrated how the collaboration between cavers and show caves is much better than a frontal contrast and allows to reach unexpected results.

Today, the Underground River management may be considered amongst the best worldwide, even more so taking into account the number of visitors per year.

According to the International Show Caves Association, "A show cave is defined as a natural occurring void beneath the surface of the earth that has been made accessible to the public for tours". Fortunately, what makes the tour in the Puerto Princesa Underground River an astonishing experience is entering in its totally pristine condition; living the same feelings of the first explorer.



The Daylight Hole seen from the upstream of the active branch.

PHOTO: PAOLO PETRIGNANI / LA VENTA

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France HABE Prize 2023

Prix France HABE 2023

By Jean-Pierre Bartholeyns (Belgium)

President of the UIS Karst and Cave Protection Commission

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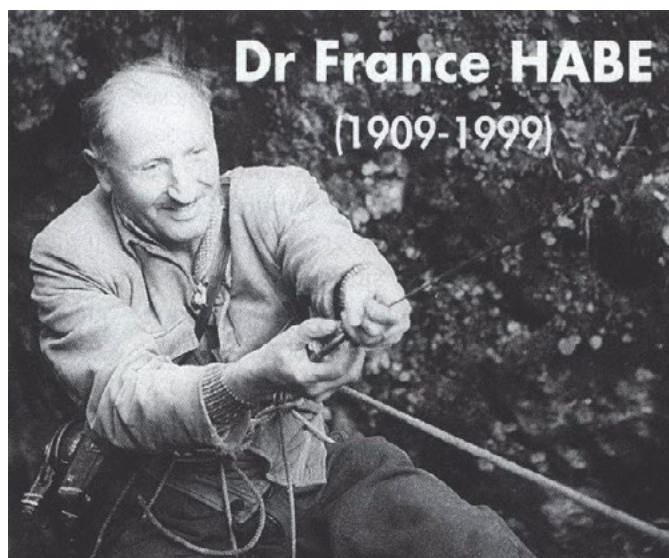


PHOTO: ARCHIVES KARSTOLOGIA 35

INTRODUCTION

As already mentioned on [page 30](#) of this issue, the France HABE Prize is awarded by the Karst and the Cave Protection Commission of the International Union of Speleology (UIS). The prize is named in memory and honor of Dr. France HABE (†10/12/1999) of Slovenia (Yugoslavia), who among his other many accomplishments served as President of the UIS Protection Department (1973-1997).

The purpose of this prize is to promote the protection of karst and caves for generations to come. Their natural legacy is a proven source of increasingly rich information about the history of our planet and humanity, enabling people to act more thoughtfully, efficiently, and sustainably for the future of our environment.

THE 2023 PRIZE

This year, the candidates dealt with their subject, although very different, by highlighting a wide range of options such as raising awareness of caving, the protection and conservation of caves and the karst environment, education, and tourism without forgetting to identify the means to sustain their objectives.

The Jury of the France Habe Prize 2023 was composed of members of the Scientific Committee of the

UIS and Karst and Cave Protection Commission.

They noted each submission following an evaluation frame about the presentation, compilation, photography, scientific content, legibility, and original point of view. They decided unanimously to attribute the France Habe Prize 2023, an amount of € 300 to the best and most original contribution.

The winner of this year is the **“Underworld Interpretation Center – Caverne de Saint-Léonard, Montréal – Canada”**. This is a project initiated by Daniel Caron and developed with the support of his caving club, Spéléo Québec, since 1968, to raise awareness among young people about their local underground environment and by extension, more generally, to enable them to understand the importance of caves around the world.

The Jury congratulates the other participants for their actions and activities, and also for their investment in karst and cave protection for so many years.

All information about the prize regulations can be found at

<http://uis-speleo.org/index.php/karst-and-cave-protection-commission/>.

This year's 2023 winning project is presented on the following pages.

CAVE AND KARST PROTECTION / FRANCE HABE PRIZE 2023 WINNER

INTERPRETATION CENTER OF THE UNDERGROUND WORLD - CAVERNE DE SAINT-LÉONARD

*Centre d'Interprétation du Monde Souterrain -
Caverne de Saint-Léonard - Montreal, Canada*

By Daniel Caron* (Canada)

Project Director, Spéléo Québec, Canada

daniel.caron@videotron.ca

Spéléo Québec



SUMMARY

Saint-Léonard Cave is located in the heart of Montreal, the metropolis of Quebec, a province of Canada. It was discovered in 1811–1812 by a local farmer according to an article published in The Canadian Spectator newspaper. Although modest with its 40 m of development, it was frequented by a large number of citizens who went there through the fields and forests of the northeast part of Montreal Island.

In 1968, following the publication of an article by a geologist who recommended blocking or destroying this cave, the city of Saint-Léonard undertook the obstruction of its entrance. That year, cavers Claude Vallée and Daniel Caron tried unsuccessfully to prevent it.

A decade later, in 1978, members of the Société Québécoise de Spéléologie (SQS), Michel Beaupré, Robert Carpentier and Daniel Caron, proposed to the city of Saint-Léonard to open the entrance to the cave in order to study it. They hoped that their work would result in a recreational and educational use of the cave. The entrance was reopened in 1979.

A caving program under the responsibility of the SQS began in the summer of 1981. Since that year, it has been visited by more than 45,000 people, mainly young people. In 1988, the Communauté urbaine de Montréal (CUM) granted the cave the status of heritage site of regional interest. During the 2000s, the willingness to significantly improve the introductory caving program and to build an interpretation center for the underground world took shape. Various studies were undertaken under the supervision of François Gélinas.

In 2017, the discovery of more than 350 meters of new large and spectacular glaciotectionic galleries by Daniel Caron and Luc Le Blanc gave a new life to the project. An intensive canvassing began under the direction of Daniel Caron in order to gather support for the construction of the interpretation center and especially its financing.

In December 2023, the Saint-Léonard municipal authorities submitted the construction project to the government of Quebec. It is valued at \$15 million and is based on sustainable development standards. A response is expected in the spring of 2024.

Spéléo Québec, partner in this project, hopes to create a national center for the development of speleology in the province. It also aims to enhance education on our underground heritage.

Preservation of this natural wonder will also make it possible to illustrate the geological history of part of our province and raise public awareness about the importance of underground water.

Fifty-five years after its entrance was cleared and more than 200 years after its first visitor in 1812, the cave of Saint-Léonard is now preserved and, on the way, to becoming an exceptional educational tool.

UNE CAVITÉ SOUTERRAINE EXCEPTIONNELLE

La caverne de Saint-Léonard s'est développée dans les calcaires ordoviciens subhorizontaux (460 millions d'années) constituant le sous-sol de l'île de Montréal. Selon les études réalisées par le géomorphologue Jacques Schroeder et le géologue/ingénieur Michel Beaupré, celle-ci s'est formée grâce au poids et au déplacement des glaciers continentaux, il y a environ 13 500 ans.

La friction à la base du glacier a déplacé les couches de calcaire les unes par rapport aux autres et a favorisé l'ouverture de fissures existantes. Les couches près de la base du glacier se sont plus déplacées que celles en profondeur.

La caverne de Saint-Léonard est une gigantesque dislocation de la roche et plusieurs murs des galeries s'emboîtent tels les morceaux d'un casse-tête. L'envahissement des vides d'origine glaciotectionique par la nappe phréatique accroît l'aspect spectaculaire des galeries.

LES PREMIÈRES DÉMARCHES DE PRÉSERVATION

La caverne de Saint-Léonard est située au cœur de Montréal, métropole du Québec, une province du Canada. Elle fut découverte en 1811-1812 par un fermier local selon un article publié dans le journal *The Canadian Spectator*. Bien que modeste avec seulement 40 m de développement, elle fut fréquentée par un grand nombre de citoyens qui s'y rendaient à travers les champs et boisés du nord-est de l'île de Montréal. En 1968, un géologue recommande de boucher ou détruire cette grotte et la ville de Saint-Léonard obstrue l'entrée. Cette année-là, les spéléologues Claude Vallée et Daniel Caron tentent sans succès d'empêcher celle-ci.

En 1978, dix ans se sont écoulées et des membres de la Société québécoise de spéléologie (SQS), Michel Beaupré, Robert Carpentier et Daniel Caron proposent à la ville de Saint-Léonard de dégager l'entrée de la caverne afin de l'étudier et d'analyser son potentiel de mise en valeur à des fins éducatives et récréatives.

Le dégagement de l'entrée est réalisé en 1979. Les études confirment l'intérêt d'aménager l'entrée de façon à permettre la fréquentation contrôlée de la cavité naturelle maintenant située dans un petit parc municipal et à l'orée d'un modeste boisé. La ville décide alors de confier à la SQS la responsabilité d'un programme estival d'initiation à la spéléologie.

Celui-ci débute à l'été de 1981 et a permis l'accueil de plus de 45 000 personnes, particulièrement des jeunes, avides de découvrir le monde souterrain en plein cœur de la ville. En 1988, la Communauté urbaine de Montréal (CUM) accorde à la caverne le statut de site patrimonial d'intérêt régional.

UNE VOLONTÉ D'AMÉLIORER LE PROGRAMME D'INITIATION À LA SPÉLÉOLOGIE

En septembre 2000, Jacques Kirouac, directeur de la SQS est animé par le désir d'une mise en valeur

accrue de la caverne. Il élabore un projet d'exposition permanente, présentée dans le pavillon du parc Pie XII où sont reçus les "spéléologues en herbe".

Ce projet est soumis au ministère de la Culture et des Communications, mais ne voit pas le jour.

François Gélinas devient directeur de la SQS en 2011. Le Conseil d'administration (CA) de la SQS souscrit au projet de construction d'un centre d'interprétation de la caverne. François s'inscrit à la maîtrise en administration des affaires (MBA) à l'École des sciences de la gestion (ESG) de l'Université du Québec à Montréal (UQÀM).

C'est dans ce cadre que se précise le projet de centre d'interprétation de la caverne de Saint-Léonard. Baptisé "Centre de la Terre", en référence à Jules Vernes, il inclut des aspects complémentaires comme l'histoire géologique et les fossiles des Basses-Terres du Saint-Laurent. On envisage un bâtiment construit sur l'entrée de la caverne permettant une opération annuelle plutôt qu'estivale. L'ajout d'un centre d'interprétation rendrait la modeste grotte beaucoup plus attractive.

Avec sa collègue Monique Chartrand, François Gélinas profite de l'intérêt pour le projet pour présenter un projet d'étude de faisabilité dans le cadre d'un programme du Service de développement économique de la ville de Montréal. Le projet est accepté en 2016. Fort de ce soutien financier, un appel d'offres est lancé avec l'appui de l'arrondissement de Saint-Léonard, devenu une partie de Montréal. Une firme d'architectes élabore un concept architectural respectueux des contraintes environnementales et témoignant de l'origine particulière de la caverne.



*Entrée de la caverne en 1952.
Cave entrance in 1952.*

PHOTO: MARC DURAND



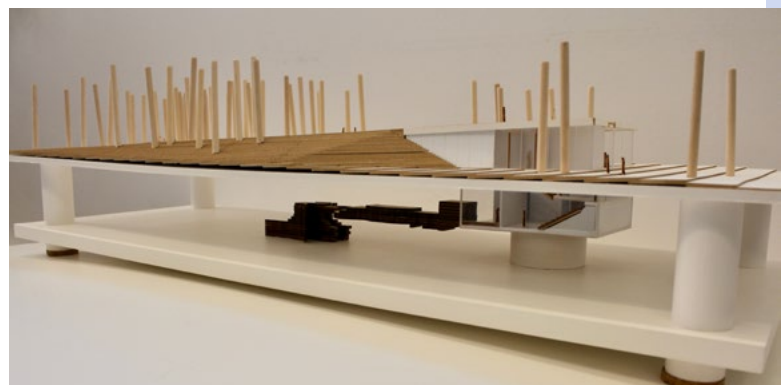
Dislocation glaciotectonique. Glaciotectonic dislocation.

PHOTO: LUC LE BLANC



*Entrée actuelle de la caverne.
Current cave entrance.*

PHOTO: DANIEL CARON



La façade et une vue en coupe du projet de centre d'interprétation.

The facade and a sectional view of the preliminary interpretation center project. © SPÉLÉO QUÉBEC

Annie Lebel, architecte, s'y consacre, tandis que la muséologue Andrée Blais s'attarde au contenu du centre d'interprétation. Une maquette est également réalisée pour faciliter la compréhension du concept.

Le centre d'interprétation doit minimalement inclure une salle d'exposition et une agora, une salle de documentation, des bureaux, une zone de pratique des techniques sur cordes, une salle de lavage et d'entreposage des équipements et un ascenseur (pour l'accessibilité universelle) et offrir un service de guidage. Le coût du projet de centre d'interprétation est estimé à plus de 4 millions \$.

D'autres travaux seront entrepris par des firmes ou des individus en 2017, dont une étude sur la mécanique du bâtiment, une étude de structure du bâtiment et une étude des sols.

2017: LE CATALYSEUR ?

L'année 2017 est déterminante pour la suite du projet. Le dossier de mise en valeur de cette pièce unique du patrimoine naturel montréalais est de plus en plus étoffé grâce aux études réalisées, mais la découverte d'un prolongement important de la caverne du parc Pie-XII agira comme un catalyseur déterminant pour la suite du projet.

En octobre 2017, Daniel Caron et Luc Le Blanc débloquent à l'extrémité nord de la caverne et découvrent

une suite. Le développement de la cavité est alors multiplié par 10, dépassant les 400 mètres, ce qui en fait une importante caverne pour le Québec où les grottes sont généralement modestes. Les nouvelles galeries sont plus vastes et spectaculaires que la partie dite « historique ». Elles donnent accès à la nappe phréatique et permettent une navigation en kayak sur plus de 200 m, de quoi être émerveillé. Faire de la spéléo sous les infrastructures urbaines et les résidences est inusité.

Les découvreurs rencontrent les responsables municipaux et les élus dès le début de novembre 2017 afin de les informer que leur petite caverne est devenue grande ! Un plan de communication publique est élaboré par les responsables de communications de l'arrondissement, la direction de Spéléo Québec (la nouvelle raison sociale de la SQS) et les découvreurs.

Il s'agit d'éviter la répétition des importantes dérives qu'avait provoquées en 1981 l'ouverture fortuite d'une autre caverne de la rue Saguenay située quelques centaines de mètres au nord. Cette découverte avait provoqué un « vent de panique » chez de nombreux citoyens apprenant que leurs maisons étaient « construites sur un vide ! »

Le 1er décembre, la découverte est annoncée au grand public et les répercussions médiatiques sont immédiates, tant au niveau national qu'international !



Jeunes spéléologues découvrant la section historique de la caverne.

Young cavers discovering the historic section of the cave. PHOTOS: GUILLAUME PELLETIER

Des centaines d'articles soulignent la découverte, sa localisation urbaine et l'origine unique (glaciotectonisme) de la caverne. La caverne fait la une des journaux et bulletins de nouvelles et est même abordée par des médias aussi prestigieux que The Guardian et le National Geographic.

En parallèle, les autorités municipales de l'arrondissement amorcent les démarches requises afin d'informer adéquatement la population locale concernant la sécurité des personnes et des infrastructures situées à l'aplomb de cette cavité. Un mandat est confié par l'arrondissement à la firme Speltech, disposant de l'expertise requise afin de cartographier les vides souterrains, de les localiser précisément et d'en évaluer les risques pour les citoyens et les infrastructures. Des rencontres publiques ont lieu. L'étude des vides souterrains conclut à l'absence de risques pour les personnes et les infrastructures situées à l'aplomb des galeries.

UN ENTHOUSIASME RENOUVELÉ

Inévitablement, la découverte insufflé un intérêt renouvelé pour le projet de centre d'interprétation qui, soutenu par le battage médiatique entre dans une phase intensive de promotion auprès des élus, des gestionnaires, des médias et de la population. La caverne devient un « joyau léonardinois » et la mise en valeur de la caverne est désormais inscrite au Plan stratégique Saint-Léonard 2030, publié l'année suivante.

Daniel Caron, impliqué dans la mise en valeur de la caverne depuis des années, est mandaté par le Conseil d'administration de Spéléo Québec pour assurer le suivi requis des démarches et collaborer avec les représentants de l'arrondissement.

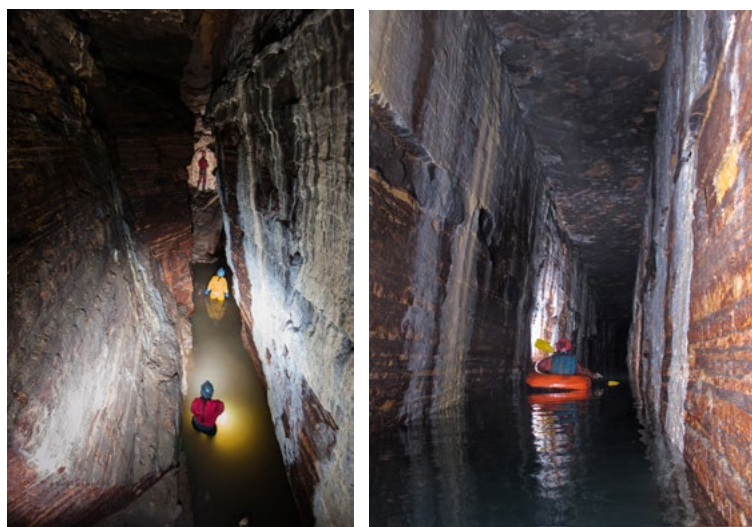
De très nombreuses rencontres ont lieu avec les décideurs afin de recueillir des appuis formels au projet. Le projet de centre d'interprétation reçoit de plus en plus un accueil favorable avec ses grands objectifs qui sont de :

- Mettre en valeur un site naturel unique;
- Rendre accessible une ressource éducative, historique, récréative, scientifique et touristique remarquable;
- Permettre à davantage de personnes de visiter la caverne et de découvrir une dimension méconnue du patrimoine naturel, et ce, l'année durant;
- Bonifier l'offre touristique et culturelle dans l'est de Montréal;
- Contribuer au développement économique et social de l'est de Montréal.

Considérant indispensable le soutien de la population locale, une présentation publique du projet de centre d'interprétation a lieu en novembre 2019. Elle est organisée par Spéléo Québec et l'arrondissement de Saint-Léonard. Plus d'une centaine de personnes y participent et l'acceptation sociale est évidente.

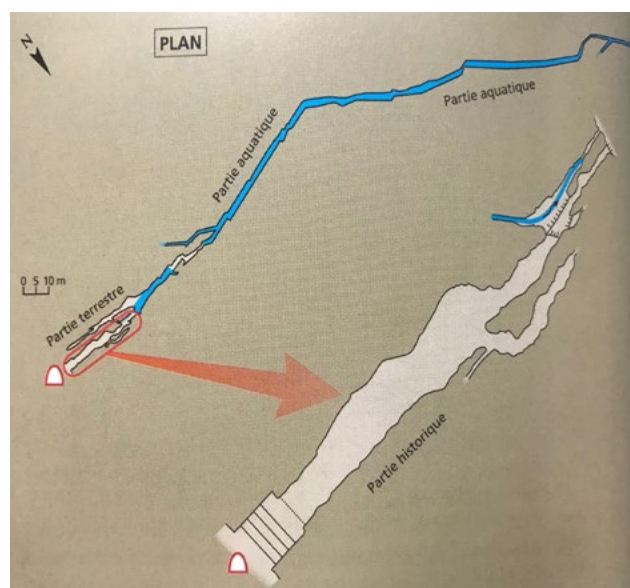
Au sein de Spéléo-Québec, afin de réaffirmer l'engagement de l'organisme dans la réalisation du projet, les discussions se poursuivent et on procède en janvier 2020 à la création du Groupe de travail sur le centre d'interprétation de la caverne de Saint-Léonard. Il a pour mandat d'élaborer un plan d'action autour de trois grands enjeux. Ce sont la caverne et ses potentiels, le centre d'interprétation et sa faisabilité ainsi que le rôle de Spéléo Québec. Les travaux du comité sont affectés par la pandémie, mais les échanges se poursuivent avec les responsables du dossier.

En septembre 2020, l'arrondissement de Saint-Léonard accorde un mandat de conception de l'aménagement de la caverne tout en la préservant. La proposition d'aménagement est appuyée par Spéléo Québec, nouvelle appellation de la SQS, puis soumise aux autorités municipales. En décembre 2020, l'organisme de développement économique PME MTL Est-de-l'Île confirme à Spéléo Québec une aide financière afin de soutenir ses démarches.



Vues des galeries de la Radiesthésie et de l'Écho découvertes en octobre 2017.

Views of the Dowsing and Echo galleries discovered in October 2017. PHOTOS: GUILLAUME PELLETIER (LEFT) AND LUC LE BLANC (RIGHT).



Plan de la caverne – Comparaison entre 1968 et 2017.

Plan of the cave – Comparison between 1968 and 2017.

D'AUTRES ÉTAPES IMPORTANTES SONT FRANCHIES

En mars 2022, l'arrondissement et Spéléo Québec se présentent une seconde fois devant le Comité Jacques-Viger de la ville de Montréal et obtiennent l'accord de modification des règlements de zonage et du plan d'urbanisme. On suggère également l'inclusion du boisé au-dessus de la caverne dans le développement du site, ce qu'avait proposé Spéléo Québec dès 1979.

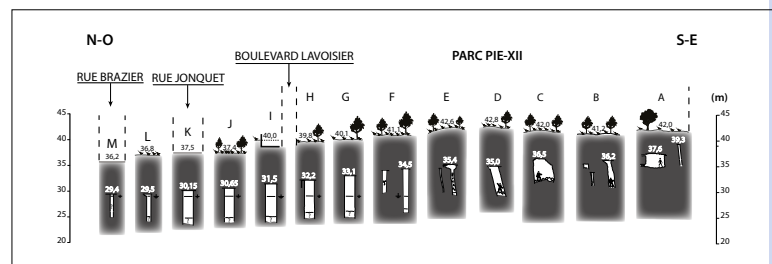
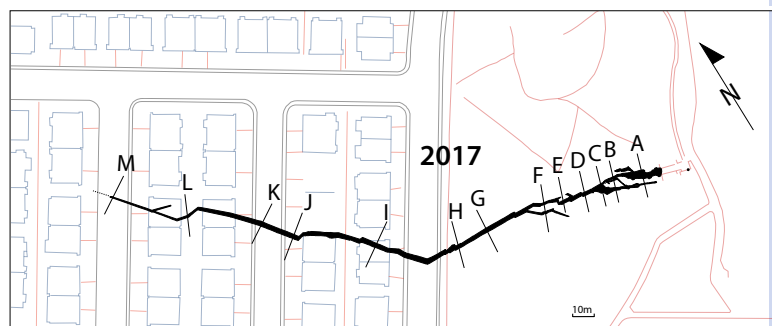
Dernier élément remarquable de cette période, le déménagement en septembre 2022 du siège social de Spéléo Québec dans l'arrondissement de Saint-Léonard, à quelques minutes à peine de la caverne.

LES DÉMARCHES VISANT LA CONCRÉTISATION DU PROJET S'AC- CÉLÈRENT

Spéléo Québec, fondé en 1970, souhaitait obtenir la confirmation de construction du centre d'interprétation dans le cadre de son 50e anniversaire. Ce ne fut pas le cas, mais les démarches pour trouver le financement requis se poursuivent et les appuis de plus en plus importants. La construction d'un centre d'interprétation spéléologique sous responsabilité municipale et répondant aux normes environnementales actuelles est évaluée à 15 millions \$.

En décembre 2023, l'arrondissement de Saint-Léonard a déposé à déposer au gouvernement du Québec une demande de soutien financier, appuyé par la Ville de Montréal, Spéléo Québec et l'organisme Espace pour la vie, opérateur d'un réseau d'infrastructures scientifiques montréalaises majeures (Insectarium, Biodôme, Planétarium, Jardin botanique). La réponse est attendue au printemps 2024.

Certes, avant la première pelletée de terre et l'accueil des premiers visiteurs, plusieurs étapes doivent encore être franchies, mais 55 ans après les premières actions des spéléologues visant à empêcher la « disparition » de la caverne de Saint-Léonard, l'espoir de créer un pôle national de développement de la spéléologie et un outil d'éducation au patrimoine souterrain, tout en préservant cette merveille naturelle, est permis.



Positionnement et coupes des galeries en relation avec les infrastructures de surface.

Positionzzzzzz and sections of the galleries in relation to the surface infrastructures. © SPÉLÉO QUÉBEC

Active for more than 50 years in the Quebec Speleology Society, **Daniel Caron is one of the pioneers of speleology in Quebec and Canada. He has touched all aspects of the discipline. He is the co-author of two books on speleology: **Découvrez le Québec souterrain** (1986 — Quebec Science — 254 pages) and **Cavernes du Québec - Guide de Spéléologie** (2021 — Éditions Michel Quintin — 367 pages).*

He played a major role in the integration of the Rivière aux Saumons karst into the Anticosti Island National Park, the Trou des Perdus karst into the Lac Témiscouata National Park, and in the creation of the Nature Reserve of the Saint-Elzéar cave in Gaspésie.



France HABE Prize 2024

Prix France HABE 2024

CALL FOR APPLICATIONS

The prize will be awarded again in 2024. The Jury will review the nominations and send their decision to the UIS Bureau.

The deadline for submission is May 20, 2024. All information about the prize regulations can be found at:

<http://uis-speleo.org/index.php/karst-and-cave-protection-commission/>

INTERNATIONAL EXPEDITION SUPPORTED BY THE UIS

BIO-SPELEOLOGICAL EXPEDITION SUD 2023

Argentina-Brazil-Chile

The successful tri-national expedition supported by the UIS discovered new species, promoted interaction between biologists from the three countries involved, and contributed to the discussions related to the ecology and conservation of caves.

by

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PHOTOS: ARQUIVE BIO-SPELEOLOGICAL EXPEDITION SUD 2023



Brazilian
Speleological
Society



Universidad del Desarrollo



10 años
de pesquisa

Centro de Estudios
em biología subterránea

From January 7th to 19th, 2023, a bio-speleological expedition was organized, bringing together professionals from Argentina, Brazil, and Chile. During this time, meetings were held, technical visits were made to the Natural Science Museum of Buenos Aires (Bernardino Rivadavia) and various caves in the Neuquén region of Argentina and Pucón and Villarica in Chile.

The objective was to produce an inventory of the cave fauna and discuss issues related to the ecology and conservation of caves. The participating organizations included, the Center of Studies on Subterranean Biology (CEBS/Brazil), Argentine Union of Speleology (UAE/Argentina), Grupo Azul de Espeleología y Montañismo from Neuquén (GAEMN/Argentina), Grupo Espeleológico Argentino (GEA/Argentina), Brazilian Speleological Society (SBE/Brazil), and Universidad del Desarrollo (Chile).

The bio-speleological Expedition enabled professionals from different countries to interact with each other as experts in the field. This allowed them to improve their knowledge related to the study of cave fauna. Notably, this project is part of a global long-term project coordinated by researchers from the Center of Studies on Subterranean Biology.

The project aims to evaluate the response of invertebrate communities to the cave habitat structure and provide ecological equivalence among cave communities worldwide.



Aerial view of the limestone landscape surrounding the Cuchillo Curá Cave System, including the carbonate belt containing the El Templo, Gendarme, and Arenal caves (A and B).

The Sud America 2023 Bio-speleological Expedition explored limestone, gypsum, and volcanic caves in the province of Neuquén, one of Argentina's most important karstic regions.

The main caves explored included Del León Cave, the Cuchillo Curá Cave system, Salado III, Rolo Vergara, Don Beto, Aguada de la Mula Cave, Los Gatos, and El Jagüel. In Chile, the expedition sampled invertebrates in volcanic caves at the foot of the Lanin and Villarica volcanoes.

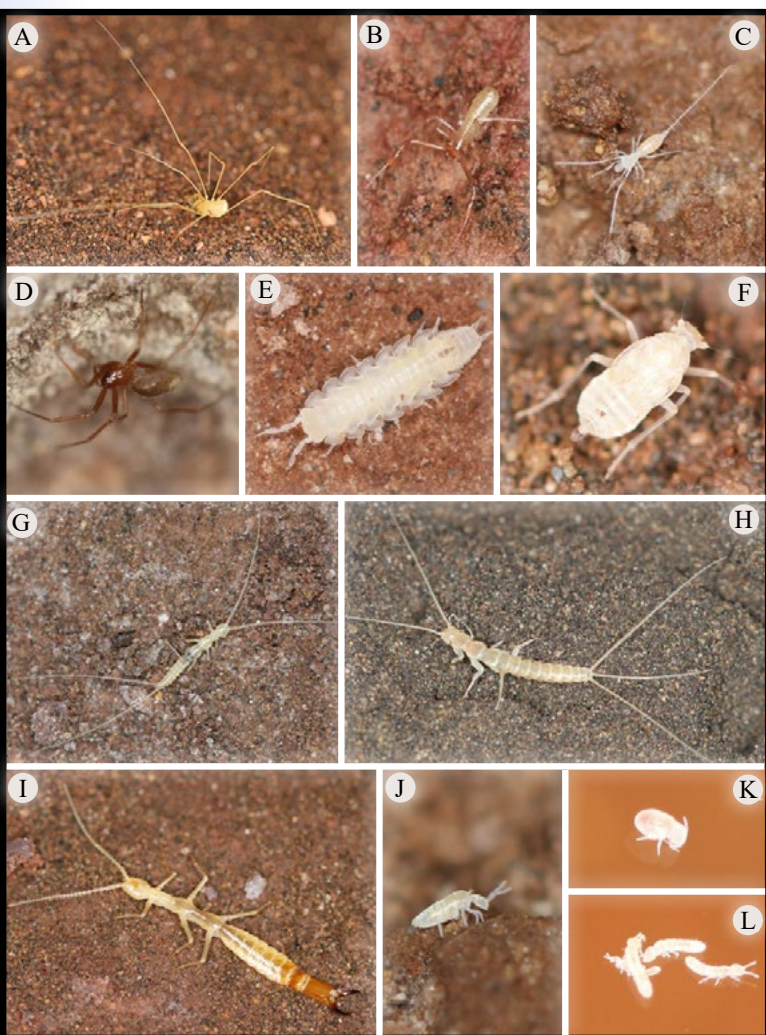
During the expedition, more than 15 new species of invertebrates were discovered, with Cuchillo Curá proving to be a hotspot of Subterranean Biodiversity,

with more than 20 obligate cave species identified (including previously unregistered troglotic species discovered during this expedition). The expedition focused on good fieldwork practices, emphasizing responsible sharing of samples, collaborative engagement between researchers, and promoting good scientific practices.

The Organizing Committee of the expedition promoted the dissemination of activities on their social networks and through TV interviews, providing wide sharing of information to a local and more widespread audiences.

The expedition provided a unique opportunity for all participants to foster productive and lasting collaborations. Participants gained solid knowledge about the scientific methods used in biological cave research, and they shared fundamental principles used in the study of cave fauna. Experts shared practical examples and advice on how to conduct research effectively, from sample collection to data interpretation. Local speleologists were also consulted, as they protect and enable tourists to visit the caves.

The expedition provided a valuable opportunity to promote scientific research and collaboration among professionals from different countries. We spent around 2,000 Euros on the expedition and 700 Euros was provided in support by the International Union of Speleology (UIS).



Some examples of terrestrial invertebrates sampled in caves in Cuchillo Curá cave System, Argentina:

A) *Picunchenops spelaesus* Maury, 1988, (Opiliones: Triaenonychidae)

B) Chthoniidae (Pseudoscorpiones)

C) *Eukoenenia* sp. n (Palpigradi Eukoeneniidae)

D) *Pseudotyphistes pallidus* (Araneae: Linyphiidae)

E) *Styloniscidae* (Isopoda)

F) *Notolathrus sensitivus* (Auchenorrhyncha: Cixiidae)

G) *Campodaidae* (Diplura)

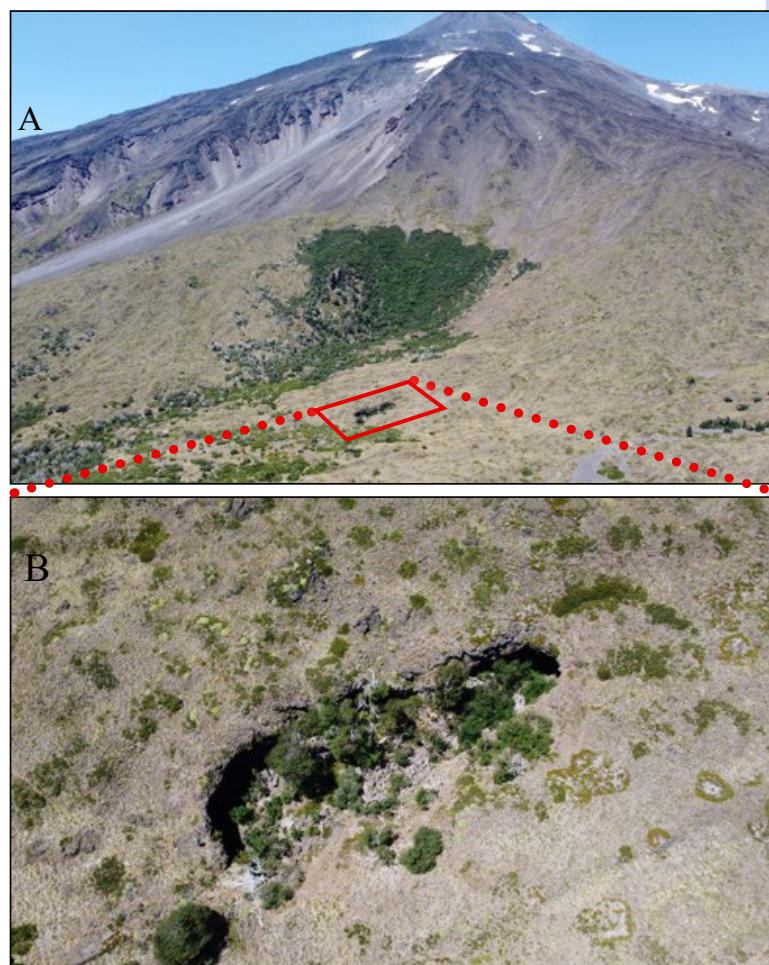
H) *Nicoletiidae* (Zygentoma)

I) *Iapygidae* (Diplura)

J) *Entomobryomorpha* (Collembola)

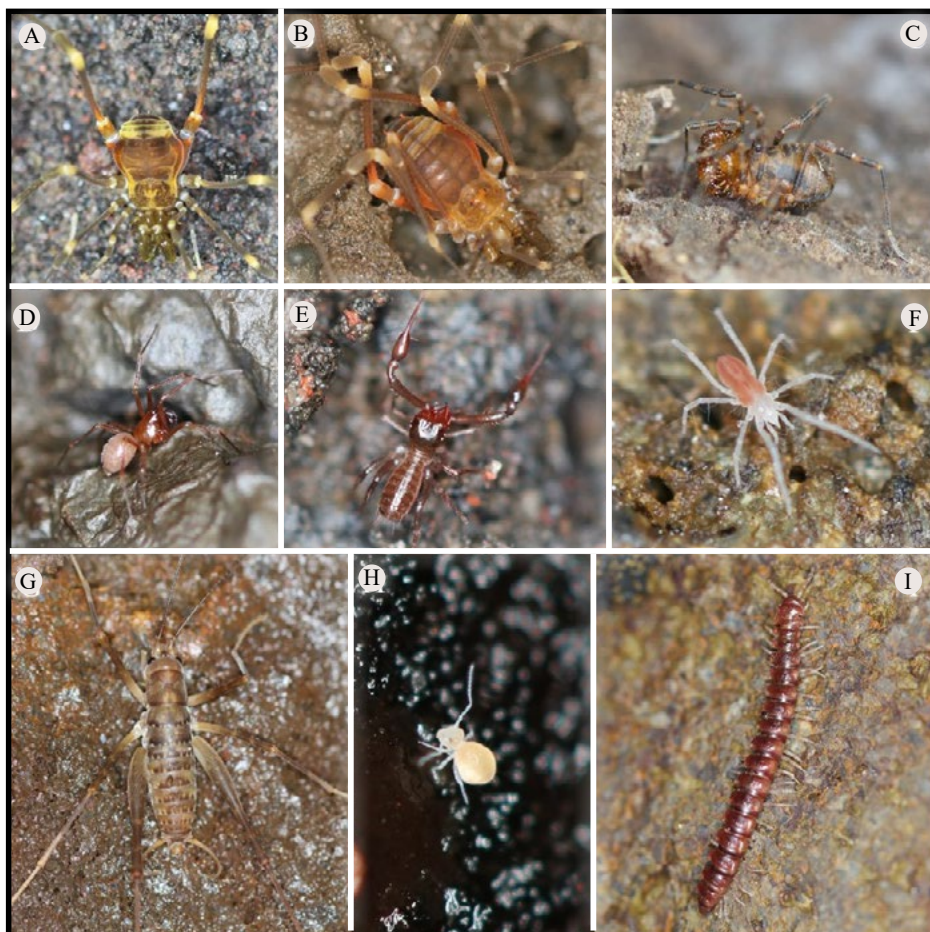
K) *Symphyleona* (Collembola)

L) *Poduromorpha* (Collembola).



Location of the cave entrance at the foot of the Lanin Volcano in Pucón, Chile (A).

Close-up view of the landscape around the entrance (B).



Some examples of terrestrial invertebrates sampled in volcanic caves in Chile.

- A, B and C) Opiliones (Arachnida)
- D) Araneae (Arachnida)
- E) Pseudoscorpiones (Arachnida)
- F) Rhagidiidae (Acari)
- G) Rhaphidophoridae (Orthoptera)
- H) Symphypleona (Collembola)
- I) Chelodesmida (Diplopoda).



Expedition team of Argentina-Brazil in Cuchillo Curá (A) and Chos Malal area (C). Sampling activities in Chile (B), and in Argentina caves (D).

INTERNATIONAL EXPEDITION SUPPORTED BY THE UIS



Expedition participants. PHOTO: MARIUSZ POŁOK

INTERNATIONAL CAVE EXPLORATION AND SCIENCE EXPEDITION ALBANIA VALBONA 2023

Summary Report

by Magdalena Słupińska, Bogdan Ridush, and Andrea Pereswiet Soltan

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The expedition took place from 28/07/2023 to 12/08/2023. The main goal was to continue exploration in the Shpella e Valbones Cave (-637 m deep and 1,301 m long). In 2022, this cave became the deepest in Albania.

In 2023, after setting up a camp, exploration of this cave continued. The focus was on parts continuing from last year's bottom. New routes branching from the Gjoni Hall were also explored. This cave reached a depth -727 m. Shpella e Valbones is currently the deepest cave of the Prokletije Mountains and Albania.

Traditionally, scientific research of the natural environment of the Valbona valley was carried out in parallel with exploration activities. Our guest was Prof. Bogdan Ridush from the University of Chernivtsi (Ukraine).

His activities were aimed at understanding the geological, morphological and paleozoological nature of the area and caves.

As part of the international project led by Dr. Andrea Pereswiet Soltan, from ISEA PAS, he continued his research on the bat fauna in the Valbona Valley.

Our research involves shallow excavation of cave sediments and their geological description, collection of faunal remains from the cave floor, and sampling of fossil fauna samples, if any are found.

The karst area to the south of the Valbona Village is built with Triassic rocks (T1—T3). The top part of the massif is built with the Upper Triassic, stromatolitic limestone and dolomite.

Subfossil faunistic remains were only in one cave, Shpella Haxhise. At least the remains of two individuals of large alpine goats similar to the Alpine ibex (*Capra cf. ibex*) were found inside the cave. One of them, the almost complete skeleton of an adult male, was trapped in a narrow gap between two large blocks. The bones were covered with fresh, soft dripstone calcite, similar to Mondmilch. This skeleton was collected for further investigation. The other one, which was incomplete, is bedded on the loam underground river-terrace.

At present, this species is absent in the local faunal list, and the remains are of great scientific interest. Two chambers of the cave, close to the entrance, are covered with cryogenic debris and potentially may contain other faunistic remains.

The massif to the south of the Valbona River contains the tracks of paleokarst. In some dolinas, there are outcrops of calcite crystals that, due to their habitus, could be considered of hydrothermal origin. In the same dolinas, one can observe the outcrops of “fossil flowstone,” remnants of an ancient unroofed cavity.

In the Shpella e Valbones Cave, quartz sand and silicite pebbles were collected. No rocks that could be the source of these sediments are bedded close to the karst massif. So, it could also be considered paleokarst evidence.



Shpella Sportive - Muddy Gallery.

PHOTO: MAGDA SŁUPIŃSKA



Shpella Sportive - Bridge.

PHOTO: MAGDA SŁUPIŃSKA



Shpella Haxhise - Andrea Pereswiet-Soltan while removing the Capra Ibex bone from the fissure.

PHOTO: MAGDA SŁUPIŃSKA



Shpella Haxhise - Bogdan Ridush with Capra Ibex skull.

PHOTO: MAGDA SŁUPIŃSKA



Bogdan and Andrea with complete Capra Ibex skeleton.

PHOTO: MARIUSZ POŁOK

In a few cavities, the red-clay deposits, remnants of the washed-in paleosols, were noticed. The samples of these sediments were taken for palynological analysis.

The specific “mushroom-like” speleothems were found in the same cave. Their origin could relate to microbial activity and should be further investigated.

Four karst springs at the foot of the karst massifs were tested for their chemical composition.

Microclimatic research in the caves and observations of the ice level in Shpella Akullt are still being carried out.

Faunistic research was also carried out to find out what animals use caves located higher than 2,000 m above sea level. The preliminary and most interesting results show that the areas near the cave openings are used by small mammals.

The presence of a rat was confirmed, but traces of the presence of dormice can be found deeper. Traces of dormouse were found in various caves. These were feces, food remains, and nests. Dormouses have been observed and heard during their nocturnal activity. The presence of bats is still a mystery. It looks as if they were reluctant to use caves above 2,000 m above sea level as shelter in summer, probably because of the low temperature. However, they probably hibernate here in winter. This can be assumed because bat bones were found at a depth of about –100 m and their location is indicated by one individual that died in this room.

The international environmental expedition “Albania 2023” was the third one as part of the Valbona Project of the Speleologia Polska Foundation. The expedition was led by Michał Macioszczyk.

In the expedition took part:

- Waldemar Bartosik Speleoklub Łódzki
- Marcin Bugała Wałbrzyski Klub Górski i Jaskiniowy
- Marta Czech Speleoklub Wrocław
- Michał Gabzdyl STJ Kraków
- Tomasz Gąsiorek Speleoklub Gawra
- Natalia Kubiak Wałbrzyski Klub Górski i Jaskiniowy
- Michał Macioszczyk Wielkopolski Klub Taternictwa Jaskiniowego
- Edward Monarshek Ukraine Speleoklub „Podilia”, Speleoklub Łódzki
- Artem Nazarenko Ukraine Speleoklub Łódzki
- Tomasz Pacia Speleoklub Olkusz
- Łukasz Pasternak Speleoklub Łódzki
- Andrea Pereswiet-Soltan, Italy – Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Club Speleologico Proteo
- Justyna Pokorska Wałbrzyski Klub Górski i Jaskiniowy
- Łukasz Pokorski Klub Alpinistyczny GPR
- Mariusz Polok Fundacja Speleologia Polska
- Ewelina Raczyńska Sekcja Grotolazów Wrocław
- Bogdan Ridush Ukraine – Chernivtsi Speleological Club Troglodite, Chernivtsi University
- Magdalena Słupińska Fundacja Speleologia Polska
- Konrad Sosulski Wałbrzyski Klub Górski i Jaskiniowy

Thanks for the UIS financial support.

Polish Speleology Foundation

<https://speleonews.pl/valbona/>



Shpella Sportive - data logger - temperature and humidity.

PHOTO: MAGDA SŁUPIŃSKA



Shpella Akullt - data logger left in ice cave.

PHOTO: MAGDA SŁUPIŃSKA

EVENT UNDER THE PATRONAGE OF UIS



SPELEO-AUSTRIA 2023

International Speleological Conference

by Ernest Geyer (Austria)

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From 26th to 29th October the international speleological conference Speleo-Austria 2023 was organized by Speleological Society in Obersteier (VHO) for the third time (2001, 2012). This event, including the annual meeting of the Austrian Speleological Association (VÖH) took place again at the foot of the largest karst plateau in the Alps, the Tote Gebirge, in Tauplitz (Styria, Austria) under the patronage of the Union Internationale de Spéléologie (UIS) and the Fédération Spéléologique Européenne (FSE).

A total of 244 participants from Austria, France, Germany, Italy, Luxemburg, the Netherlands, Slovakia and Switzerland enriched the event with their presence. The event was also accessible to the local residents from the village Tauplitz.

Alongside the board members of the Austrian Speleological Association also Jean-Claude Thies (FSE President), Alena Gessert (FSE General Secretary), Henk Goutier (FSE Treasurer), Taraneh Khaleghi (President UIS Arts and Letters Commission) and Dr. Friedrich Oedl (ISCA President) were present and could be welcomed.

The excursions took the participants into the caves in the surrounding area e.g. Nagelsteghöhle - this periodically active water cave acts as a resurgence of the over 150 km long Schönberg Cave System, Schafsteinhöhle - a high alpine cave with spacious passages and halls, Liager-Höhle - this periodically active water

cave acts as a resurgence of the Loser-Schwarzmooskogel complex, and Liegloch - this well-known cave is considered as a find spot for paleontologists and archaeologists. Among this the Annastollen - a medieval silver mine in the Schladminger Tauern was visited and a karst hike to Tauplitzer waterfall and Sagtümpel spring took place - known as a renaturation project supported as a LEADER project (*Liaison entre actions de développement de l'économie rurale*) of the European Union awarded with the European Cave Protection Prize of the FSE (2017).

The lectures covered a wide range of national cave research e.g. Bronze Age Moose Hunt in the Dachstein Mountains by Dr. Kerstin Kowarik (Austrian Archaeological Institute), or Subterranean Habitats – Cool Refuge for Heat-affected Insects by Dr. Otto Moog (Institute of Hydrobiology and Aquatic Ecosystem Management) or about the Karst Hydrogeological Investigation Tauplitzalm-West by Dr. Ralf Benischke (VHO).

The lectures on international cave researches covered - Namibia, Kaokoveld-Otavi Expedition 2023 by Peter Jeutter (VHO), Deep and Long Multi-Sump Dives by Pedro Balordi (SGH Bern), Ultima-Patagonia 2023: The ninth Franco-Chilean Expedition to Patagonia by Dr. Tanguy Racine (Centre Terre) or about the Climate Change and its Effects on Alpine Cave Areas by Andreas Wolf (Institut für angewandte Karst- und Höhlenkunde).



Lecture by Dr. Ralf Benischke (AT) about the Karst Hydrogeological Investigation Tauplitzalm-West. PHOTO: ERNEST GEYER



Lecture about Deep and Long Multi-Sump Dives by Pedro Balordi (CH). PHOTO: ERNEST GEYER

In addition to the main program, a meeting of the Austrian show cave operators took place. Welcoming speeches during evening festivities were held by Robert Seebacher (VHO President) as well by Jean-Claude Thies (FSE President) and Dr. Christoph Spötl (VÖH President) - the latter also presented the awards.

As part of the evening's celebration Gottfried Buchegger, Peter Seethaler were awarded with the "Golden Cave Bear" for services to Austria's speleology. Laura Seebacher was awarded with the "Poldi Fuhrich prize" - a prize for younger speleologists for their outstanding work in the field of speleology, cave documentation and public relations in Austria. The conclusion was the keynote speech by Robert Seebacher about the speleological researches in the Plankermira area and in the Wildbaderhöhle - a cave with a vertical difference of 1,101 m (length 12,495 m).

An extensive conference proceedings was published with contributions from 38 authors from Austria, France, Germany, Iran, Switzerland and United Kingdom. The speleological research works are described on 452 pages, starting with the research on the Dachstein mountain, the Tote Gebirge and Namibia through to further international researches in Iran, Croatia and Montenegro as well international conferences.

One report deals with research on megalithic underground dry stone walls and stone monuments in northeast Styria. In the Speleo-Austria chapter are the summaries of the lectures as well as the lists of the longest and deepest caves in the Totes Gebirge and the Dachstein (Styrian part) and the longest and deepest caves in Austria. Reports about the Speleological Society in Obersteier in recent years round off the book.

Available is the book from the Speleological Society in Obersteier, 8983 Bad Mitterndorf, Austria: obersteier@a1.net



In the Liager-Höhle - a periodically active water cave.

PHOTO: ROBERT SEEBACHER



At the renaturated Sagtümpel spring - FROM LEFT: Ernest Geyer (AT), Jean-Claude Thies (LU), Robert Seebacher (AT), Alena Gesert (SK) and Silvia Goutier (sitting, NL). PHOTO: TARANEH KHALEGHI



Grimming view - an isolated mountain range between Enns and Hinterberger valley. PHOTO: ERNEST GEYER

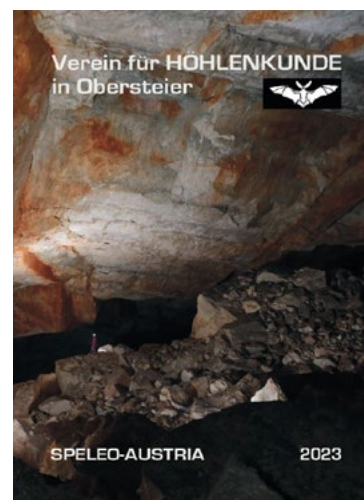


Speleo-Austria 2023 - festive evening, a good opportunity to exchange ideas with colleagues. PHOTO: ERNEST GEYER



Excursion participants - Liager-Höhle (length 450 m, vertical difference 91 m).

PHOTO: VHO ARCHIVE



*Conference proceedings
Speleo-Austria 2023*

PHOTO ON PAGE 49: The picturesque Steirersee in autumn - the lake is located in 1,445 m a.s.l. in the south of the Tauplitz shaft zone - Totes Gebirge. PHOTO: ROBERT SEEBACHER



General Assembly Meeting of the Austrian Speleological Association - participants. PHOTO: MARIO SEEBACHER

EXPEDITION UNDER THE PATRONAGE OF UIS

THE SHUANGHE 400: EXPEDITION 2023 IN CHINA - Report

By

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INTRODUCTION

“S HUANGHE 400,” the 22nd International Scientific Expedition in the network of Shuanghedong, Suiyang, Guizhou, China, was organized under the concerted initiative of Shuanghedong National Geopark and Shierbeihou (Twelve Backs Tourism Development Co., Ltd., in charge of the development sightseeing),

- in partnership with the Guizhou Institute of Mountain Resources, GIMR and the Guizhou Cave Association, Guizhou Tourism Geoscience Society,

- thanks to the invitation of the Guizhou Academy of Sciences,

- with the sponsorship of the International Union of Speleology (UIS), the European Speleology Federation (FSE), the Commission on International Relations and Expeditions-CREI of the French Federation of Speleology (FFS), and the Italian Society of Speleology (SSI)

- with the sponsorship of SCURION via the FSE.

It took place from September 16 to October 8, 2023, on and under the Shuanghe massif which is located in the Suiyang district, Zunyi, Guizhou province in China. Shuanghe 400 did not benefit from the best weather conditions. Strong motivation and a steady, relentless pace made it possible to get the most out of the objectives accessible in complete safety.

EXPLORATIONS

Duiwodong

The Duiwodong tiānkēng gave hope for an extension of the network to the north/east. Unfortunately, the three main question marks in the sector did not meet our expectations. The tributary downstream of the siphon of the “500 m freestyle” river (300 L/s) came up against a poorly supplied suspended siphon after 260 meters. The Mâconnais tributary also quickly came up against a large rising well. The fossil gallery upstream of the Croûtes (350 m) resulted in four different stops on well-ventilated impenetrable narrows, produced for

three of them by calcite flows, and a narrowing in a wetting vault for the last one.

The downstream part of the little Croûtes river loops after a few hundred meters with the known network.

In the west wall of the tiānkēng, facing our line of descent, a seemingly starting point of a gallery attracted our attention. It was reached after having been completely opened over 800 meters with a machete on very steep slopes invaded by bamboo and various thorn trees. What followed was a 30-meter rope descent leading to a ledge. Big disappointment to see that the coveted gallery was only a small impenetrable rising well with a gutted side!

Furthermore, the only topo loop problem of the entire network was resolved by redoing a few hundred meters of surveys.

The development added to the topography of Duiwodong is 1,319 m.

Hopes for extending the network to Zheng'an through Duiwodong now lie in an unventilated downstream branch of the river.



Galerie du Far-West - Bojiyandong - PHOTO: BERTRAND HAUSER

Xiujiaodong (Crossing Pruners)

When opening the access trail mentioned above, we fell at the bottom of a ravine onto a small opening with a sucking air current. A nice little network with a P14 (14-m deep pit) and 219 m of horizontal development allowed us to go outside, into a beautiful canyon, just at the top of the large west waterfall which flows into the tiānkēng of Duiwodong.

Although undoubtedly located below the spill threshold of the tiānkēng, the 219 m mapped in this cavity will not be taken into account in the development of the Shuanghedong network.

Bojiyandong

Explorations at Bojiyan were made easier and safer by the installation of ropes on the access which has easy but exposed turns and de-escalations. The hopper unclogged at -100 has been re-calibrated and no longer presents selective narrowing.

We went down the P60 (actually a P45) to fall back into the ceilings of the large gallery found. On the downstream side it looped with the P20 area where several unsuccessful wells were lowered. Only the laser beam passed over the wells, saving us hard work.

On the upstream side, the large gallery found (Cap Nord gallery) was followed for 800 meters, after having had to cross the large Coup de Bambou well, and pass a very low passage due to a hopper and a pile of clay.

A small side river has been raised to a watered rising well. The terminus explored is a new large shaft, partially lowered and opposite which the gallery could perhaps continue?

These discoveries open up “white” areas to the west of the network.

Another side gallery, the Bat gallery, was covered for more than 700 m after crossing several small ledge

shafts. The terminal part which abuts calcite plugs is particularly concretized.

During a day aborted due to a flood, some extensions were mapped in a tangle of small galleries.

Another big target at Bojiyan was “P110” located around -120 m at the terminus of the entrance gallery. It’s actually a P240! (220 m from the access landing). The watered well was equipped out of the water flow, which translates as “in the mud!”.

An acrobatic pendulum 25 m from the bottom made it possible to reach a highly ventilated gallery which was traveled for approximately 300 m, stopping when the fracture pinched. The network is one of the most “expensive” in Shuanghe!

In this well, the long network which begins at the skylight has been the subject of the beginnings of disassembly. A branch was discovered on this occasion which remains to be pursued.

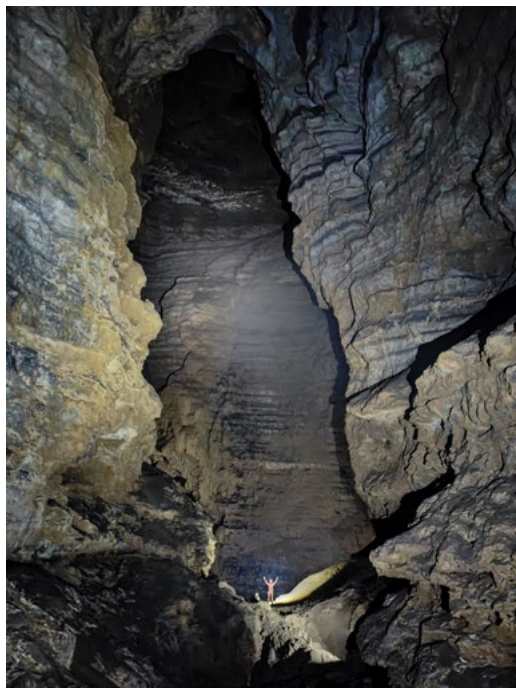
Development added to Bojiyan = 4,697 m.

Huoyangping

The westernmost branch, where exploration stopped on a P30 at the top of a large void, was continued by the discovery of two large rooms measuring 150 x 120 meters and 120 x 80 meters. Chaotic galleries were continued on both sides, but they quickly came up against blockages leaving no hope of a continuation.

Note that this discovery brings us very close to the downstream of the Far-West gallery of Bojiyan, which seems to constitute its extension.

The climbing, begun in 2019, of a tributary above the large wells (P200), has been completed. After 35 meters of well-watered climbing, the small river of the SMIC (this is the price we estimate to have been paid for the climbing) was continued for a few hundred meters, up to a hopper with rootlets. In a small side gallery, the exploration remains to be continued.



Cap Nord Gallery - Bojiyandong - PHOTO: BERTRAND HAUSER



Bojiyan - PHOTO: BERTRAND HAUSER

In the branch providing access to the large rooms, the sequence of two shafts of 17 and 60 meters did not make it possible to complete this branch which continues with an undescended P50.

Shortly before the large rooms a P30 was lowered, with the only result being impenetrable cracked shafts.

Development added to Huoyangping = 1,468 m.

Hongdingyan

Between the P36 and the P18, a split P25 with a muddy start provided access to the Salamander River. This beautiful meander characterized by large pots continues. With the weather forecast raising fears of storms, the exploration was interrupted at the level of a small tributary watering an opposing passage.

Development added to Hongdingyan: 168 m.

Off-grid...for now

In the far south, but not connected to the network, a 2.5-km crossing was made in 2019 between Liangfengdong and Liangfengshangdong. Upon entering through this second cavity, the ceilings where possible question marks remained were carefully examined, allowing any hope of a continuation to be definitively ended. In the same vein and in the same sector, the Dawandong Cave was re-inspected to be definitively classified as completed.

The end of the expedition took us to Zheng'an, to Mawangdong, lower entrance to the Jishedafengdong network, a cavity which today seems not to be able to join the Shuanghedong network. Crossing an 8-m climb allowed us to explore more than 700 m of chaotic galleries towards the southeast while the river continues its course at a depth of -334 m.

Development added to Jishedafengdong: 1,118 m (total development: 6,830 m).

Dayingyandong, a cavity known since 2023, has been continued. This resurgence in the Ranghui polje will never join the Shuanghedong network but can deliver a beautiful system under the neighboring Kuankuoshui massif.

This exploration made it possible to detect and correct three major errors in the pointing of the caves of the Ranghui polje which supplies the Shuanghedong network through the loss of Dadong.

Systematic surveys were carried out. Seven other cavities, each of less than 200 m of development, total 743 m of development and complete our information on the karstification of the upper part and the north-west edge of the massif under which the Shuanghedong network develops.

Note in particular the Goujiadang cave which, at 1,640 m above sea level, is the highest of the cavities under exploration in the sector.

Finally, a very small entrance lost in the mountain, Xiutanqidong (Snifette), was covered over 284 m. It could become one of Shuanghedong's many network heads.

Summary of explorations in a few figures:

10,112.02 m surveyed in total including 7,386.01 m in Shuanghedong.

The Shuanghedong network, at the end of the expedition showed a development of 414,062 m for a depth (unchanged) of 912 m.

SCIENTIFIC OBSERVATIONS

Jo De Waele and Wang Deyuan focused their efforts on the observation and sampling of rocks in cavities such as Pixiaodong, Bojiyan, Shanlingdong, Hejiaodong, Liucaoguxiadong, Mawangdong and Datutianjiaodafengdong that could shed light on the question of the genesis of the network. Sites were selected primarily based on the presence of gypsum and celestite and position relative to shale strata.

THE PARTICIPATION OF CAVERS

The core team brought together eight European speleologists including five French: Jean Bottazzi, Marc Faverjon, Bertrand Hauser, Bruno Hugon, Gilles Connes; a Portuguese: Carlos Placido, and two Belgians: Jean-Pierre Bartholeyns and Jo De Waele.

The expedition team is composed and organized around different skills adapted to the requirements of the organization that invites us: speleologists, instructors in caving techniques, topographer also having knowledge in geology, crystallography, IT, cartography, photography and protection karst. Every day, they worked in three or four independent teams, depending on the importance and difficulty of the objectives to be achieved and determined by knowledge of the terrain and topographical analyses. Relatively numerous during this expedition, Chinese speleologists were sometimes included in the exploration teams.

There were more than 27 of them, including Li Po, He Wei, Qian Zhi, Zhou Wenlong, Wang Deyuan, Zhang Kaiqi, Zhao Zhongguo, Zhao Fei, Ye Rurui, Liu Jia, Gao Zhan Dong, Wang Qiaoneng, Wang Sunhong, Wang Liangtong, Zhang Hongzhi, Luo Shuwen, Lorue, Kriss, Chao Jian, Yuan Na, Wuhai Bo, Hui Changwang, Wang Yong, Wang Rong, Shi Yichen, Tom.



Da Dome Room - Huoyangping - PHOTO: BERTRAND HAUSER



Gypsum crust (white) covering celestine (blue) - Pixiaodong.

PHOTO: JO DE WAELEZ

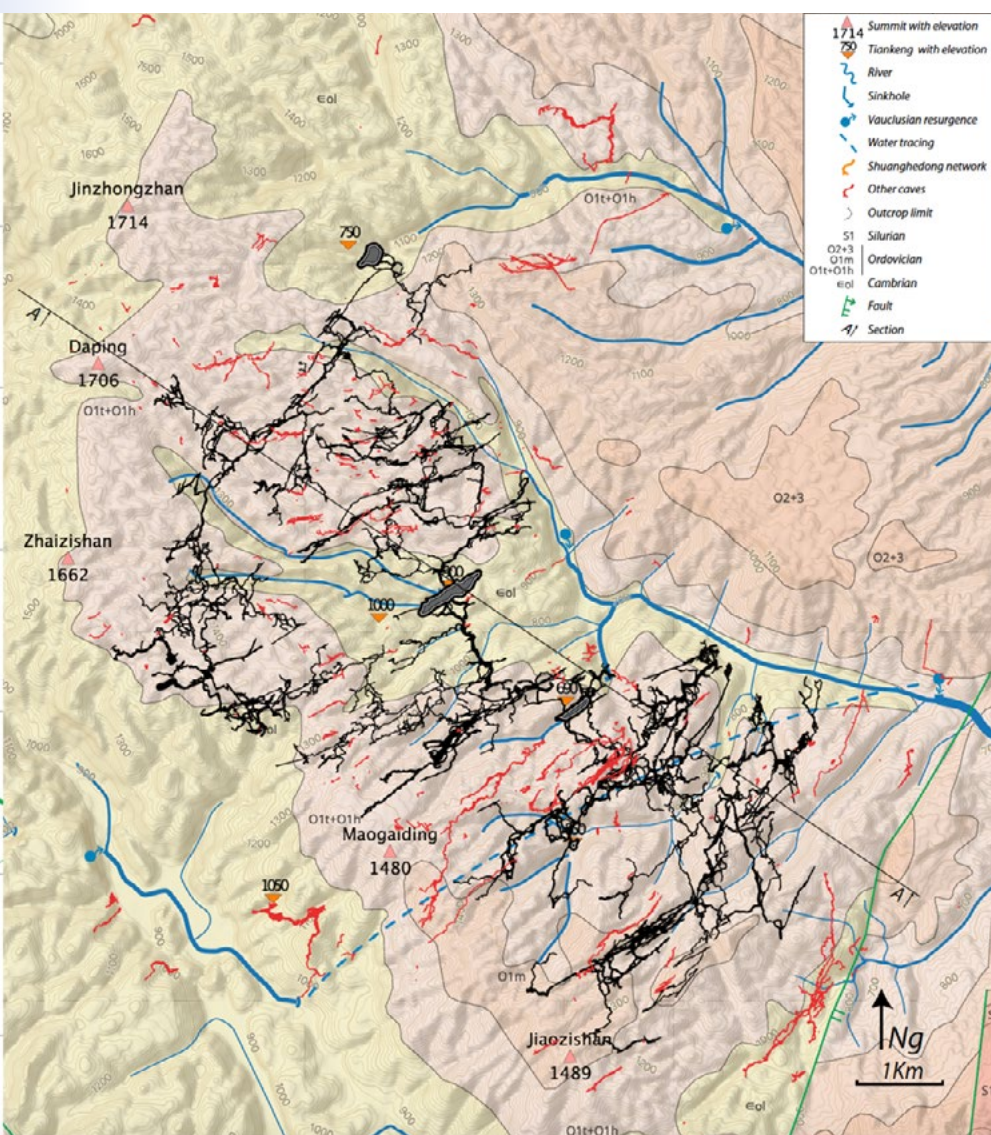


Translucent gypsum crystal growing in sediment.

Bojiyandong - PHOTO: JO DE WAELE

The time spent underground by all the participants reached a total of 1,059 hours, not including the significant hours spent prospecting with the help of local volunteers and which allowed the location of new

cave entrances. The information thus gleaned during these prospecting days is carefully archived and geo-located on a map. Their interpretation allows a better general knowledge of the karst zone studied.



Shuanghedong Reseau, 09/2023: 415 km, -912 m.

AUTHORS: JEAN BOTTAZZI, MARCF FAVERJON, JO DE WAELE

TRAINING COURSE

Ending a 3-year hiatus, the tradition of caving training courses has been relaunched. Thirteen trainees participated. We were surprised by the level of autonomy of many of them.

CONCLUSION AND PERSPECTIVES

The priority question that this expedition wanted to answer, namely the possibilities of extension under the Zheng'an karst located in the north-east, found an unpleasant answer: it will not be easy at all.

On the other hand, the "blank area" in the northwest has sufficient potential to exhaust many speleologists. Although systematic nibbling conducted by conduit now constitutes the most effective method of investigation, discoveries such as the North Cape gallery show that large galleries can still be discovered and offer spectacular advances.

The "Shuanghe 400" expedition benefited from very wide media coverage both in the written press and on the most important Chinese television channels. It also provided a framework for a report on Franco-Chinese speleological expeditions as a model of success through friendship and co-operation.

INTERNATIONAL EXPEDITION SUPPORTED BY THE UIS



EXPEDITION TO THE STERNES CAVE OF THE LEFKA ORI OF CRETE

Summary Report

By **Sternes 2023**

Speleological Association of Crete

sternes-expe@spok.gr



The expedition “Sternes 2023” was the seventh annual expedition organized by the Speleological Association of Crete (SPOK) to Sternes Cave on the Lefka Ori (White Mountains) massif of Crete. The 2022 expedition explored and recorded 1,200 m of new cave passages below -500 m depth and this year’s expedition was organized to push new leads discovered in 2022. In addition to UIS, the expedition this year was supported by the European Speleological Federation’s (FSE) Eurospeleo Projects initiative (and their sponsor Aventure Verticale), the National Speleological Society of the USA, the Municipal Authority of Sfakia, and individual donors.

The expedition ran from 26 August to 11 September 2023 and had participation from the following countries: United Kingdom, Ireland, Italy, Israel, Greece, USA, Australia and Canada. There was participation from all caving clubs of Crete and some from mainland Greece, too. Of the 51 cavers participating in some capacity, 17 (33%) were women.

The objectives and results of the expedition were the following:

- Continuation of exploration of Sternes Cave, survey of new passages found, recording of the exploration effort: about three kilometers of almost exclusively horizontal cave have been explored and surveyed this year.



Main basecamp of the expedition “Sternes 2023.”

PHOTO: GEORGIA SCHNEIDER

PHOTO ON THE TOP: *View from the cave entrance.*

PHOTO: DANIELE MORETTI

- Further enlargement of meanders between -428 m and -530 m to allow easier access in case of accident: the objective was achieved, with very few improvements remaining to be made for the 2024 season.

- Continuation of exploration of pits discovered in 2011, suspected to be linked to Sternes Cave: efforts were focused on nearby pits (to the west of the deepest point of the cave), pit 1111 was explored and surveyed early in the first week.

- Recording of geological information within the cave: measurements of dip and dip direction were taken of geological strata encountered within the cave to assist in the hydrogeological model being created by the UNESCO-supported project "IGCP 715 A new karst modeling approach along different tectonic contacts".

- Surface exploration: more than 10 new entrances were marked by the multiple surface teams. Most significantly, the ice-cave Lagonia (LA2-LA3) was re-surveyed digitally and explored below the ice-plug which had denied access to many decades worth of visitors. Several other caves were discovered and surveyed near basecamp.

- Continuation of recording of cave life forms and collection of samples in a systematic way: cave life was sampled from a number of locations within Sternes Cave, resulting in the collection of collembola, arachnids and some winged insects which will be shared with laboratories for identification and/or description.



Customized backpacks waiting for the explorers.

PHOTO: ARCHIVE STERNES 2023



Main basecamp of the expedition "Sternes 2023."

PHOTO: YAAARON EINAV-POZNANSKI



The entrance of the Sternes Cave at 2080m altitude.

PHOTO: DANIELE MORETTI



Cavers in one of the pits of Sternes.

PHOTO: YOAV NEGEV



Cavers in one of the pits of Sternes.

PHOTO: YOAV NEGEV

Sternes Cave is now 5.6 km long, and 616 m deep (until further notice). This places the cave in third place for longest cave on Crete, behind Ano Peristeras and Tafkoura.

Significantly, this year's expedition has again provided an opportunity for the members of SPOK and other Greek cavers to exchange ideas and experiences with international cavers from seven countries on four continents.

The number and diversity of leads remaining to be explored is exciting. Needless to say, planning is already under way for Sternes 2024.

The expedition has received interest in the regional press and has also been presented at an international cavers' meeting in Italy. A detailed survey and full report is in preparation and is expected to be complete in the coming months. **The report will be distributed through the expedition's facebook page when it is prepared:** <https://www.facebook.com/SternesCaveExpedition>.

An outreach event with the local community of Sfakia on Crete is planned for early next year as are presentations at the next national cavers' meeting.

The Speleological Association of Crete is a founder member of the Hellenic Speleological Federation.



Progression in one of the pits of Sternes.

PHOTO: YOAV NEGEV



Daniele Moretti in the fossil gallery downstream of the bivouac site, at about -500 m.

PHOTO: ROBERTO PETTIROSSI



Kostas Kostidis with the aragonite crystals in the fossil galleries below -500 m.

PHOTO: DANIELE MORETTI



"Meeting" at -500 m as shifts alternate.

PHOTO: DANIELE MORETTI



Aragonite crystals at the depth of approximately -500 m.

PHOTO: GREGOR ANASTASOPOULOS



After climbing up to the continuation of the fossil gallery 15 m above the bottom of the pit, Dustin Kisner gazes up the "Pozzo Enorme," discovered the previous day by the Greco-Italian team. PHOTO: GEORGIA SCHNEIDER

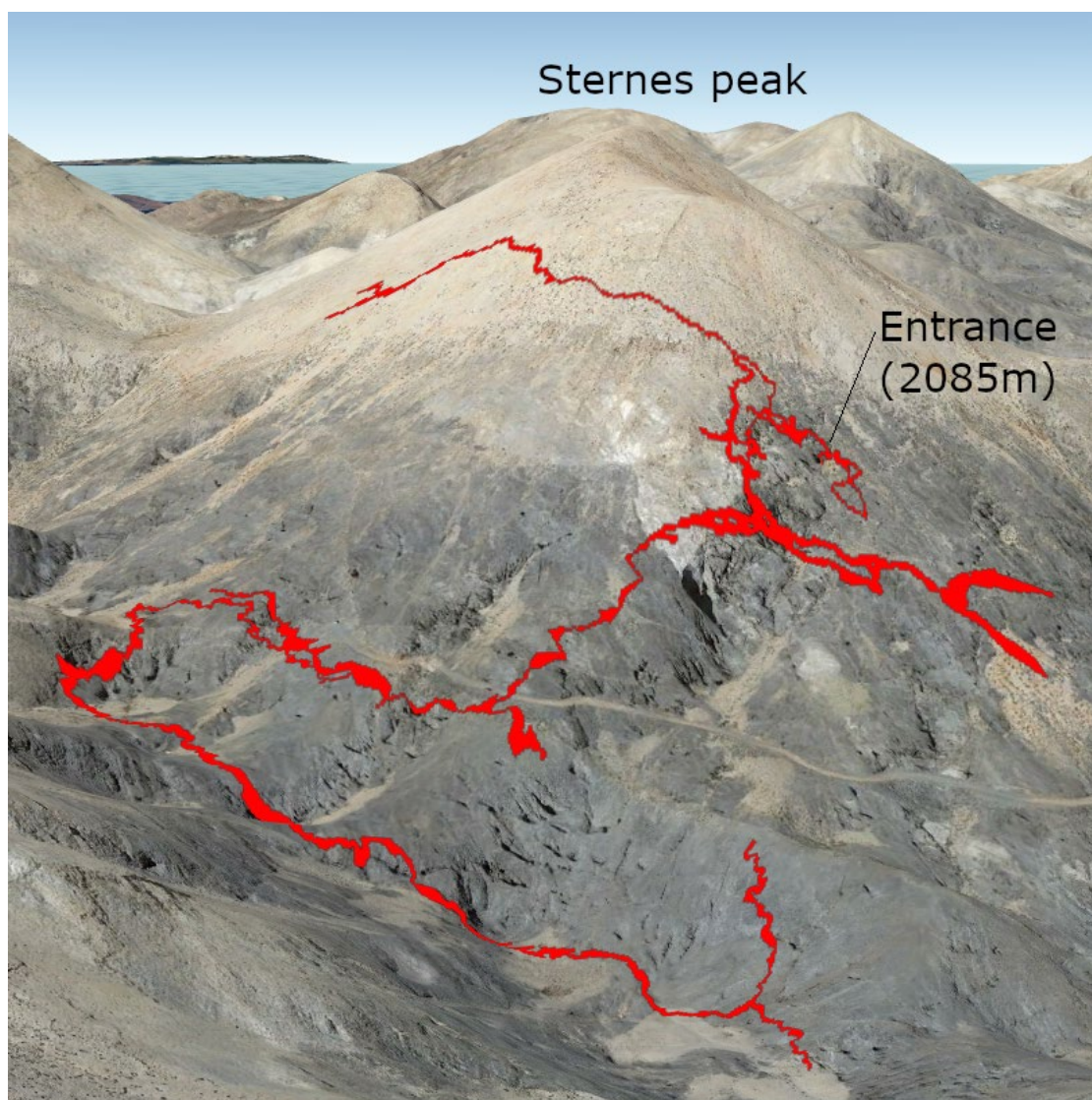


Kostas Kostidis progresses in the "Black Meander" which continues downstream from the bottom of the "Pozzo Enorme," both new discoveries of this year's expedition at -532 m. PHOTO: DANIELE MORETTI

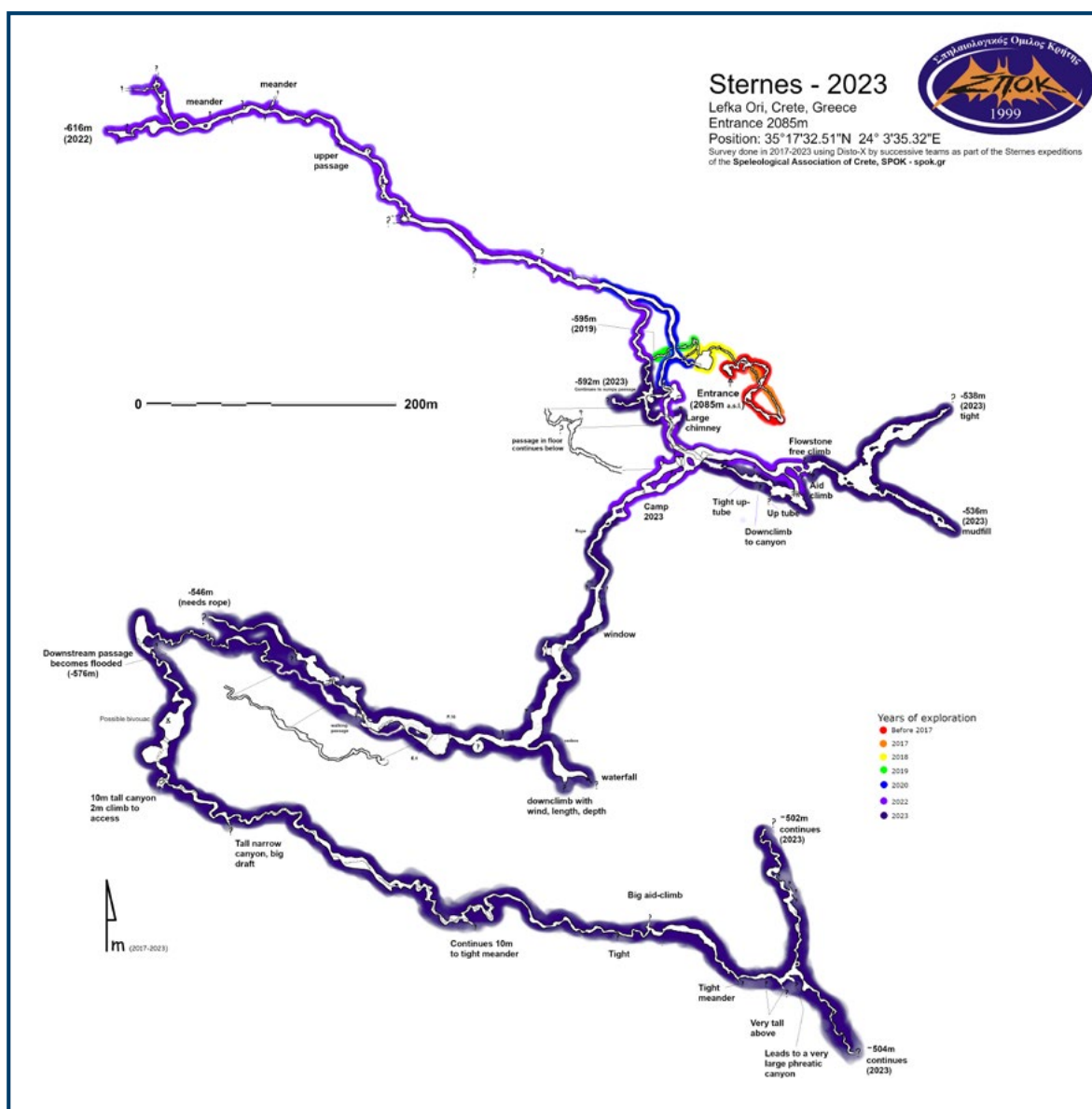


Progression in one of the pits of Sternes.

PHOTO: YOAV NEGEV



The survey geolocated and projected onto Google Maps. © GOOGLE MAPS



Plan of Sternes Cave colored by year of exploration. © STERNES 2023



Some of the over 50 cavers who participated in the expedition to the Sternes Cave of the Lefka Ori of Crete 2023. PHOTO: YOAV NEGEV



A NEW UNESCO WORLD HERITAGE ON AN EVAPORITIC KARST AREA OF ITALY

by Paolo Forti

UIS Past President 1993-1997

paolo.forti@unibo.it

PHOTOS: F.S.R.E.R. ARCHIVE



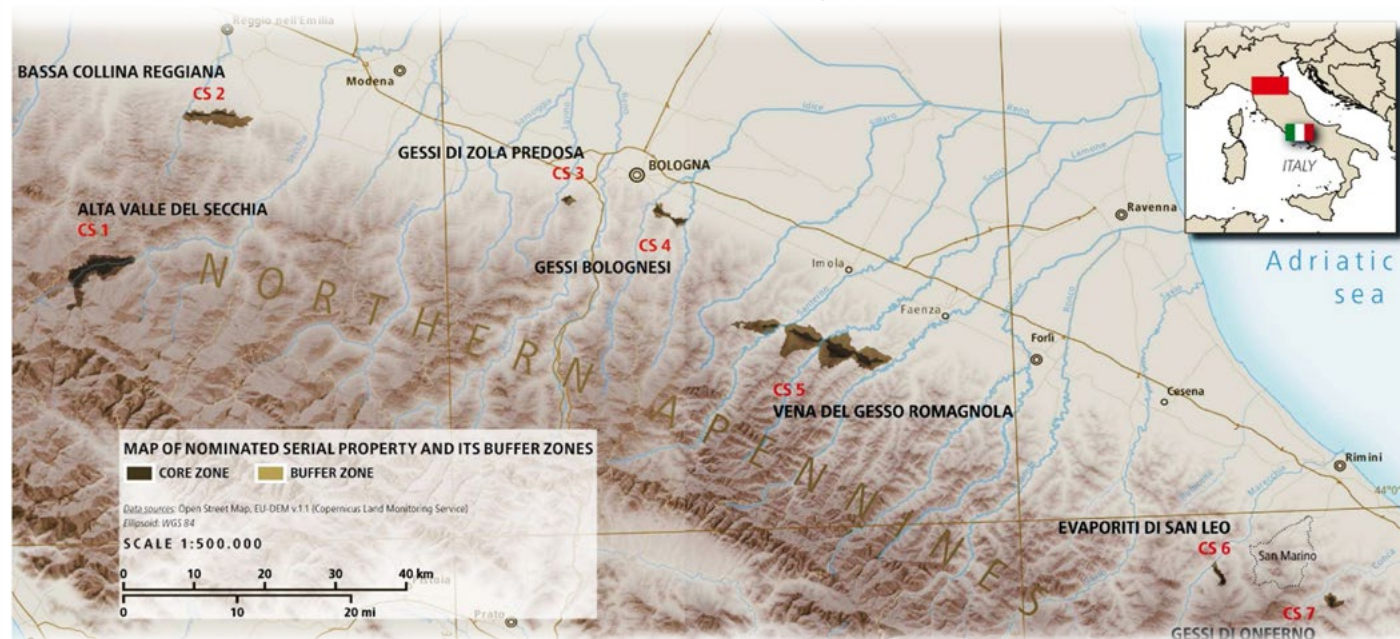
F.S.R.E.R.

Speleological Federation of Emilia Romagna

Last September 19th in Riyadh, Saudi Arabia, UNESCO, during its annual general meeting, included in the list of World Heritage the **“Karst phenomena and caves of the Evaporites of the Northern Apennines”** (which actually is the very first karst site of Italy that attained this rank), a serial site made up of seven different areas with the following motivation:

“This serial property is an unusually well-preserved and extensive epigenic gypsum karst terrain. It includes a very high density of caves: over 900 caves in a relatively small area, with over 100 km of caves in total. It is the

first and the best studied evaporitic karst in the world, with academic work beginning in the 16th century. It also includes some of the deepest gypsum caves in existence, reaching 265 meters below the surface.”



Map of the Emilia Romagna Region in which the seven areas of the serial property are reported .
 (more informations available at <https://whc.unesco.org/en/list/1692>)

PHOTO ON THE TOP: A general view of the gypsum outcrop of the Vena del Gesso Romagnola.

UNESCO accepted this candidacy also and above all because the entire global speleological community, starting with the UIS, and in particular many of the speleologists and scientists of nations associated with it supported it by sending over 70 letters of endorsement.

This designation is particularly important for speleology as a whole because it is absolutely the first karst site in evaporite rocks in the world to enter this prestigious list.

In a more or less near future, this site may also expand to include other Italian or even foreign sites so that it can best represent karst in the evaporites of the entire Mediterranean area.

The following photos (all coming from the archive of the FSRER (*Speleological Federation of Emilia Romagna*)) show some of the peculiar characteristics of the property.



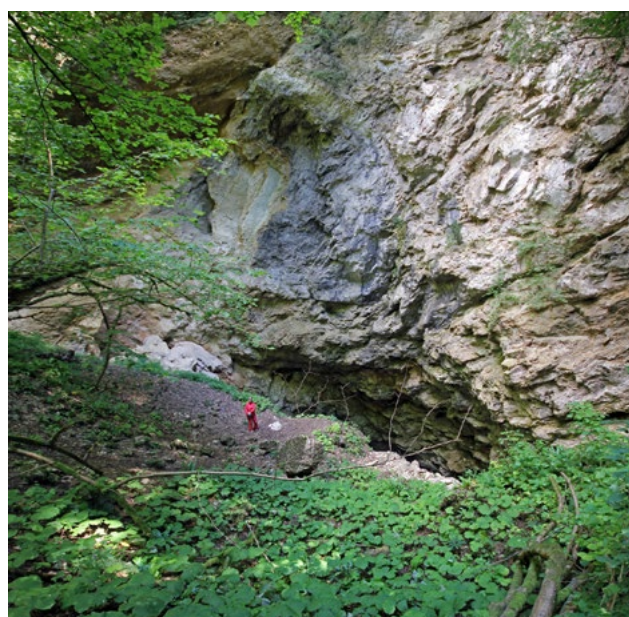
The Buca di Budriolo doline is a large sinkhole in the Gessi Bolognesi area. Its bottom opens to the entrance of Calinfri Cave, which contains important Bronze Age artifacts.



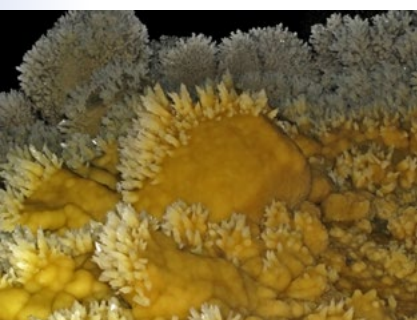
Lot of small sinkholes on top of the Monte Mauro, Vena del Gesso Romagnola.



The Secchia River flowing through the Triassic gypsum outcrops (view from Mt. Duro). Alta Valle del Secchia.



Entrance of the Tanone Grande della Gaggiolina in the Triassic gypsum of the Upper Secchia Valley.



Gypsum crystals growing on carbonate speleothems in the Risorgente del Rio Basino Cave, Vena del Gesso Romagnola.



The biggest collapse room of Spipola Cave in the Gessi Bolognesi.



The final part of the Basino spring cave is the largest roof-less cave (several hundred meters long) in the Vena del Gesso Romagnola.



A paragenetic gallery in the microcrysta gypsum formation of the Gessi della Romagna Orientale.



Intra-Messinian holo-fossil cave found in Gessi of Zola Predosa area.



The biggest calcite flowstone found in a gypsum cave of the Vena del Gesso Romagnola.



Syngenetic Mamelons exposed by karst activities inside the Acquarredda karst system, Gessi Bolognese.



River flowing in a partially gravitative canyon, the top of which consists of a antigravitative conduit inside the Stella-Basino karst system, Vena del Gesso Romagnola.



UNESCO General Assembly in Riyadh, Saudi Arabia: the Italian delegation at the time of the proclamation of the inclusion of the Italian Evaporites in the World Heritage list.



Union Internationale
de Spéléologie
www.uis-speleo.org

MINUTES UIS BUREAU VIRTUAL MEETING

February 9th, 2023

by Patricia SEISER (*Adjunct Secretary*)

ATTENDANCE

President: *Nadja ZUPAN HAJNA*
Vice-President of Administration: *Zdeněk MOTYČKA*
Vice-President of Operations: *Nivaldo COLZATO*
Secretary General: *Johannes MATTES*
Treasurer: *Mladen GARAŠIĆ*
Adjunct Secretaries:
Bärbel VOGEL
Gerard CAMPION
José-Maria CALAFORRA
Marc MENTENS
Mario PARISE
Patricia SEISER
Nathalia Vanessa UASAPUD ENRÍQUEZ
Past-Presidents:
José Ayrton LABEGALINI
Andy EAVIS (attended for items 1 & 2 only)
George VENI

1) Opening Session - President welcoming introduction / Approval of Agenda. (N. Zupan Hajna)

The UIS President opened the meeting by welcoming bureau members. The agenda was formally approved.

(2) Review Action Items and Decisions of previous UIS Board Meeting (2023). Decisions to be made on following up un-accomplished actions.

a. Finished call for speleological event support (Z. Motyčka)

We many want to open another call. Need to discuss at next meeting regarding an increase in finances. *See agenda item (4).*

ACTION 1: Board needs to discuss increase in funding of events.

b. Member Countries (J. Mattes, N. Zupan-Hajna)

i. Mongolia: Talked with Tosi in Japan who has contact with Mongolian cavers, but no response. Need new contacts.

ACTION 2: Need to find contacts for Mongolian cavers.

ii. Singapore: They are still interested in joining, will contact UIS when able to move forward with membership. Andy Eavis will be in Singapore in a few weeks and has offered to contact them while there.

ACTION 3: A. Eavis to contact Singapore cavers.

iii. Kyrgyzstan: Not happy about Russia's suspended membership. They are also concerned that UIS is not doing anything speleological for Central Asia in terms of not advertising events. Currently we have lack of contact with Kyrgyzstan and neighboring countries.

1. M. GARAŠIĆ: They have not paid membership; end of the year will be five years.

2. J. MATTES: Offer something to publish on the website, something that they have accomplished. UIS prestige in Central Asia.

3. N. ZUPAN HAJNA: Publish reports of expeditions to help out. Encourage communication within group to respectfully address internal communications.

4. M. MENTENS: Was on 2005 expedition, knows people, he may talk with Alexi and his father. Issues may be on commercial expeditions. Need to have a list of issues/problems and then will talk with Alexi and his father.

ACTION 4: Mentens to contact Alexi and father to address Kyrgyzstan concerns.

c. White Paper on Responsible Speleology, International Association for Promoting Geoethics (IAPG)
(N. Zupan Hajna)

i. IUCN cave and karst group will get WCPA's opinion because not happy with UIS letter. Have supporting letter from European Speleological Federation in agreement with UIS.

1. G. CAMPION: Proposed putting a note on website in response, possibly also in bulletin. **J. MATTES** and **P. SEISER** quick write up letter. Add/emphasize we have our own guidelines by people who are heavily involved in cave and karst conservation. IAPG paper should not be written about people who have little involvement. Need to be clear we are not in support of this paper. Have had no response from IAPG.

ACTION 5: Mattes & Seiser to draft letter regarding White Paper

d. List of Endangered Karst Features
(B. Vogel, N. Uasapud, M. Parise, J.M. Calaforra)

B. VOGEL: First draft circulated, will be scheduling an online meeting. Protection commission members need more participation/activity. The group needs to be re-invigorated.

M. PARISE: Give the group one more opportunity to participate. The problem is not communication. The problem is that no work is being done.

ACTION 6: Zupan-Hajna to send letter to protection commission members.

e. ESA support (*B. Vogel and J.M. Calaforra*)

A new the call was published on NGO involvement with a deadline of 5th October

It is very complicated, I involved Nico Goldscheider as he published a paper on that topic. But the deadline was too short for Nico and KIT to get involved - but the next call in 2 years could be a possibility.

(3) Bureau Internal Functioning

a. Bureau members voted yes to use Goggle Docs for voting purposes.

DECISION 1: UIS Bureau agreed to use Goggle Docs for voting purposes.

b. Scheduled meetings in Brazil. It would be nice to have a 2nd meeting before then – June 1st.

DECISION 2: UIS Bureau agreed to hold a meeting on June 1st.

(4) UIS Finances & 2023 Project Support

a. UIS domain paid. Have € 37,674 plus \$ 51,127 in US currency. Total of € 85,457. Year End Income € 7,500.

b. Paid Projects: Urbana, Lebanon, Greece, France, etc. May be able to increase funding projects to \$ 5,000. Need to emphasis/clarify requirements: One local needed for each country.

(5) Closing of the International Year of Caves and Karst

(*G. Veni*)

a. Over 961 events by the end of 2022. Still receiving reports, may end up with over 1,000 IYCK events.

b. Georgia Schneider (US NPS Graduate Student) will develop a GIS storyboard when VENI supplies final report.

c. Last UIS event is the Groundwater Conference.

d. Board needs to create a 2-3 sentence Thank you for ICS the ICS IYCK. Submit as a video by end of March.

ACTION 7: G. Veni to submit final IYCK report.

ACTION 8: G. Schneider to create GIS Storyboard based on final IYCK report.

(6) UIS Commissions

(*Z. Motyčka*)

Z. MOTYČKA will look for new presidents for the

Glacier, Firn and Ice Caves Commission, as well as for the Physical Chemistry and Hydrogeology Commission. He will send a copy of the spreadsheet he displayed.

ACTION 9: Motyčka to look for new presidents for the Glacier, Firn and Ice Caves Commission, as well as for the Physical Chemistry and Hydrogeology

ACTION 10: Motyčka to send Board copy of spreadsheet on UIS Commissions.

M. PARISE suggested term limits of two four-year terms for the commission presidents. Discussion ensued. Such a change will have to be approved by the General Assembly.

N. ZUPAN HAJNA suggested that this apply only to the inactive commissions. There is a challenge in defining “inactive” that should be discussed further.

(7) UIS Bulletin and Website

(*N. Colzato, J. Mattes*)

N. COLZATO presented a written report on the Bulletin and the website which he can send to the board to be included directly in the minutes. **G. CAMPION** complimented COLZATO on the great job. COLZATO thanked his proofreaders for helping. The Deadline for the next issue is 15 June (he needs to check if that is correct).

N. COLZATO reported on a proposal to reorganize the publications page on the website to make it easier to find books, documents, etc. Jasmina is currently reorganizing that page its subpages.

Work has also begun on the website for the upcoming ICS.

(8) 18th ICS Report, and UIS reaction

(*N. Zupan-Hajna*)

No official or personal replies from organizers regarding funding/finances. Will send “final” letter to FSS (they applied to host the congress) for the final report and funds. Next time the letter will be posted on Facebook and in the UIS Bulletin. If no report is sent, UIS will write its own report.

ACTION 11: Zupan-Hajna to send letter to FSS regarding 18th ICS Report and finances.

(9) Engagement at United Nation Level: ECOSOC status of the UIS

(*B. Vogel, G. Veni*)

B. VOGEL: sent a report with an overview of political meetings that UIS needs to consider getting involved with. With the political meetings, the real work happens in advance of the meetings. To be effective in the UN an organization must receive ECOSOC status.

The application process takes about 2 years. It has been important that sending UIS people to UN meetings, both in person and online. There are no dues, only a report that is sent every four years on UIS activities. After the meetings, work resumes to discuss results and prepare for the next meeting. Participation in the UN NGO Major Groups helps support this work. Also, UIS can get accredited in the UN Environment Program. The application is simpler and shorter, only two months, but the work involved is more complicated.

N. ZUPAN HAJNA commented that UIS involvement in the upcoming UN Water Conference was limited and difficult because we were not already involved. We need Bureau members and past Bureau members involved. N. Zupan Hajna doesn't want to involve non-Bureau members on political issues because they don't know the UIS as well.

G. VENI commented on the importance of ECOSOC status. The previous Bureau agreed and G. Veni applied, but either he made a mistake or the proposal was not received. Do we want to reapply? B. Vogel and G. Veni will coordinate to develop a committee in advance of creating a commission in Brazil. All agreed on applying to ECOSOC. J. Mattes will complete the application.

ACTION 12: Baerbel and George to develop a committee in advance of creating a commission.

ACTION 13: Mattes to complete ECOSOC application.

a. Slovenia (where the UIS was formed) will create an International Cave and Karst Day. UN or UNESCO? These are two separate issues. UNESCO is the easiest to get support from. They supported the IYCK.

(10) Attendance to future (speleology) events (N. Zupan-Hajna)

a. UIS participation at 2023 conferences (Planetary Caves, 20 IKS, Brazilian National Congress, ...)

i. UIS Participation at the 2023 conferences include:

Planetary Caves, 30 IKS, Brazilian National Congress and others.

J. MATTES will attend the social science meeting and **N. ZUPAN HAJNA** will attend the physical science meeting.

J.-M. CALAFORRA and **N. ZUPAN HAJNA** will attend the Planetary Meeting in Lanzarote.

N. ZUPAN HAJNA invites everyone to the Karst Research Institute's annual Classical Karst School in Slovenia.

ii. N. COLZATO reminded everyone to include the promotion of the ICS in Brazil in their lectures at other conferences.

b. Invitations from Speleological organizations (Morocco, Tunisia, ...)

N. ZUPAN HAJNA would like to attend the meeting in Morocco. **G. CAMPION** also plans to attend. **Z. MOTYČKA** invited everyone to the upcoming meeting in the Czech Republic. **B. VOGEL** announced the EuroSpeleo Forum in May. **N. UASAPUD ENRÍQUEZ** announced a meeting in Colombia where UIS presence was requested. She will attend and make a presentation on the UIS.

c. Invitation to ISC meeting in Paris, May 10-12.

d. UIS and UN NGO Major Group: UIS Representative?

G. VENI will stay as UIS representative until someone is interested in doing the job.

(11) Next UIS Bureau Meeting in Brazil (N. Colzato)

N. COLZATO needs the names of the Bureau members who will be attending the meeting. Send the information as soon as possible. **Z. MOTYČKA** can't attend. **B. VOGEL** isn't certain.

(12) Any other business

Planning is underway for the upcoming Executive Committee meeting in Slovenia. Nivaldo hopes to see snow for the first time. Mladen is celebrating 60 years of caving.

(13) Closing Statements (N. Zupan-Hajna)

See you on Zoom on June 1st, then in Brazil.

Meeting adjourned at 18:28 CET.

PARTICIPANTS OF THE UIS BUREAU VIRTUAL MEETING - FEBRUARY 9, 2023





Union Internationale
de Spéléologie
www.uis-speleo.org

MINUTES UIS ANNUAL BUREAU MEETING

July 27th (09:30-12:30) & July 30th, 2023 (09:30-12:30)

FAE Business School, Curitiba, Brazil

by Marc MENTENS (Day/Part 1) & Nathalia Vanessa UASAPUD ENRÍQUEZ (Day/Part 2)

Revised by Johannes MATTES

SESSION 1

Saturday July 27th, 2023

09:30 to 12:30 (local time)

ATTENDANCE

President: *Nadja ZUPAN HAJNA*

Vice-President of Operations: *Nivaldo COLZATO*

Secretary General: *Johannes MATTES*

Treasurer: *Mladen GARAŠIĆ*

Adjunct Secretaries:

Gerard CAMPION (Day 1 online)

Marc MENTENS

Patricia Seiser (online)

Nathalia Vanessa UASAPUD ENRÍQUEZ

Bärbel Vogel (online)

Past-Presidents:

José Ayrton LABEGALINI

Andy EAVIS

George VENI

Guests:

Allan Silas Calux

(Chairman of the 19th ICS Organizing Committee)

Jean-Pierre Bartholeyns

(President of Cave and Karst Protection Commission)

AGENDA

1. Opening Session

**President welcoming introduction /
Approval of Agenda** (*N. Zupan Hajna*)

UIS President N. Zupan-Hajna, welcomed all participants to the meeting of the UIS Bureau in Curitiba. She and Secretary General J. Mattes thanked the Brazilian hosts for the invitation to the 37th Congresso Brasileiro de Espeleologia (CBE) in Curitiba. The agenda was approved, with some items modified to allow all online participants to attend the meeting.

DECISION 1: The UIS Bureau approved the agenda.

**2. Review Action Items and Decisions of
previous UIS Bureau Meeting (02/2023) –
Decisions to be made to follow up with
un-accomplished actions**

**a. Minutes and List of Actions/Decisions of the last
UIS Burzeau Meeting to be done by P. Seiser.**

The minutes of the previous Bureau meeting and the list of decisions and actions were reviewed by the Bureau.

**DECISION 2: The UIS Bureau approved the minutes
of the last Bureau meeting.**

**b. Closing of the International Year of Caves and Karst
2021/22 (IYCK) , including video** (*G. Veni, N. Zupan Hajna*)

N. Zupan-Hajna and G. Veni gave an overview of the closing of the IYCK. The production of a short video on this occasion was cancelled due to late submissions and insufficient response from Bureau members. G. Veni encouraged the UIS to work for an UNESCO International Day of Caves and Karst. He provided information on the activities carried out during the IYCK worldwide (1095 events in total). G. Veni is currently working on an IYCK report

**DECISION 3: The UIS Bureau agreed to work on an
UNESCO International Day of Karst and Caves.**

ACTION 1: G. Veni to finish the report of the IYCK.

**c. Working-Group UIS List on endangered caves and
karst features** (*B. Vogel, J.-M. Calaforra, M. Parise, P. Seiser*)

B. Vogel regretted the inactivity of the working group. Its members have been occupied with various other activities and tasks.

N. Zupan-Hajna proposed to transform the Working Group into a Commission in order to draw the attention of politicians and decision makers to this important topic. This could best be done before the next UIS General Assembly in 2025. Ideas and contributions are welcome.

**DECISION 4: The Bureau would like to be informed
about any progress on this matter at the next meeting.**

ACTION 2: B. Vogel to activate the working group.

**d. Official Report of the last ICS by the French Orga-
nizing Committee** (*N. Zupan Hajna, J. Mattes*)

Although N. Zupan-Hajna and J. Mattes have written three times to the Board of the French Speleological Federation (FFS) requesting an official report on the ICS (for publication in the UIS Bulletin) and a financial report, these have not been submitted.

The share of the ICS registration costs due to the UIS has also not been paid by the FFS.

ACTION 3: To get in contact with members of the FSS and to obtain at least some information about the last ICS (official number of participants, oral presentations, posters etc.) for the UIS Archive.

e. Cave-inspired music database (*J. Mattes*)

J. Mattes reported that the Cave Music website of David Brison-De Calmes (www.caveinspiredmusic.com) will soon be uploaded to the UIS domain as agreed with the author and the UIS Arts and Letters Commission.

3. Finance Update (*M. Garasic*)

UIS Treasurer M. Garasic gave an overview of the current financial situation. The Euro account contains **€ 35,386.5**. The dollar account contains **US \$ 51,127.86**. Together this results in a total amount of **€ 81,352.55** on July 20, 2023.

M. Garasic pointed out that several members are in arrears with their contributions to the UIS. Most countries will pay their contributions for the last four years at the next ICS.

N. Colzato proposed to publish a list of countries in arrears in the next UIS Bulletin.

DECISION 5: The UIS Bureau approved the financial status and agreed to publish a list of indebted countries in the next UIS Bulletin.

ACTION 4: M. Garasic to complete a list of the financial status of the member countries.

4. UIS Bureau business

a. Short reports and updates (*President, Vice-Presidents, Secretary General, Adjunct Secretaries*)

UIS President N. Zupan-Hajna and Secretary General J. Mattes reported on their activities since the last Bureau meeting. All issues are dealt with individually in the following agenda.

Vice-President of Operations N. Colzato reported that he is working on the UIS Bulletin to collect enough articles for publication. He has also been deeply involved in the organization and preparation of the next ICS.

N. Uasapud has worked with the new bureau of the Colombian National Federation ESPELEOCOL and with the government on the enforcement of the new national cave law.

M. Mentens was engaged in the donation of equipment to young cavers in developing countries. Donations have been made to Brazilian cavers and to a cave rescue team in Sagada, Philippines. Preparations are underway for donations to Malaysia and Indonesia. He is also working on contacts with Asian cavers and agencies. He hopes to soon create a charter between international expeditions and local cavers to equalize their skills and equipment.

P. Seiser has worked on Cave Education and Cave protection in the US.

G. Campion continued to represent the UK in the European Speleological Federation, raising issues that may affect work with the UIS. He is working with Speleomedit to try to get more countries on board to highlight cave conservation issues. He is preparing a presentation on cave conservation for the Moroccan Speleological Congress in November. He is

also looking at regional representation for the UIS, for example a collaboration of North African countries.

B. Vogel has participated in the Geneva Water Convention.

J.M. Calaforra and M. Parise did not submit an activity report.

b. Ideas/proposals for Bureau activities

- Working Group on Politics (proposed by B. Vogel)

It is agreed to deal with this issue later under item # 7c.

5. UIS Media

a. UIS Bulletin (*N. Colzato*)

N. Colzato reported that the next issue of the UIS Bulletin faces problems due to lack of content. There are little reports from the commissions and projects/events supported by the UIS. It is necessary to ask the commissions and granted projects to send reports in order to have material for the next issues of the Bulletin. The next ICS will be discussed in detail in the upcoming UIS Bulletin.

DECISION 6: The UIS Bureau thanks N. Colzato for his efforts.

ACTION 5: N. Colzato to send letters to UIS commissions and granted projects/events asking for reports.

b. Recent updates of the UIS website: bureau website, rearrangement of pages, ISC logo, etc. (*J. Mattes, N. Colzato*)

N. Colzato and J. Mattes reported on recent updates to the UIS website, such as the implementation of a UIS Bureau webpage and the addition of the ISC logo.

Some of the UIS social media accounts are rather inactive.

DECISION 7: The UIS Board decided that N. Uasapud should be involved in UIS social media and take over Instagram publishing.

ACTION 6: N. Uasapud to get in touch with J. Rijavec and Ayumi regarding the UIS social media.

6. UIS Relationships with Regional Organizations and Countries

a. Member country: Mongolia (*N. Zupan Hajna*)

Due to the death of the UIS delegate from Mongolia, UIS no longer has any contact with the national organization.

ACTION 7: M. Mentens to contact the Mongolian Academy of Sciences to reestablish the relationship with the Mongolian cavers.

b. Support for World Heritage nomination of Naj Tunich Cave in Guatemala (*G. Veni*)

George Veni explained the need to protect the Naj Tunich Cave due to its unique cultural and natural value. The UIS Bureau expressed its full support of this project.

c. Affiliating with the Austrian Academy of Sciences (*J. Mattes*)

In April 2023, J. Mattes submitted an application to the Austrian Academy of Sciences to support the UIS as an affiliated organization. The Academy is about to join.

7. UIS Relationships with International Organizations

a. Status of a non-governmental organization associated with UNESCO (N. Zupan-Hajna)

UNESCO has invited the UIS Bureau to apply for the status of a non-governmental organization associated with UNESCO. N. Zupan-Hajna will ask for the cooperation of the Agency to study the procedure in more detail. The General Assembly of UNESCO will be held in October 2023.

DECISION 8: The UIS Bureau supported the idea of becoming an UNESCO affiliated organization.

ACTION 8: N. Zupan-Hajna to check the procedure.

- UNESCO Day of Caves and Karst, September 13

The proposal to make September 13 the International Day of Caves and Karst received full support from UNESCO. The creation of a promotional campaign and the development of ideas were mentioned as action points to be completed. There might several ways to accomplish this, N. Zupan-Hajna gave a technical explanation of the procedures.

Such an event cannot be organized before 2026 because of the procedure and the preparations needed. The Bureau agreed that the first International Day of Caves and Karst will be organized in Slovenia.

DECISION 9: The UIS Bureau will consider all potential contributions to this topic.

ACTION 9: The UIS Bureau to look for national organizations to organize the 2027 International Day of Caves and Karst.

b. International Science Council:

- ISC Membership Category (N. Zupan-Hajna, J. Mattes)

N. Zupan-Hajna and J. Mattes explained the benefits and obligations of being a member of the International Science Council. The ISC provides the UIS with international recognition and contacts to other scientific unions, academic institutions and their global initiatives. The UIS is now only an affiliated member (category 3) and pays 540 € per year. Full membership (Category 1) is more expensive, so the Bureau will propose to the ISC to pay about 800 €, because the UIS is an organization with a smaller budget.

N. Uasapud will represent us in Latin and Central America, M. Mentens will do this for Asia and the Pacific. The next ISC regional meeting for Asia and Pacific is scheduled for early September in Kuala Lumpur.

DECISION 10: The Bureau agreed to apply for Category 1 membership.

ACTION 10: J. Mattes and N. Zupan-Hajna to prepare a Category 1 membership proposal to the ISC.

- ISC Geo-Unions (N. Zupan-Hajna, J. Mattes)

N. Zupan-Hajna and J. Mattes reported that, thanks to their attendance at the last ISC meeting in Paris in mid-May 2023, the UIS has been invited to join the ISC Geo-Unions (<https://www.icsu-geounions.org>), an initiative of 10 geoscientific unions of the ISC. The first meeting with the participation of UIS will take place in mid-September 2023.

End of the first day of the UIS meeting



PHOTO: ARCHIVE NIVALDO COLZATO



JULY 27, 2023: UIS President Nadia Hajna receiving one embroidery of the 19th ICS logo (above, in detail) from the UIS Past President José Ayrton Labegalini during the first session of the UIS Bureau Meeting in Brazil.



PHOTO: NIVALDO COLZATO



PHOTO: ARCHIVE NIVALDO COLZATO



PHOTO: NADJA ZUPAN HAJNA



PHOTO: NIVALDO COLZATO

SESSION 2

Monday July 29th, 2023

09:30 to 17:00 (local time)

The day started with a slight change in the agenda because the whole Brazilian delegation were present to talk about the 19th ICS. We started with item # 9 of the agenda and then continued with the original agenda.

- Standing Committee for Gender Equality in Science
(J. Mattes)

UIS has been invited to join the Standing Committee on Gender Equality in Science (<https://gender-equality-in-science.org>), an initiative of 20 scientific associations worldwide. The annual membership fee is around 200 Euros. Membership could be an impetus to develop a code of conduct for social and gender equality. All Presidium members agreed to participate in such an initiative and proposed two Associate Secretaries (B. Vogel and N. Uasapud) to set up a working group and prepare a draft to be discussed at the next UIS General Assembly.

DECISION 11: The UIS Bureau agreed to participate in the Standing Committee for Gender Equality in Science.

ACTION 11: J. Mattes, N. Uasapud and B. Vogel to set up a group and start working on a code of conduct for social and gender equality.

ACTION 12: The UIS treasurer will approve the fee for the Standing Committee for Gender Equality in Science.

c. Request from the IUCN: Consultation on Key Geo-heritage Areas (*J. Mattes*) - (*see next numeral*)

d. Application for UN accredited ECOSOC status
 (*J. Mattes and G. Veni*)

J. Mattes reported that an application for ECOSOC status has not yet been submitted. The application is much more complex than expected. He recommended that a group interested in policy issues should work together on this application, as it needs to explicitly state what the UIS objectives are in this regard. N. Zupan-Hajna proposed to establish a UIS Commission for IUCN, UN and other political issues. Members of the Bureau and/or persons from the UIS Commissions should participate. Individual members of the Bureau need to organize a working group or committee and prepare a proposal to establish a commission on this topic at the next UIS General Assembly in 2025.

DECISION 12: The UIS Bureau agreed to set up a group and prepare a proposal for the General Assembly in 2025.

ACTION 13: B. Vogel and G. Veni to organize a committee in charge of the proposal.

e. Relation to regional associations – FSE, FEALC, NSS, ASU

The UIS Bureau discussed the relations with regional federations. Unfortunately, there is no news or direct contact with some of the regional federations.

FSE: Several members of the UIS Bureau met with the President and Secretary General of the FSE at the International Karst School in Postojna in June 2023 and agreed to increase their efforts and cooperation for the protection of caves and karst. The FSE will also support the proposal and preparation of an International Day for Caves and Karst.

FEALC: There is no news or report from FEALC. N. Zupan-Hajna suggested to J. Mattes to send a letter to reactivate the relationship. J.A. Labegalini also proposed to invite FEALC to the speleo events in Latin America in 2024 and to the UIS Congress in 2025.

NSS: P. Seiser gave a report on NSS to the Bureau. UIS needs to do something to clarify and correct some differences between some NSS members and UIS (related to past events). G. Veni suggested a paper for NSS News or something to clarify and support NSS.

ASU: There is no news from ASU. M. Mentens will try to contact the organization.

ACTION 14: J. Mattes, M. Mentens and other Bureau members to send letters to the respective regional organizations and to get in contact with their delegates.

8. UIS Commissions and Expeditions

a. Recent call for speleological event support

(*J. Mattes for Z. Motyčka*)

Due to recent complaints about the call for speleological event support, J. P. Bartholeyns discussed its rules and deadlines.

N. Zupan-Hajna argued that applicants have to follow the rules, but we need to clarify the deadline: “*If you miss the deadline, the proposal will be evaluated in the next call if the expedition has not happened by then.*” This has to be discussed with the Vice-President Z. Motyčka, who is responsible for the support of events.

J. Mattes talked about how to deal with countries that do not pay the UIS fee and apply for event support. He is concerned about excluding applicants from member countries due to non-payment, as there is a difference between the caver applying and the national organization responsible for paying the membership fee. N. Uasapud suggested that the national organizations should be remembered to pay their fees. M. Garasic told the Bureau that in the next UIS bulletin there will be a list of the countries in debt with the UIS, and he will also send a letter to the countries who have defaulted.

DECISION 13: The UIS Bureau agreed on the need to clarify the event support application rules.

ACTION 15: Z. Motyčka to propose adjustments to the guidelines for speleological event support.

DECISION 14: The UIS Bureau agreed not to exclude applications from countries in debt to the UIS.

ACTION 16: M. Garasic to send letters to the countries who have not paid their dues.

b. New/adapted conditions for the Speleological Event Support Guidelines (*proposed by Z. Motyčka*).

This topic was not discussed due the considerations given in item # 8a.

c. Commissions activities and support – problems and future (*N. Zupan Hajna*)

N. Zupan-Hajna shared her concerns about the commissions and the lack of results and activity. Some of the commissions have no results, no new members, etc. It is necessary to reactivate the commissions, probably by having a meeting with the commission presidents and then making a call to encourage young people to join the commission or create new ones.

B. Vogel informed about the news of the Biological Commission and suggested that the young speleologists should give lectures for the UIS YouTube channel.

J. Mattes proposed an online event with the commission presidents and to collect their ideas on how to attract new people to the commissions. N. Zupan-Hajna proposed that Z. Motyčka should write a short paper on this topic for the next Bulletin.

DECISION 15: The UIS Bureau agreed to discuss these issues at the next UIS Bureau meeting.

ACTION 17: Z. Motyčka to present his suggestions at the next UIS Bureau meeting.

9. Organization of the 19th ICS in Belo Horizonte (N. Colzato, J.A. Labegalini)

N. Colzato presented to the Bureau the organizational structure of the 19th ICS. The Brazilian Congress Committee consists of Jose Ayrton Labegalini (*President of the 19th ICS*), Allan Calux (*Chairman*), Roberto Cassemiro (*President SBE*), Elizandra Goldoni (*President-Elect SBE*), Rodrigo Lopes (*Scientific Program Coordinator*), Claudia Pessoa (*Secretary General*), Rodrigo Severo (*Speleolympics Coordinator*), Paulo Arenas (*Treasurer*), Jocy Brandão (*Vice-President*).

After the introduction of the Committee, A. Calux started to talk about the state of the congress and J.A. Labegalini continued with the history of the ICS and the 19th ICS. R. Lopes gave an insight into the committees (15) and subcommittees (8) for the scientific program. G. Veni talked about the problems during the last congress between the organization and the committees. N. Zupan-Hajna encouraged her to keep in contact with the UIS Commissions for support and the Committee agreed to contact the commissions to organize symposia in the congress and proposed a second meeting with the scientific program committees to discuss this topic in detail.

J.A. Labegalini continued the presentation and talked about the dates of the congress, the country, the city and the venue. He also explained the excursions and field trips. Then, Allan talked about the accommodations available in Belo Horizonte. The Committee explained the financial situation of the convention, showing that they have enough funds to cover the whole convention. Registration fees and dates have already been set.

The Congress Committee will also organize the Speleolympics with the help of the Speleo Rescue Section of the SBE. They are currently seeking permission from the authorities. M. Garasic suggested that the Committee send a letter to EU Speleorescue inviting them to participate in the event.

Then, C. Pessoa presented the communication plan for the congress, which includes an app for immediate communication with the organization.

N. Colzato gave to all present the first circular of the ICS. This circular contains all the general information about the ICS. The second circular will contain the fees and the Call for Papers. The UIS Bureau recommended to make it clear to the participants that either the presentations or at least the slides should be in English.

In order to avoid problems with the registration process at the Congress, the Committee was clear that it would hire a company specialized in credentialing and automation.

Finally, the Bureau congratulated the Organizing Committee for its excellent work in preparing the Congress.

10. UIS Prizes

a. UIS Prizes for 2025 (N. Colzato)

N. Colzato proposed to delegate the task of prizes due to his other commitments at the 19th ICS committee. All agreed that a new committee to handle the selection process and new guidelines should be established to improve this process. The Bureau appointed M. Mentens, M. Parise and J. Calaforra to this new committee to organize the selection process at the next ICS.

DECISION 16: The UIS Bureau agreed to form a new committee for prizes.

ACTION 18: M. Mentens, M. Parise and J. Calaforra to collaborate in this committee.

b. Proposal of two new categories for UIS awards for long-term distinguished service and intermediate/young speleologists (proposed by J. Mattes)

J. Mattes proposed two new categories for the UIS awards, one for intermediate/young cavers and one for long-standing excellence. The latter could be a medal (no money). The Bureau suggests is a good idea to the awards but not to name the prize from a person because it could be polemical.

N. Colzato pointed out that the 60th anniversary of the UIS will be the responsibility of the Brazilian Speleological Society.

DECISION 17: This proposal will be discussed at the next bureau meeting.

DECISION 18: The UIS anniversary will be in charge of the Brazilian Federation.

11. Attendance to future speleology events

a. Karst, Caves, and People 2023, September, 20–24 (Sloup, Czech Republic)

<https://www.speleo.cz/karst-caves-and-people-2023>

This event will be attended by N. Zupan-Hajna, J. Mattes, Z. Motyčka, and M. Garasic.

b. ISC Global Knowledge Dialogue Asia-Pacific, October, 5–6, 2023 (Kuala Lumpur, Malaysia)

<https://council.science/events/gkd-asia-pacific/>

This event will be attended by M. Mentens.

c. 3rd International Congress of Karst, Speleology and Valorization of Natural Heritage, November, 2–5, 2023 (Rabat, Morocco)

<https://speleorabat23.sciencesconf.org/>

This event will be attended by N. Zupan-Hajna, Z. Motyčka, and G. Campion.

12. Venue and date of the next UIS Bureau Meeting in 2024 (N. Zupan Hajna, J. Mattes)

Invitation by the Asian Trans-Disciplinary Karst Conference: Universitas Gadjah Mada, Yogyakarta (Java), Indonesia, August 12–15, 2024.

N. Zupan Hajna and J. Mattes gave a short outline of the next Asian Trans-Disciplinary Karst Conference in Yogyakarta in 2024.

DECISION 19: The UIS Bureau accepted the invitation.

ACTION 19: J. Mattes to send a letter to the organizers of the Asian Trans-Disciplinary Karst Conference to ask for dates, accommodation and logistics.

13. Any other business

G. Veni gave us a report on the progress of the translation of the UIS Guidelines for Cave and Karst Protection.

14. Closing Statements (N. Zupan-Hajna)

N. Zupan-Hajna thanked everyone for their attendance.

SECOND SESSION OF THE UIS ANNUAL BUREAU MEETING 2023 - CURITIBA, BRAZIL

PHOTOS: LUIS BATISTA



Members of the UIS Bureau, Past Presidents, and the 19th ICS Organizing Committee.



Members of the 19th ICS Organizing Committee.



General view of the meeting: A special room was made available by the organizers of the 37th Brazilian Congress of Speleology for the UIS meetings and general activities during the period of the Brazilian event.

IN MEMORIAM

SHOU-YUE ZHANG

Karstologist and caving activist

China, 1934 - 2022

by Zhang Yuanhai (China)

Secretary General of Committee on Speleology,

the Geological Society of China

zhanghai5225@icloud.com

On December 23, 2022, the sad news came that Professor Shou-Yue Zhang, an authority on karst and cave science in China, passed away due to the COVID-19 pandemic, which was a great sorrow. Mr. Shou-Yue Zhang was born in Zhejiang in 1934, graduated from Beijing Geological College (now China University of Geosciences (Beijing)), and then worked at the Institute of Geology and Geophysics, Chinese Academy of Sciences until his retirement in 1995.

Professor Shou-Yue Zhang was one of the founders of the Committee on Speleology, the Chinese Geological Society and served as the vice chairman for a long time; he also served as Adjunct Secretary of the 7th (1989-1993) and 8th (1994-1997) UIS BureauS and as a director of the International Show Caves Association (ISCA) for four terms (2010-2026), continuously striving to promote the development of cave exploration and cave tourism in China.

Mr. Shou-Yue Zhang had long been engaged in the research of karst regional hydrogeology and caves. In 1956, he joined the newly established Karst Research Group of the Hydrogeology and Engineering Geology Research Office, and his karst work projects covered the Xijiang River Basin in Guangxi, the Three Gorges Reservoir of Yangtze River, Jinping Hydropower Station in Sichuan, ancient karst reservoirs of oil and natural gas in Sichuan, Daba Mountain Tunnel of Chuan-Han Railway, groundwater resources in Shanxi, karst cave investigation and exploitation in China, etc.

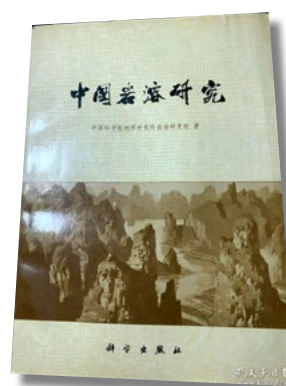
Subsequently, he published "Geology of Water Conservancy and Hydropower Engineering" (1974) and "Research on Karst in China" (1979), which were the first systematic writings on karst in China and were of epoch-making significance in promoting the investigation and research of karst hydrogeology in China.

Professor Shou-Yue Zhang was one of the earliest researchers who introduced modern caving technology systematically into China; He carried out international cooperative cave study for several months at the Karst Institute of Slovenia in the winter of 1981 and introduced the status of international karst cave research

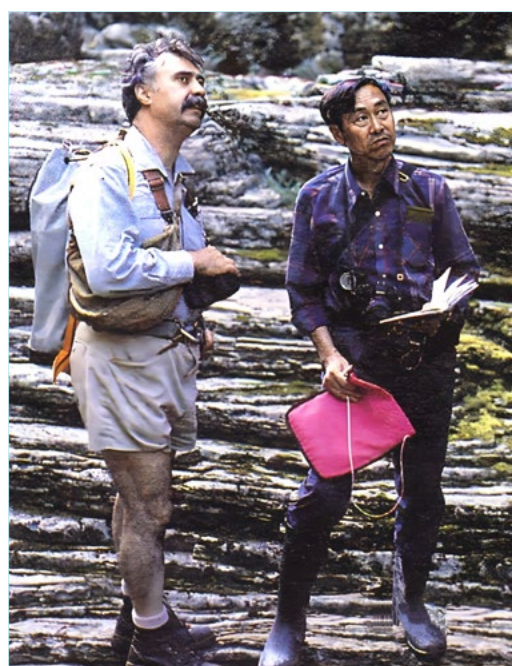


August 1993: Shou-Yue Zhang at the 11th International Congress of Speleology, Beijing, China.

PHOTO: ARCHIVES ZHANG SHOUYUE



Shou-Yue Zhang.
Research on karst in China [M].
Science Press,
1979.



Summer of 1987: Shou-Yue Zhang (right) and Belgian cave expert and past UIS Secretary General Camile EK first came to Lichuan County, a typical karst landscape in western Hubei, to make the first joint cave survey between China and Belgium. PHOTO: ARCHIVE ZHANG SHOUYUE

to the Chinese people comprehensively for the first time; He had been the coordinator of the joint Chinese-French cave projects for a long time and contributed to GUIZHOU EXPE 86 (1988), TENG LONG DONG (1988), GEBIHE 89 (1991), DIONGHE 92 (1995), EAST YUNAN 1991 (1991), SOOTHE CHINA KARST 1 (Part 2, Karst Studies in W. Guizhou) (1998), Speleo-karstologie et Environnement et China (2004), which are both part of the Chinese cave chronicles and applied research results, including the discovery of thousands of caves, the surveyed cave lengths of more than 500 km in China, and the discovery of the second largest underground cave chamber in the world, the Miao Chamber in the Ziyun Gebi River cave system in Guizhou.

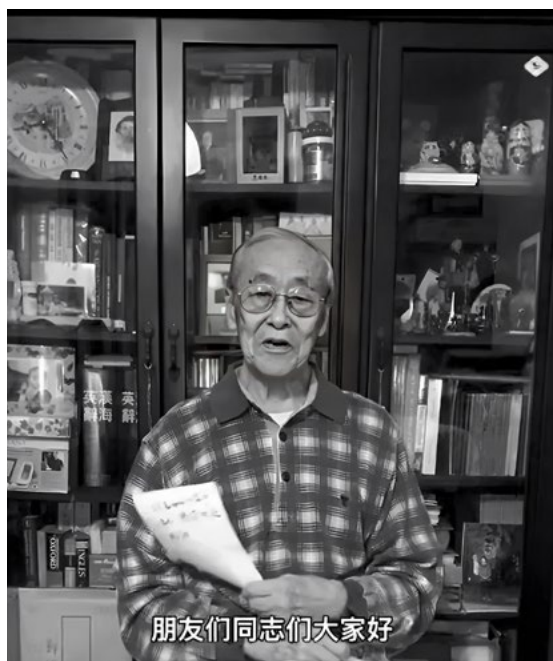
In particular, Mr. Shou-Yue Zhang successfully coordinated the 11th International Congress of Speleology in Beijing in 1993 and published the Conference Proceedings (1993) and the supplement (1994).

After his retirement, Prof. Shou-Yue Zhang had been the scientific advisor of China Show Cave Alliance (Show Cave Association of China Chamber of Tourism) and the Committee on Speleology, Chinese Geological Society, and had been devoted to actively promoting the high-quality development of show caves in China, especially the improvement of the level of science popularization of guides, as well as promoting the healthy development of cave exploration in China, and training the young generation of cave exploration and investigation talents.



October 1989:
A group photo of the joint Chinese-French scientific cave expedition "Gebihe 1989" (Shou-Yue Zhang holding the camera in the right)

PHOTO: ARCHIVE ZHANG SHOUYUE



September 30, 2021: Professor Shou-Yue Zhang during a speech for the first China Cave Day. PHOTO: ARCHIVE ZHANG SHOUYUE



August 1993: Members of the UIS Bureau in the Exhibition Room of the 11th ICS. *Left to right:* **Camile EK** (Belgium, Secretary General), **Petar BERON** (Bulgaria, Adjunct Secretary), **Julia JAMES** (Australia, Vice President), **Adolfo ERASO** (Spain, past President), **Shou-Yue ZHANG** (China, Adjunct Secretary), and **István FODOR** (Hungary, Adjunct Secretary). PHOTO: ARCHIVE ZHANG SHOUYUE

IN MEMORIAM

ZHU XUEWEN

China, 11.12.1933 - 21.01.2023

by Zhang Yuanhai (China)

Secretary General of Committee on Speleology,

the Geological Society of China

zhanghai5225@icloud.com

Photos: Courtesy Prof. Zhu Xuewen Archive

On January 21, 2023, New Year's Eve, another unfortunate news came and saddened us that Professor Zhu Xuewen passed away due to the COVID-19 pandemic. He was the former vice director of the Institute of Karst Geology, Chinese Academy of Geological Sciences, the founder of the Committee on Speleology, Chinese Geological Society, and the author of the "tiankeng" theory.

Mr. Zhu Xuewen was born on November 12, 1933, in Shucheng County, Anhui Province, China. He was graduated from the Department of Geology of Nanjing University in 1954, joined the Department of Hydrogeology of the Ministry of Geology in the same year, transferred to the Institute of Hydrogeology and Engineering Geology of the Ministry of Geology in 1958, then to the Hydrogeology Team of Anhui Geological Bureau in 1961 as the technical director, and then assigned to Chongqing Nanjiang Geological Team as the general engineer.

In October 1977, he was transferred to the Institute of Karst Geology of the Ministry of Geology as a researcher and vice director. He was the deputy secretary general of the Chinese National Committee of



Professor Zhu Xuewen in 2018.

the International Association of Hydrogeologists and the president of the Committee on Speleology, Chinese Geological Society, and continued to work for nearly ten years after his official retirement in 2002.

Mr. Zhu Xuewen had been diligent and pioneering throughout his life, and with his lifelong efforts and deep thoughts, he has become the patriarch of karst and cave science in China.

In the 1980s, Mr. Zhu presided over the project of "Guilin Karst and Cave Survey" and established the classification of speleothems for China. In 1991, he published the *"New considerations on characteristics and evolution of fenglin karst"* and put forward the theory of "simultaneous evolutionary system of fenglin and fengcong."



1985: Professor Zhu (THIRD FROM LEFT TO RIGHT, IN FRONT) joined the first Chinese-British Cave Co-expedition in Guilin.

In 2001, he published *“Karst tiankeng in China and its scientific and tourism significance,”* in which he proposed for the first time to define “tiankeng” from “great doline” and suggested to use the pinyin “tiān kēng (tiankeng)” as an international term.

In 2003, Zhu Xuewen published the *“Discovery, Exploration, Definition and Research of the Dashiwei Tiankeng Group in Leye, Guangxi,”* which formally established the tiankeng theory, and in 2005, he initiated and coordinated the international tiankeng investigation project, after that the special issues on tiankeng were published in *“Carsologica Sinica,”* *“Cave and Karst Science”* and *“Speleogenesis”* respectively. The term “tiankeng” became the third karst term from China after “fenglin” and “fengcong,” for which he was also known as the father of tiankeng in China.

Mr. Zhu Xuewen devoted himself to cave exploitation and protection, and published *“Principles of show cave exploitation and practice of Furong Cave”* in 1995, establishing the principles of show cave exploitation in China, leading the cave study team to plan, design and guide more than 50 caves exploitation, improving the scientific content of show cave and the cave science popularization level in China. He was known as the

great practitioner of “developing a cave and revitalizing a county,” and his wonderful reputation had been left in Furong Cave in Chongqing, Wanhuyan Cave in Hunan, Huanglong Cave in Zhangjiajie, Crown Cave in Guilin, Xueyu Cave in Chongqing, Meishan Longgong in Hunan, Benxi Water Cave in Liaoning, etc. His contribution and deeds had been commended by the local government and praised among the local people.

In 1990, he founded the Committee on Speleology in China together with his comrades and had successfully held twenty-five national speleological conferences throughout China, spreading speleological knowledge and promoting awareness of cave protection. He had coordinated more than 30 Chinese-foreign joint cave scientific research activities, received more than 300 international cavers and scientists, and explored a total length of 1,000 km of cave passages, providing useful data support for the application of the South China Karst world natural heritage and Leye-Fengshan UNESCO Global Geopark. He not only established long-term cooperation with many foreign caving organizations, but also trained a large number of cavers in China, and continuously promoted the healthy development of cave exploration movement in China.



2002: (PHOTO ABOVE ON THE LEFT)

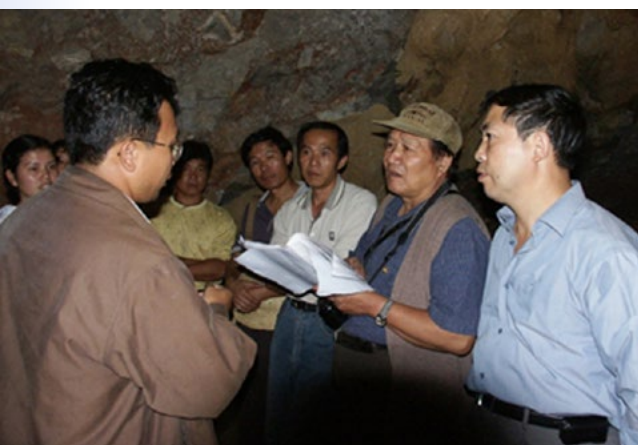
Mr. Zhu Xuewen (left)
and UIS Past President
Andy Eavis (center)

investigated geosites of
Dashiwei tiankeng in March
and April 2002, when they
coordinated a big group of
international expedition team
(RIGHT) from eight countries to
make a large area of investigation
in Dashiwei area, Guangxi, China.

(PHOTO ABOVE ON THE RIGHT)

23 tiankengs (great dolines) were
discovered and confirmed the
international significance of
Dashiwei tiankeng group
geo-heritages.





September 2002: Professor Zhu (in a cap) discussed the show cave exploitation with local government leaders in Meishan Longgong (Dragon Cave) in Hunan Province, China.



March 2003: Professor Zhu coordinated the 15th Chinese-British cave co-expedition in Jingxi and Pingguo counties in March, 2003



2002: Professor Zhu and local child during the expedition in Leye, China.



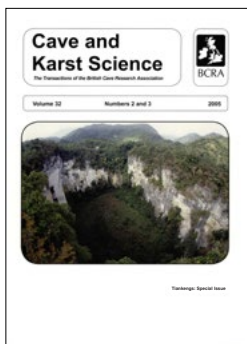
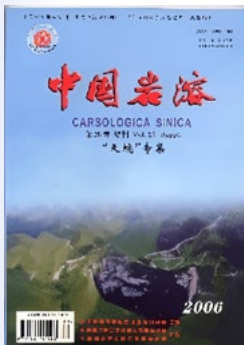
2005, in front of the Dashiwei Tiankeng Group National Geopark Museum in Baise Leye: Professor Zhu Xuewen (THIRD FROM LEFT TO RIGHT, IN FRONT) hosted the 2005 Tiankeng Investigation Project which was a great success. The delegates invited were: Art and Peggy Palmer (USA), Will and Beth White (USA), Andrej and Marija Kranjc (Slovenia), Alexander Klimchouk (Ukraine), Julia James (Australia), John Gunn (UK), Andy and Lilian Eavis (UK), Tony and Jan Waltham (UK), and Zhu Xuewen, Chen Weihai and Liu Zaihua (China). It had been hoped that Paul Williams, Derek Ford and Claude Mouret could join the Project to represent their own countries, but personal circumstances precluded their participation.



2008: Professor Zhu invited UIS Past President Professor Derek Ford to visit Dashiwei tiankeng group and explained it in Dashiwei National Geopark Museum. In 1989 Zhu studied in McMaster University (Hamilton, Canada) as a visiting scholar and worked with Derek for nearly a year, feeling grateful for Professor Ford's help and guidance through Zhu's life as he wrote in his book.



February 2022: Wulong government leaders called on Professor Zhu since he helped Wulong with Furong Cave exploitation and promoted the local economic development well, and the local government leaders called on Professor Zhu every year.



2005: Tiankeng Special of "Carsologica Sinica," "Cave and Karst Science" (Volume 32, Numbers 2 and 3), and "Speleogenesis."



2005: Professor Zhu Xuewen was at the Dashiwei Tiankeng west summit when he coordinated the 2005 Tiankeng Investigation Project in China.



2012: Professor Zhu giving lessons for Chinese Cavers at the age of 79.



2016: Professor Zhu and Ms. Erin Lynch in Guilin. Erin was firstly invited to China by Professor Zhu in 2001. She had a good friendship with Zhu and the Institute of Karst Geology, and she contributed a lot to Chinese cave exploration, including the deepest cave and the second longest cave in China.



2010: Professor Zhu invited Professor Arthur Clarke (Australia) to Wanhuyan show cave and coordinated the 24th Chinese-Foreign Cave Co-expedition.

Dear all,

Prof. Zhu had become a great personal friend of mine, in addition many international cave explorers will know him very well, he could be considered the father of modern speleology in China. He was my mentor for more than 20 expeditions and at least as many expeditions by other groups visiting China. A huge amount of Chinese caves have been explored with his help. A lot of people who knew him won't know his very interesting past history, he was a senior member of the Geological Society of China, responsible for many wonderful civil engineering projects, work including the three gorges dam, one of the biggest civil engineering projects in the world.

Many people who met him recently didn't realise he had such an important past as an engineer. The world will miss Professor Zhu from many important angles, 1) he was a very good karst engineering geologist; 2) a wonderful cave expeditions facilitator, and 3) the work he did on national parks, general tourist attractions and tourist caves has been of huge benefit to local people. His impact on the international caving scene and rural China has been immense, the caving world will miss him enormously.

In addition, I will personally miss him, he became a very great friend, he had a wonderful western sense of humour and was excellent company, I always listened to every word and never got bored of his stories. I owe him a great debt of gratitude and my wholeheartedly sympathy goes out to his wife medical Dr Chai and his two daughters and their families. We will miss a wonderful Chinese Professor.

Andy Eavis

UIS Honorary President and Past President 2005-2013

CZECH AND SLOVAK PARTICIPATION ON THE IV. INTERNATIONAL CONGRESS OF SPELEOLOGY IN YUGOSLAVIA, 1965.

In memory of František Skřivánek

Czech Republic, 23.12.1933 - 7.2.2023

by

Pavel Bosák (Czech Republic)

UIS Bureau Honorary Member (responsible for the UIS Archive)

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Jaroslav Hromas (Czech Republic)

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UIS Vice-President of Administration

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František Skřivánek in his home office.

PHOTO: © KAREL RYŠÁNEK, JANUARY 27, 2011

The Czechoslovak (CS) scientists in the IV. International Congress of Speleology (ICS) in Postojna – Ljubljana 1965 (past Yugoslavia) participated at the foundation of the International Union of Speleology (UIS). Archive lists of the IV. ICS participants deposited in the UIS Archive in Postojna (in folder containing IV. ICS documents) mentioned following CS participants (according to alphabet): Leonard Blaha, Anton Droppa, Jiří Haleš, Vladimír Panoš, Josef Rubín, František Skřivánek, and Otakar Štelcl.

Unfortunately, most of them have already died: Leonard Blaha (22.12.1914 - 13.10.1980); assoc. prof. RNDr. Vladimír Panoš, CSc. (2.7.1922 - 7.1.2002); RNDr. Anton Droppa, CSc. (30.6.1920 - 13.7.2013); RNDr. Otakar Štelcl, CSc. (13.1.1929 - 5.12.2018); RNDr. Josef Rubín (13.6.1936 - 17.10.2021), and finally **RNDr. František Skřivánek** (23.12.1933 - 7.2.2023).

The only still living participant is Dipl.-Ing. Jiří Haleš (born 1936), known herpetologist. L. Blaha and A. Droppa represented Slovak speleology and karstology, the other were Czech scientists and cavers.

The personality of František “Ferry” Skřivánek is worth to be mentioned as he highly influenced the speleology in Czechoslovakia (CS) and later in Czechia (CZ) from the early 1960s of the 20th century. He was born on December 23, 1933.

After matura, he studied geology at Charles University in Praha (1956–1960). In 1961 he started to work at different positions in governmental service – State Institute for Monuments and Nature Conservation (under Ministry of Culture) – until 1990. He was responsible for the non-living part of nature.



Figure 1: *F. Skřivánek (left) in Abisso degli Orridi, Alpi Apuane, 1964.*

PHOTO: ARCHIVE OF F. SKŘIVÁNEK, COURTESY OF KAREL RYŠÁNEK

In 1990–1992, he served as director of Department for Cultural Monuments, Museums and Galleries at Ministry of Culture of the Czech Republic. He was also director of the Religious Foundation. He was active in the Czech Genealogy and Heraldry Society (former Czechoslovak Genealogy Society).

As a geologist he spent longer times on expeditions in Mongolia, where he served a. o. as technical director of one of cement plants. He was interested in gemstones used for reconstructions of historical monuments and in 1986 he rediscovered already forgotten medieval localities related to the Karlštejn Castle, St. Vitus Cathedral in Prague and Tangermünde Castle (DE). He was member of the Sovereign Military Order of Malta since 1980. He died on February 7, 2023, at the age of 89.

He was active caver and karsologist. He led unique (in those times of the Iron Curtain) caving explorations in Italy (1961–1964), the first CS one to a so-called capitalistic country. In the Apulian Alps, they explored a. o. Antro del Corchia Shaft (fig. 1), at that time one of the deepest in the world.

He conducted numerous researches and explorations, e. g., in Na Chlumu Cave System (Bohemian Karst; 1954–1966; figs. 2 to 4) and in the Slovak Karst (1956–1962). He is one of discoverers and explorers of the Bozkovské Dolomite Caves (show cave, north Bohemia; 1957–1964).

In 1973, he actively participated on the preparation of the 6th ICS in Olomouc – a. o. he summarized monography: *Caves in Czechoslovakia* (with J. Rubín, 1973, Academia Praha), and materials for excursion guides.

He supported the foundation of the Czech Speleological Society (CSS, 1978) by organization of bureaucratic procedures on responsible CS institutions and ministries. In the CSS Bureau, he later served in different positions.

He obtained RNDr. (Rerum Naturalium Doctor) degree in 1979 (Karst Geomorphology of Uplifting and Subsiding Areas).

We mention dr. Skřivánek also for his non-visible but intensive support of the UIS, from background, using his tight and broad connections in all bureaucratic levels. First, he was present at the UIS foundation, later he served also as the CS national delegate at UIS General Assemblies (e. g., in Budapest 1989) and he fully supported Vladimír Panoš (Adjunct Secretary and three times UIS Vice-President) and presidents of some of UIS Commissions in their services for the UIS before 1990; he used all his personal and political influences to arrange the functioning of them, especially of Vladimír Panoš, on the international scene, not only within the UIS, but especially concerning journeys abroad to participate in cave/karst events, caving camps, etc. (in those not easy times). By this way he also supported journeys of CZ cavers abroad organized by the Czech Speleological Society via the Ministry of Culture between 1980 and 1989. Without his contributions, all mentioned activities would be much more complicated.

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Figure 2: F. Skřivánek with bone in the Last Dome of the Srbské Caves, Chlum Quarry, Bohemian Karst, Czech Republic. PHOTO: © ADOLF ABSOLON, 1954



Figure 3: FROM LEFT - Adolf Absolon, Karel Ryšánek and F. Skřivánek above the new map of the Srbské Caves. PHOTO: © PAVLÍNA DOBIÁŠOVÁ, JUNE 6, 2011, COURTESY OF KAREL RYŠÁNEK



Figure 4: F. Skřivánek in front of the entrance to Srbské Caves during making of the movie "Ferry" on his 80th birthday. FROM LEFT: Roman Havel, F. Skřivánek, Bohumil Kučera, Karel Ryšánek. IN FRONT: Rudolf Dobiáš. PHOTO: © KAREL RYŠÁNEK, APRIL 22, 2012

IN MEMORIAM

ALEXANDER BORYSOVYCH KLIMCHOUK

Ukraine, 29.08.1956 – UK, 11.05.2023

By **Nivaldo Colzato** (Brazil)

UIS Vice-President of Operations / UIS Bulletin Editor

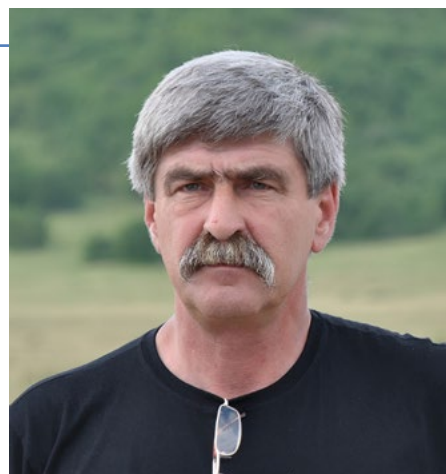
nivaldo@karinaetiquetas.com.br

Dear speleologists, cavers, and cave lovers around the world, on May 11 of this year, we all were stunned by the death of Alexander Klimchouk, one of the world's most renowned karst scientists. In addition to his great contribution to the karst science, he held several institutional positions, as shown in the following lines. In the UIS, besides to be as President of the UIS Commission on Karst Hydrogeology and Speleogenesis from 1994 until his death, he served as Adjunct Secretary 1993-2001, and as Vice-President 2001-2005.

Immediately after his death, many messages have been circulated via email and posted on various social media, all of them, without exception, showing deep surprise and sadness for the death of this great and beloved man.

We could spend countless pages here in this bulletin to tell the story of Klimchouk, his exceptional trajectory as a speleologist and scientist, however, we will reproduce here, as a simple tribute on behalf of the UIS and the international speleological community, some of the messages we received, which bring, in addition of a summary of his vast biography, the appreciation, respect, and affection that so many people had for him.

Dear Klim, your outstanding contributions to the development of karst and cave science will be remembered forever.



2010: Klimchouk in Bosnia & Herzegovina.

PHOTO: BY NADJA ZUPAN HAJNA

Arrigo Cigna (Italy)

UIS Past President 1973-1981

arrigocigna@gmail.com

I do not remember the first contact with Klim, a too long time ago. I always appreciated very much his activity. The whole community of speleologists is very grateful to Klim and we will never forget his contribution to speleology.

We lost a good friend and a scientist.

Bogdan P. Onac (USA)

Editor-in-Chief of the *International Journal of Speleology (IJS)*

bonac@usf.edu

Very sad indeed. A few days ago he wrote me he feels better and ready to do a review for IJS. A great scientist and colleague. A huge loss for the karst/cave community.

John Gunn (UK)

j.gunn.1@bham.ac.uk

Dear friends,

Here in England we are as shocked and saddened as you all. We knew Alexander was unwell and had been in hospital but on Wednesday evening he was back home and sent a very positive email concerning present and future projects.

To lose him within 24 hours was truly awful. I first met Alexander in the early 1990s and we have been friends since, mainly meeting on field trips. In the short time he had been over with us Alexander had already made a valuable contribution to the hypogenic karst project and had suggested that features in the local gritstone might also be of hypogenic origin, something that no-one else had considered.

His last caving trip was into Treak Cliff Cavern and Peak Cavern in March but sadly we have no photos that show him there. However, Tony Marsden and his friend Gail Searby were out with Alexander and his wife Natalia (as we call her) one week ago today and Tony took the attached photo of Alexander, Natalia and Gail near Windy Knoll Cave, Castleton, which Natalia has kindly given me permission to share.



May 7, 2023: Klimchouk, his wife Natalia (middle), and Gail Searby near Windy Knoll Cave, Castleton, UK.

PHOTO: TONY MARSDEN

Derek Ford (Canada)
 UIS Past President 1983-1989
derekcliffordford@gmail.com

This is very sad news indeed. Klim was an excellent cave and karst scientist working in restrictive conditions. He played a major role in bringing the cavers of the faltering Soviet Union, including Georgians, Russians and Ukrainians, into effective contact with us in 'the West' during the 1980s and '90s.

Many international exchanges followed.

Paolo Forti (Italy)
 UIS Past President 1993-1997
paolo.forti@unibo.it

Dear friends,

Klim's death particularly struck me also because I was absolutely the first to have close contact with him from Western Countries and also because we both shared a love for gypsum caves and karst.

In 1981, having become president of the Commission of Physical Chemistry and Hydrogeology of the UIS, I began to travel above all in the regions of Eastern Europe to maintain close contacts with all the speleologists who were then beyond the Iron Curtain. Few years later Klim hosted me in Ukraine to visit the large gypsum caves of Podolia (see the attached photo where Klim is the last in the right side) and a few years later I reciprocated by hosting him in Bologna and introducing him to the gypsum caves of Emilia Romagna...

From that moment on our contacts have been constant and in 1995 he spent a semester in Italy, and in particular in my Department at the University of Bologna, to prepare the monographic volume of the IJS "Gypsum Karst of the World".

Klim was a great speleologist and a great scientist, but above all he was a true friend to me.

Nadja Zupan Hajna (Slovenia)
 UIS President - zupan@zrc-sazu.si

It is with deep sadness that I learned of the passing of our dear friend and colleague Alexander Klimchouk, who was a member of the International Union of Speleology (UIS) Bureau from 1992 to 2013, where he also served as Vice President from 2001 to 2009. He was also founder and president of the UIS Commission on Karst Hydrogeology and Speleogenesis from 1996 to the present. It is a great loss for UIS and international speleology.

I have known Alexander for almost 30 years and have always admired his knowledge and passion for karst and caves, karst geomorphology, hydrogeology, and speleogenesis. We have had many nice conversations together on various occasions, from conferences to fieldwork. The last time we had contact, he was full of positive energy and hope for a better future.

Alexander was a great person and scientist. We will always remember his important work on hypogene speleogenesis, gypsum caves, and the evolution of karst aquifers.

We will miss him very much!

Please accept my deepest condolences also on behalf of the International Union of Speleology. My deepest sympathy goes to his family, friends, and the Ukrainian Speleological Association at this difficult time.

Kyung-Sik Woo (South Korea)
 UIS Past President 2013-2017
happyman369@naver.com

Dear friends,

I am very much shocked and surprised because I have not known his health condition recently.

I met him during the 2002 Samcheok International Cave EXPO in Korea. Attached are a few photos with Alex.

The last time I think I saw him was in Brno in 2013. He was sitting next to me when I was elected as a UIS President.

We will miss him very much and pay a lot of respect for what he has contributed for international speleological community.



July 2002 - Klimchouk (front) at the Woo Gyeongsik Samcheok Expo Cave Exploration.

PHOTO: ALEX & KYUNG-SIK WOO



July 2002 - UIS Bureau meeting in Korea.

PHOTO: KYUNG-SIK WOO



2010 - Alexander in Bosnia & Herzegovina at Imotski collapse dolines.

PHOTO: NADJA ZUPAN HAJNA

George Veni (USA)

NCKRI Executive Director, Retired

UIS Past President 2017-2022

gveniassociates@gmail.com

As a cave and karst geoscientist, I initially heard of Dr. Alexander Klimchouk as the first “Russian” scientist to work with western scientists and to publish his work in western journals. At the time, Ukraine was part of the Soviet Union, and the perception of him being Russian was common. I later met him casually at some conferences but didn’t get to know him well until I became part of the Bureau of the International Union of Speleology (UIS). He had served two terms as a UIS Adjunct Secretary, and when I joined the Bureau in 2002, he was beginning his first of two terms as Vice President.

Alexander was a worker, which is exactly what every organization needs in its leaders. He didn’t join the UIS to elevate his importance to the speleological world, but to elevate speleology. As President of the UIS Commission on Karst Hydrogeology and Speleogenesis, he established one of the first and by far most the active UIS Commission website. The Speleogenesis website served as a library for karst research papers, a calendar of events around the world, and a forum that included most of the world’s karst geoscientists. He built a community across all borders that advanced knowledge of cave and karst origins and development, and he led much of that progress by organizing multiple conferences, books, and papers, and most with international participation.

Alexander was quiet and thoughtful, and often it was necessary to ask him questions to learn how he felt about certain things. For example, in 2009, as he was term-limited from serving again as UIS Vice President, many assumed he would run for President. It was only when I asked about his plans that he told me he would not run, and why he instead preferred to run and serve one final term as Adjunct Secretary, which he completed in 2013. He also continued to serve as a UIS Commission President for many years.

In March 2007, when I had worked for only two months as the Executive Director of the National Cave and Karst Research Institute (NCKRI), he came to my office with a gift. He had

been in the US for nearly a year on a research sabbatical with NCKRI, using the time to gather more information and consolidate his thoughts on caves and karst of hypogenic origin. His gift was a draft manuscript for me to edit and NCKRI to publish as Special Paper 1, *Hypogene Speleogenesis: Hydrogeological and Morphogenetic Perspective*. With this book, Alexander firmly established hypogene speleogenesis as a major and wide-spread phenomenon. He outlined the characteristics of hypogenic karst aquifers, provided practical guidance in recognizing such systems, and reevaluated karst management problems and economic resources relative to hypogenic processes. Hypogene Speleogenesis became and still is the major catalyst and guide for many hypogene karst investigations.

The last time I saw Alexander was at a karst meeting in the UK in June 2015. He couldn’t make it to the UIS International Congress in 2017, and a couple years later, everyone was isolated by COVID. Nonetheless, throughout the pandemic he was active scientifically and enthusiastic about the International Year of Caves and Karst—until Ukraine was invaded by Russia.

I’d learned many years earlier about his pride in being Ukrainian, not Russian, and his frustration in the inaction of the international community in supporting Ukraine. He foresaw the Russian invasion, which started where he lived in Crimea, forcing him to move to Kyiv. He knew the international sanctions on Crimea’s occupation would not prevent a full invasion. When it came, he concentrated his efforts on raising funds and support for Ukraine’s defense.

Alexander Klimchouk was a man of conviction and action in expanding the boundaries of cave and karst science, and in defending his country. He broke past political stereotypes to connect cave and karst scientists globally, and when the time came, to seek their support for freedom in Ukraine. Above all, he was a good and wise man. His loss diminishes us all.

Stephan Kempe and Christild Ketz-Kempe (Germany)

kempe@geo.tu-darmstadt.de

Dear all, the sad news of Alexander’s passing reached us after having met him at Vienna at the Austrian Academy in November last year. He seemed to be in good health. Our conversation was more concerned with the war in the Ukraine than with his personal conditions. Never would we have expected that this was to be our last meeting.

We all, and we personally, owe him much when it comes to differentiate the various cave-forming processes. In teaching, his “cave-forming agent coming from below” was (and is) the best way to summarize hypogene cave genesis. That “agent” may represent a bundle of different physico-chemical conditions.

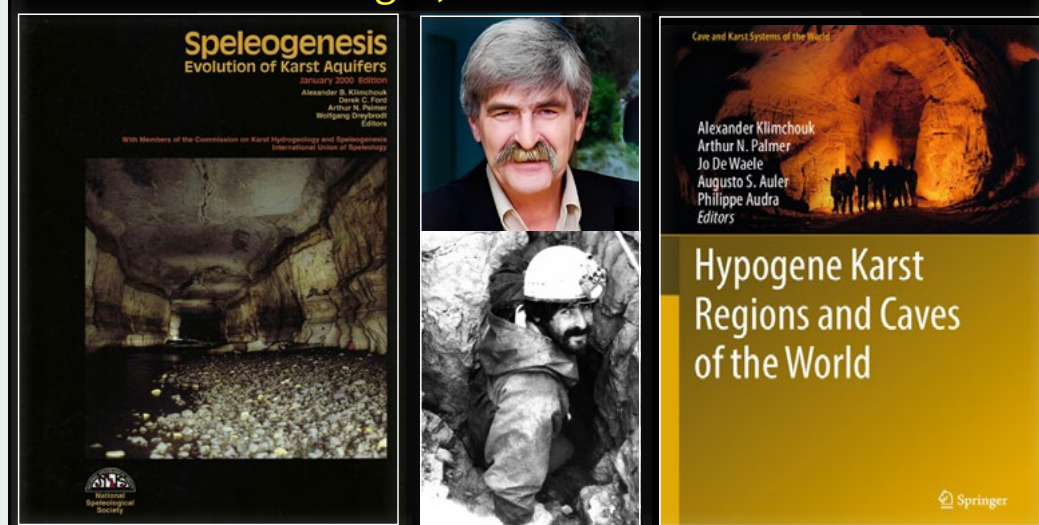
This definition opened the eyes to geological processes (and time scales) so much different from the “classical” epigenic cave formation. This definition is for us his most important legacy to our science.



November, 12th, 2022: Alexander Klimchouk speaking at the Austrian Academy in Vienna.

PHOTO: STEPHAN KEMPE

Rest in Light, Alexander Klimchouk



Collage by
Core BlackEagle

Image of Alexander
Klimchouk below center:
<https://1.bp.blogspot.com/>.

Photo of Alexander
Klimchouk above center:
<https://nas.academia.edu/>

Cory BlackEagle

cory.blackeagle@gmail.com

Published on LinkedIn 13 May 2023

After a long fight with cancer, I'm sorry to report that our friend and world-renowned speleologist and geologist, Alexander Klimchouk, died the evening of 11 May 2023.

Klim, as we knew him, had 40 years of karst research in hydrogeology and geomorphology, speleogenesis, hypogene speleogenesis, gypsum karst, epikarst, high mountain karst, subsidence hazard and land use in karst terrains.

He was considered one of the world authorities on hypogene karst speleogenesis and morphology. He accumulated over 300 scientific publications in the field of karstology and speleology published in national and international journals, books and conference proceedings.

Klim's body of work includes 14 authored and edited books and over 60 papers in international peer-reviewed journals.

More of his publications and activities can be found on [Klim's page in ResearchGate](#).

David Craig provided this recollection in his [25 September 2015 blog](#) entry in the Footless Crow, Ukrainian Overlords of the Underworld. In it, David Craig relays a description of Klim's home at the time, his fondness of fishing for catfish by torchlight, and how Klim's wife, Natalia, took their children and grandchildren into caves from the age of 4, particularly the gypsum caves of Moldova. It was a wonderful gem to stumble on as I looked for images to use in this article.

I am speechless and grieving at the news. Though I never had the honor and pleasure of meeting Klim in person, he and I did correspond via email many times. He was kind, helpful, and always full of information and support. He always made me feel like he considered me a friend, and I felt honored to consider him my friend. I will miss him.

The international knowledge of speleology is richer for Klim's lifelong contributions and poorer for his leaving us.

Rest in light, Klim. I hope you are caving, climbing, and fishing with the same pure enthusiasm and abandon now that you did in this world.

The following is taken from his [bio on Loop](#) and updated on some data.

Alexander Klimchouk, PhD, Dr.Sci. (Hydrogeology) is the Leading Scientist at the Institute of Geological Sciences of the National Academy of Sciences of Ukraine.

His research interests are focused on karst hydrogeology and geomorphology, speleogenesis, hydrogeology of deep-seated formations, hypogene karst, and evolution of karst in the context of the geological history.

Authored more than 300 scientific papers and books on various aspects of karst and cave science, edited several major international books. He is an active cave explorer with almost 50 years of experience.

Most of his research and cave exploration was done in various regions of the former Soviet Union (Western Ukraine, Crimea, Central Asia, Caucasus and the Russian North), but also in Brazil, Britain, Canada, China, Ethiopia, Germany, Italy, Slovenia, Spain, Turkey, the USA, and other countries. He was the initiator (in 1980), and during many years—the leader, of deep cave explorations in the Arabika Massif in the Western Caucasus resulted in the establishment of the Krubera Cave as the deepest cave in the world (2001) and the first cave in the world deeper than 2,000 m (2004).

In the past, he served as a President of Kyiv Speleological Club and Vice-President of the Natl. Association of Soviet Speleologists. A founder (in 1991) and past-President of the Ukrainian Speleological Association (1992-1998; 2003-2005). A founder (in 2006) and a Director (in 2006-2014) of the Ukrainian Institute of Speleology and Karstology.

Served on the Bureau of the International Union of Speleology (UIS) in 1992-2013, as a UIS Vice-President in 2001-2009. From 1994 until his death he served as President of the UIS Commission on Karst Hydrogeology and Speleogenesis.

Honorary Member of the National Speleological Society (USA), the Ukrainian Speleological Association, and the Hungarian Speleological Society, corresponding member of the National Academy of Sciences of Ukraine, and Deputy-Head of Ukraine's National Council for the Development of Science and Technologies.

Calendar of Events

2024
2025

If you are interested in any of the following events, contact them directly to learn if they are still planned as announced below

National Conference on Science Education-Colorado

20-23 Mars 2024 (Denver, Colorado, USA)

<https://www.nsta.org/national-conference-science-education-denver-2024>

21st International Symposium on Vulcanospeleology (ISV21)

15-20 April 2024 (Galapagos, Ecuador)

<http://www.vulcanospeleology.org/calendar.html>

Characterization and Engineering of Karst Aquifers - CEKA

26 May - 01 June 2024 (Trebinje, Bosnia and Herzegovina)

<http://www.karst.edu.rs/en/index.html>

14th International Cave Rescue Conference (ICRC)

6-9 June 2024 (Ramales de la Victoria, Alto Asón, Cantabria, Spain)

<https://www.escueladeespeleologia.es/producto/14th-international-cave-rescue-conference/>

Eurokarst Conference 2024

10-14 June 2024 (Rome, Italy)

<http://www.eurokarst.org/>

3rd Colombian Congress of Speleology

22-29 June 2024 (Medellín, Colombia)

<https://www.espeleocol.com.co/iiicce/>

National Speleological Society Convention

1-5 July 2024 (Tennessee, USA)

<https://caves.org/convention/2024-nss-convention/>

Asian Trans-Disciplinary Karst 2024

UIS Bureau Annual Meeting

12-15 August 2024 (Yogyakarta, Indonesia)

<https://karst.geo.ugm.ac.id/en/main-page/>

2024 International Show Cave Association Conference

28 September - 6 October 2024 (Mulu National Park, Malaysia)

<https://www.i-s-c-a.org/>

9th US Geological Survey Karst Interest Group Workshop

22-24 October 2024 (Nashville, Tennessee, USA)

<https://www.usgs.gov/kig-workshop>

Syphonia 2024 - International Meeting of Speleology

31 October - 3 November 2024 - (Caselle in Pittari, Salerno, Italy)

<https://www.tetide.org/syphonia2024/>

4th Appalachian Karst Symposium

7-10 November 2024 (Lewisburg, West Virginia, EUA)

<https://karstwaters.org/conferences/appalachian-karst-symposium-2024/>

19th International Congress of Speleology

20-27 July 2025 (Belo Horizonte, Minas Gerais, Brazil)

<https://www.speleo2025.org>

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Andrew EAVIS (*United Kingdom*) - 2005-2013

Kyung Sik WOO (*Republic of Korea*) - 2013-2017

George VENI (*USA*) - 2017-2022



UIS BUREAU 2022/2025 in Le Bourget-du-Lac, France, on July 31, 2022.

LEFT TO RIGHT: José María CALAFORRA (*Adjunct Secretary/Spain*); Patricia SEISER (*Adjunct Secretary/USA*); Mario PARISE (*Adjunct Secretary/Italy*); Johannes MATTES (*Secretary General/Austria*); Mladen GARAŠIĆ (*Treasurer/Croatia*); Gerard CHAMPION (*Adjunct Secretary/UK*); Zdeněk MOTYČKA (*Vice-President of Administration/Czech Republic*); Nadja ZUPAN HAJNA (*President/Slovenia*); Bärbel VOGEL (*Adjunct Secretary/Germany*); Nivaldo COLZATO (*Vice-President of Operations/Brazil*); Nathalia Vanessa UASAPUD ENRÍQUEZ (*Adjunct Secretary/Colombia*), and Marc MENTENS (*Adjunct Secretary/Philippines*)



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LIST OF MEMBER COUNTRIES as reported by the UIS Treasurer

57 Members in December 2023

Argentina (2022)	Czech Republic (2023)	Malaysia (2024)	Spain (2023)
Armenia (2023)	France (2021)	Mexico (2022 and half for 2023)	Sweden (2023)
Australia (2024)	Germany (2023)	Morocco (2025)	Switzerland (2023)
Austria (2023)	Greece (2021)	Netherlands (2023)	United Kingdom (2025)
Belgium (2023)	Hungary (2023)	Norway (2023)	Ukraine (2025)
Bosnia and Herzegovina (2022)	India (2022)	Philippines (2022)	<i>UIS Bureau decision:</i>
Brazil (2024)	Indonesia (2022)	Poland (2023)	<i>due to war, not paying</i>
Bulgaria (2022)	Italy (2023)	Portugal (2025)	<i>until next ICS (2025)</i>
Canada (2022)	Japan (2023)	Puerto Rico (2022)	USA (2022)
China (2021)	Lebanon (2025)	Romania (2022)	Venezuela (2025)
Colombia (2023)	<i>UIS Bureau decision:</i>	Serbia (2025)	<i>UIS Bureau decision: no</i>
Costa Rica (2022)	<i>no debt, not paying</i>	Slovakia (2023)	<i>debt, not paying until next</i>
Croatia (2023)	<i>until next ICS (2025)</i>	Slovenia (2022)	<i>ICS (2025)</i>
Cuba (2024 and half for 2025)	Lithuania (2023)	South Africa (2022)	Vietnam (2022)
Cyprus (2023)	Luxembourg (2022)	South Korea (2023)	

UIS MEMBERS WITH DEBTS FOR 2020 OR MORE (LAST PAYMENT)

Iran IR (2020)

Israel (2020)

Kyrgyzstan (2018)

Libya (first fee still to be paid)

Mongolia (2019)

*UIS Bureau decision: UIS donation
of 2 years membership dues*

New Zealand (2020)

Turkey (2020)

Please indicate WHO is paying for your country - especially if there are two or more speleological associations in your country. The UIS Bureau can't select the payer for your country and we don't return money.

If you have a new treasurer or responsible person for payments, please send the new name and e-mail address to garasic.mladen@gmail.com.

We do not know who to contact in some countries or we do not have their proper address.

UPDATE your status now!

CONTACT UIS

UNION INTERNATIONALE DE SPÉLÉOLOGIE

www.uis-speleo.org

Titov trg 2, 6230 Postona, Slovenia

***If there are any irregularities, or if you have not found your country
in this list, please, ask the UIS Treasurer Mladen Garasic***

FINANCE

ANNUAL CONTRIBUTIONS

By Mladen GARAŠIĆ (Croatia), *UIS Treasurer* - garasic.mladen@gmail.com



Prof. Dr. Mladen GARAŠIĆ (Croatia), *UIS Treasurer*.



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Headquarters of the Karst Research Institute in Postojna, Slovenia, where the offices of the UIS are located. In the detail, the bronze plaque with the emblem of the UIS affixed below the name of the institute.

The UIS General Assembly at the 18th International Congress of Speleology (*Le Bourget-du-Lac, France, on July 31, 2022*) approved the new amended fee categories of member countries, which are based on the number of speleologists in the national organization or organizations that represent the country to the UIS.

The new annual contributions from 2023 are as follows:

Category A: 2,000 speleologists or more	480 Euros
Category B: at least 1,000 but fewer than 2,000	360 Euros
Category C: at least 500 but fewer than 1,000	240 Euros
Category D: at least 100 but fewer than 500	120 Euros
Category E: less than 100	60 Euros

If the fees are not paid for more than five years, the Member Country will lose its membership in the UIS.

The UIS Bureau may reduce or waive the fee of a Member Country if the Member Country makes a written request describing the reasons why it is having difficulties making its payments and how long those difficulties are expected to continue. All fee payments and related communications are conducted between the UIS Treasurer and the Member Countries.

UIS BANK ACCOUNT

Account name	Account N°
Mednarodna speleološka zveza-UIS	IBAN SI56 1010 0003 7861 520
Titov trg 2	
6230 Postojna - Slovenia	SWIFT Code: BAKOSI2X
Bank (name and address)	Accepted Currencies:
Intesa Sanpaolo Bank d.d.	EUR (Euros)
Traška 2 - 6230 Postojna - Slovenia	

STATE OF UIS BANK ACCOUNT ON DECEMBER 31, 2023

EUR - Account balance = 36,828.71

USD - Account balance = 50,687.42

EDITOR'S DISCLOSURE

Before submitting articles, please, refer to the
Guide for Submitting and Publishing Articles in the UIS Bulletin
[CLICK HERE TO DOWNLOAD THE FILE](#)

UIS Bulletin, nor its editors are responsible for:

- misspellings
- wrongly written names
- incorrect articles
- typographical mistakes

Every effort possible has been made to keep all articles as close to the original version.
In some cases, the editors review the structure in order to present the article in a
clear and consistent manner and obvious errors are corrected if found.
We appreciate your understanding.

Should you have any question or comments, please send them to:

uisbulletin@uis-speleo.org


Union Internationale
de Spéléologie