

# UIS BULLETIN

Union Internationale de Spéléologie

Volume 59-2 - December 2017



17th  
International  
Congress of  
Speleology,  
Sydney 2017



Sydney, Australia, 23-30 July 2017

*Caves in an  
Ancient Land*

all the details of the event is here

## ALSO IN THE 123 PAGES OF THIS ISSUE

- Reports of the Secretary General and UIS Commissions
- Minutes of the General Assembly and Bureau Meetings
- UIS Prizes 2017
- The President's Column - *Renewal and Opportunities*
- In Mexico, changes to improve national speleology
- The new world's deepest cave
- What is the largest cave chamber in the world?

*and more...*



Official publication of the UIS for publicizing the activities of the UIS and the state of the art of international speleology - ©2018

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Union Internationale de Spéléologie

Founded in Postojna, Slovenia, 1965

The UIS is a non-profit, non-governmental worldwide speleological organization that promotes the development of interaction between academic and technical speleologists of a wide range of nationalities to develop and coordinate international speleology in all of its scientific, technical, cultural and economic aspects.

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**Before submitting articles for the UIS Bulletin, please**

**CLICK HERE!** Deadline for submissions for the next issue (N° 60-1) May 15, 2018

**COVER:** Congress registrants at the opening session. Photo © 17<sup>th</sup> ICS.

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**REMEMBER**  
SAVE A TREE; DO NOT  
PRINT IF UNNECESSARY

*Editorial*

**HISTORICAL ISSUE: IMPROVEMENT AHEAD**

By Nivaldo Colzato (Brazil) - *Editor*

*UIS Adjunct Secretary*

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Dear reader,

We are glad to share with you one more issue of the UIS Bulletin. It's 123 pages with 186 photos and 22 images, making it the largest and most illustrated issue of the 66 bulletins published since the first one in 1970. The major highlight, however, is the content. Quite varied, full of good news and important information, the content of this issue fulfills the purpose of the UIS Bulletin, which is to publish the activities of the UIS and the state of the art of international speleology.

See page 52, for example, the list of the world's largest mapped chambers. The authors of the "3D Scanning Project" want to know how these caves should be rated: by volume or floor area? And where do the chambers begin and end, and how do you measure the largest known cave passage in the world? It should prove an interesting discussion, but such questions are not necessary in the "competition" for depth. Extending 2,204 m beneath its entrance, Verëvkina Cave has just become the deepest cave in the world, now occupying the throne that belonged to its neighbor Krubera (Voronja) Cave (2,197 m deep). Details of the expedition that reached such a spectacular depth are on page 49.

In a special 31-page report, you will learn everything about the 17<sup>th</sup> International Congress of Speleology (ICS), held in Australia last July. It includes the Minutes of the General Assemblies of the UIS as well as for the two UIS Bureau Meetings held during the event. In the area of UIS activities, you will find 15 reports from UIS Commissions which show the dynamism of their members and their commitment to speleological advancement in many fields of science, documentation, and the protection of caves and karst. On page 6, UIS Secretary General Fadi Nader, in his traditional end of term report, describes the main achievements of the UIS over in the last four years. Among them it is worth highlighting the memorable celebration of the 50<sup>th</sup> Anniversary of the UIS, in Postojna, Slovenia, in July 2015, when we also launched the book "FIFTY YEARS OF THE UIS – 1965-2015," by past UIS President José Ayrton Labegalini. Most importantly during that celebration, then-UIS President Kyung Sik Woo proposed for UNESCO to recognize 2021 as the International Year of Caves and Karst. Secretary Nader also highlights the hard work of the Bureau from 2013-2017 on creating and improving several documents, leading the UIS to a modern and better structure to face future challenges.

Among the new documents we have the *Guide for Submitting and Publishing Articles in the UIS Bulletin*. Its

main objective is to give readers high quality content that respects their need for accurate and informative speleological news of international interest. Now that the Bulletin has developed a new design and interactive format, we need to focus our efforts on journalistic excellence. In order to reach such a goal we invite authors to use this guide as a reference for the production of articles that will continue to improve the quality of our publication. Photos and illustrations, for example, should be included because they are important for more enjoyable reading and a complete understanding of the content.

The improvement of the Bulletin is only one of the many challenges now facing the UIS. Demands for projects related to the protection of our speleological natural heritage for future generations appear regularly throughout the world, and stand as one example of the increasing the importance of caves and karst that the UIS much address, especially because of their direct relationship with water, which is our highest heritage to be protected and preserved. As George Veni mentions in the newly created "President's Column", "it will require work, and the Bureau cannot do it all alone. We will look at you for support, and I am confident you will be ready to help."

Our new UIS President invites us to unite our knowledge and energies, as we see in Mexico. On page 89, the Mexican Union of Speleological Association (UMAE, in Spanish), the Mexican representative in the UIS, invites cavers and speleologists that intend to work in Mexico to so based on the *UIS Code of Ethics for Cave Exploration and Science in Foreign Countries*. In following the Code of Ethics, UMAE asks to be contacted for any support and help with international activities in Mexico, so that the results achieved are positive for both sides, foreign visitors and local cavers, in what we call "solidary speleology."

Following such a spirit of unity and friendship, we from the UIS Bulletin invite you, dear reader, to take part in our future pages. We will be proud to publish new pages with articles on your accomplishments, however we depend on you. You need to send us your article, maps, and photos so your good work can be shared with the entire speleological world. Not only are the doors of the Bulletin open for you, but the door to the UIS itself. As our new President George Veni also mentions in his column, "there is room for everybody at the UIS."

So join us.



## The President's Column

# RENEWAL AND OPPORTUNITIES

By Dr. George Veni (USA)  
UIS President  
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Every four years the speleological world renews itself at the International Congress of Speleology. New friendships are built, old friendships are continued, and ideas for exploration, research, and collaborations across borders are ignited. Most importantly, congress attendees return home and spread their excitement to pursue speleology in all of its many forms.

A renewal also occurs with the leadership of the International Union of Speleology (UIS). The General Assembly meets, learns of the activities of the commissions and other business, and makes decisions to set the general course of the UIS for the next four years. One of those decisions is to elect a new Bureau, which conducts the daily business of the UIS and brings forward new programs and actions to better achieve the UIS' goals "to promote fellowship between people in all countries who are interested in caves, karst, and related features and terrains, to develop and promote all aspects of speleology (scientific, technical, cultural, sporting, social, and economic), and [to advance] the protection and management of the world's speleological and karst heritage in ways conducive to sustainable development in all locations where caves or speleological activities occur" (UIS Statutes).

One of the major accomplishments of the previous Bureau was to conduct a major revision and improvement of the UIS documents. When they were published last year for review in UIS Bulletin v. 58, no. 2, it was the first time they had been published all together. Some delegates misunderstood and thought they had expanded in length. In fact, although some documents were new, many of the older documents were made shorter, simpler, and clearer. While it was a burden to prepare, review, and approve those documents, it was necessary for the UIS to grow and improve in the coming years.

For the first time, the UIS as a non-profit organization can legally sell its books and other materials, more easily accept donations, and conduct other bu-

ness to better accomplish its goals. So what are the goals for the new Bureau?

### **The International Year of Caves and Karst**

In 2015, during the UIS' 50<sup>th</sup> Anniversary Celebration, then-President Kyung Sik Woo made the declaration that the UIS will work to have UNESCO declare 2021 as the International Year of Caves and Karst. International years are major opportunities to educate the public worldwide about important topics, gain public and governmental support, and increase funds and opportunities for exploration, research, management or whatever else is needed.

Since 2015, the UIS Bureau has worked hard on the International Year. So far we have official letters of support from four countries (Belgium, Croatia, Hungary,



George Veni in Parks Ranch Cave, USA.

and Slovenia), seven international organizations, and 21 national organizations in 12 countries. Despite this progress, we need a country to make our proposal to UNESCO. Only UNESCO member countries can make proposals, not outside organizations. Several countries have considered it, but there are politics beyond what we do that also affect such decisions, so we are still waiting and developing new strategies to find support. If you might have connections to ask your country for formal support or to propose the International Year of Caves and Karst, please let me know! The next UNESCO General Assembly meets in late 2019 and we hope to have a country to make the proposal then.

### **International Cave and Karst Programs**

If our efforts on the International Year succeed, we will need all of the UIS member countries to organize events and activities in their countries to support speleology. If we do not succeed, it is even more important that we hold those activities in 2021 to prove the importance of caves and karst terrains to the general public and governments. Please begin to think about what events your organizations can develop. It would be excellent to have UNESCO support, but if we don't have their support we can still have an international year on our own. I will report later with ideas and specific requests so we can be prepared in either case.

### **International Partnerships**

During the International Congress in Australia earlier this year, the UIS renewed its important Memorandum of Understanding with the International Show Caves Association. Since Australia, the Bureau has begun to look at developing other major scientific and political partnerships. Today as I write this, the UIS was accepted as a United Nations Non-Governmental Organization (NGO)! All of us on the Bureau would rather go caving, but we are doing this work for the UIS to make speleology better for everyone.

Speleology is a subject where sport and technical specialists rely on each other. Sport cavers find, explore, and map caves. Their efforts make research possible for the scientists. The scientific results prove that caves have value and need to be properly managed. Educators teach the public and politicians about the importance of caves, which leads to the protection of caves and karst areas allowing more exploration—

and thus the cycle renews.

Along this cycle, opportunities for funding are found to support research, management, and education. Typically, less funding is available for exploration, which is why the UIS Bureau is looking specifically at ways to raise money from other sources to support more expeditions and projects. All aspects of speleology are important and connected, and the UIS will not neglect any of them!

### **Commissions**

The General Assembly decided in Australia to simplify the UIS structure and make all Departments, Commissions, and Working Groups into Commissions. Commissions are where all cavers can participate directly with the UIS by working with other cavers from around the world on any of 22 different commissions covering all aspects of speleology.

To get involved, just find the commissions on the UIS website, [www.uis-speleo.org](http://www.uis-speleo.org), and contact the officers to join. There is no cost, and active, excited, participants are most welcome. The Bureau provides the commissions up to 2,000 euros each year upon request to help them meet their goals.

As I type this column my mind is spinning with the many possibilities and activities of the UIS. Every day I get news and messages that excite me about the future of the UIS and speleology. But it will require work, and the Bureau cannot do it all alone. We will look to you for support, and I am confident you will be ready to help.

One thing that constantly impresses me is how cavers step forward to help with speleological training, cave protection, publications, and even organizing excellent international congresses such as we enjoyed this year in Sydney. And as a group, I find cavers the most adaptable and creative at solving problems. With your support, I have no doubt that the next four years will be the best yet for speleology, and thus the best to date for the UIS. If you have any ideas for the UIS or want to reach me with questions or to offer assistance, please feel free to contact me at [gveni@nckri.org](mailto:gveni@nckri.org). I look forward to working with you and seeing the UIS and speleology grow.

# THE REPORT OF THE UIS SECRETARY GENERAL

*for the period from August 2013 to July 2017*

JULY 23, 2017

By Dr. Fadi NADER (Lebanon)  
UIS Secretary General  
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*Dear Cavers and National Delegates, Ladies and Gentlemen, Distinguished Guests, Dear Friends,*

It is a traditional duty for the UIS Secretary General, to present short but exhaustive report to the General Assembly on the activity of the International Union of Speleology, of the Bureau and the Secretary General between the previous congress (2013 Brno – Czech Republic) and the present one (2017 Sydney – Australia).

First I would like to invite you to observe a moment of silence for those friends who left us in the last four years and whose impact on speleology is considerable, among many I mention here: Alfredo Bini [I], Rajko Bracic [Si], Yaroslav Chonka [Ua], Gyorgy Denes [H], Trevor Ford [Aus], Ivan Gams [Si], Ken Grimes [Aus], Elery Hamilton-Smith [Aus], Steve Hudson [US], Sami Karkabi [Lb], Ted Lane [Aus], Michel Letrone [F], Osvaldo Martinez [Ar], Charlie Self [Uk], Nicholas Sullivan [US], Hubert Trimmel [A], and Norman Veve [Pr]).

I will follow the same format and tradition handed to me by Prof. Pavel Bosak, twelve years ago. I am also very grateful for all the support I had throughout these years. The help of fellow, colleagues of the UIS Bureau – including past presidents and honorary members, head of departments, commissions, and working groups – also made this difficult task easier and efficient. The UIS Bureau regularly informs its activities and resolutions through the UIS Bulletin that is published electronically only – since 2008 – on the UIS website, and which has been tremendously upgraded since 2013 by the hardwork of Nivaldo Colzato, Jasmina Rijavec and under the guidance of Efrain Merca-



**Fadi H. NADER**  
UIS Secretary General  
since 2005

do (*US Bulletin #56-1, 56-2 – 2014; #57-1, 57-2 – 2015; #58-1, 58-2 – 2016; and #59-1 – 2017*). Also, since a few years you all know that we are on Facebook (now with more than 1.400 members).

Numerous important activities and achievements related to the world of caves and karst occurred since the last speleological congress that was held in Brno in the Czech Republic in 2013. Cave exploration, and/or research, international collaborations met with increasingly difficult challenges for protecting karst areas and preserving caves. Major discoveries were made in China, Iran, Croatia, Mexico, and other places around the globe. We keep improving our knowledge on several aspects related to karst and caves and develop more advanced technologies – including the utilization of drones, laser-scanners, numerical modeling and imaging, as well as advanced caving and rescue techniques, cave mapping, photography and filming. We keep on pushing further our knowledge on forms similar to karst also in other rocks, in salt, gypsum, sandstones, volcanic and metamorphic rocks and even in ice. Several commissions and working group (such as the 'Glaciers, firn and ice caves', 'Pseudokarst and artificial cavities', and 'volcanic caves' commissions are very active and continuously document special types of underground cavities. The Caver's Dictionary working group keeps on adding translation languages. Arabic, Russian, Turkish, and Ukrainian were added to

the dictionary, increasing the total number of languages to 28. We collectively contributed in predicting global changes and evolution of the past, modern and future climatic trends (e.g. new technologies using clumped oxygen isotopes and U-dating). Speleothems represent one of the first objects for such analyses – they must be valued and protected. Commissions and Working Groups have been pushing further the limits of our knowledge on various levels. We have to thank all of them for their continuous efforts and achievements.

The efforts of the UIS Bureau members, Past-Presidents, and Honorary Members are continuously employed for cave and karst protection. In 2014, the Lebanese Government (Ministry of Tourism) asked the UIS to make an expertise visit and report concerning the Jeita show cave. This has been achieved by Arrigo Cigna, Jean-Pierre Bartholeyns and José Ayrton Labegalini in the framework of the Department of Karst and Cave Protection, led by Jean-Pierre Bartholeyns. I remind you as well that the UIS plays an important role in similar world-related issues and holds a worldwide recognition. In July 2016, Jean-Pierre Bartholeyns collaborated also with the office of Fauna & Flora International in Myanmar, part of "Myanmar Karst Conservation Program" – a seminar on the management and the protection of caves open to the public.

As you know, the UIS has been accepted as associate member of ICSU (UNESCO's International Council of Scientific Union) in 2011. We have also contributed to the ICSU Scientists' Responsibility Act. We continue to have cordial support from the International Union of Geography and the International Union of Geological Sciences, among other international scientific unions, among other Science Unions.

Two major inter-connected events and initiatives have taken place in the last four years. The 50<sup>th</sup> anniversary of the UIS that was celebrated in Postojna (in Slovenia) on the 19<sup>th</sup> of June 2015. The celebration was under the honorary patronage of his Excellency Mr. Borut Pahor, the President of the Republic of Slovenia and was held in Postojnska Jama in Kongresna Dvorana (Congress Hall) – in the very same place where the Union was founded in 1965. A total of 252 participants from 36 nations participated at this event.

Probably our greatest achievement and a way to express our gratitude to our past and to the people

who helped building the UIS, was the initiative that President Kyung Sik WOO started, consisting in proposing an International Year of Caves and Karst (IYCK 2021). This initiative was declared by our President at the 50<sup>th</sup> Anniversary of the UIS, after having succeeded for the first time an Extraordinary General Assembly by Electronic Voting confirming the will of the whole UIS to proceed with this venture. 34 Member-Countries replied to our call for the special GA and Electronic Voting. I thank these countries and the concerned delegates for their active engagement. I would like also to thank Efrain Mercado, Nivaldo Colzato and Jasmina Rijavec for preparing the electronic form. Finally, 33 countries voted "yes" for the IYCK 2021 and only one country voted "no".

This second major event is very important as well and it has major impact on the future of the UIS. We have approached the UNESCO in Paris and we received considerable support. We have still two windows of opportunities to get this project approved by the UN. First, at this Fall (2017) UNESCO/UN councils, and if not in 2019. We need all possible support to achieve this big challenge.

## WHY IYCK 2021?

At least...

- to improve public awareness about caves and karst - awareness = protection;
- to build worldwide educational capacity through cave/karst related activities;
- to demonstrate how taking care of caves and karst affects global economic and environmental health;
- to promote caves/karst for sustainable development and inter-disciplinarity as well international collaboration, particularly in water resources, agriculture, geotourism/ecotourism, and natural/cultural heritage;

The year 2021 is also the 100<sup>th</sup> year anniversary of the publication of Edouard Alfred Martel's *Nouveau Traité des Eaux Souterraines* (New Treatise on Underground Waters), which revolutionized understanding of the importance of caves to karst aquifers. Martel's work inspired others to explore and study caves, which led to the creation of the International Union of Speleology (UIS) in 1965. The 18<sup>th</sup> International Congress of Speleology will be held in 2021 in France pending the GA's vote in a week, and will be the core of activi-

ties proposed for the International Year of Caves and Karst.

In addition to the invaluable support of the UIS Member-Countries, the following organizations have also agreed to support the International Year Project.

**International organizational partners include:**

- 1) European Speleological Federation;
- 2) International Show Caves Association;
- 3) International Union for the Conservation of Nature; and
- 4) International Union of Geological Societies.

**National organizational partners include:**

- 1) France (*French Federation of Speleology, Geoparks Group of France*);
- 2) Belgium (*Belgium Union of Speleology, Walloon Commission for the Study and Protection of Underground Sites*);
- 3) Slovenia (*Karst Research Institute ZRC SAZU*); and
- 4) USA (*National Cave and Karst Research Institute, National Caves Association, National Speleological Society*).

I am looking forward to the coming week at the 17<sup>th</sup> ICS, here in Penrith (Sydney), to meet all of you – cavers and scientists of the world –, in particular cavers of Australia and the Far East. This part of the world that also well deserves reaching out for it and visiting. I now, understand – having made the trip from far away – how difficult it is for you guys to come to the events in Europe and/or the Americas. So, I am looking forward to exchange experience, knowledge, results as usual, but also to have fun and entertainment, to meet new friends. For, what is caving without friendship? The preparation of this ICS (2017) was nothing easy, especially with so many obstacles (costs, world economy crisis, visa, etc.). The organizers of this congress spared no efforts and we all owe them tremendously.

The UIS Bureau followed all the caving activities in member and also non-member countries. In the last four years, the UIS Bureau members attended and contributed to about 60 international speleological events around the world. We have been present at the ICSU, ISCA, FEALC, FSE, AUS, Balkan Speleological Union, among others which I cannot list all here. In general, such international conventions and meetings are increasing, expressing the healthy growth of

speleology, globally. As group, the UIS Bureau members worked in nice harmony, and as a team, using the advantages of recent electronic correspondence and internet. In fact, we were almost continuously in touch by electronic post, email, skype and facebook. I would like to thank all of you very much for your co-operation and self-dedication.

The activity of the UIS, its bodies and member countries can be assessed from the various events, regularly published on the UIS webpages, in the UIS Bulletin and in other speleological magazines, journals and newsletters and Facebook (1400 members). The UIS Bulletin includes all reports concerning the time period from August 2013 when the Assembly General during the 16<sup>th</sup> International Congress of Speleology elected the new UIS Bureau up to the present time, i.e., mid-July 2017. The final report and financial reviews were completed by June 22, 2017 (They will be published in the upcoming Bulletin).

**THE UIS BUREAU**

The UIS Bureau was composed as follows: Kyung Sik Woo (Republic of Korea) as the President, George Veni (USA) as Vice-President of Administration, Efrain Mercado (Puerto Rico) as Vice-President of Operations, Fadi H. Nader (Lebanon) as Secretary General, Nadja Zupan Hajna (Slovenia) as Adjunct Secretary Acting Treasurer, and Christian Dodelin (France), Giovanni Badino (Italy), Jean-Pierre Bartholeyns (Belgium), Mladen Garasic (Croatia), Nivaldo Colzato (Brazil), Zdenek Motycka (Czech Republic), and John Cugley (Australia) as Adjunct Secretaries.

The UIS Bureau met three times, i.e., on 31 October/1 November 2014 in Sydney (Australia), on 20-21 June 2015 in Postojna (Czech Republic), and on 18-19 August 2016 in Dalesbridge (UK).

The UIS Bureau focused its main efforts to provide solution to several emerging problems and normal administrative tasks, e.g., UIS exposure, diversification of financial sources and financial state-of-the-art, karst and cave protection and preservation; contacts with UNESCO, ICSU and ISCA, co-operation with other non-governmental institutions, Commissions and Working Groups, connection to national delegates, and public relation.

Before 16<sup>th</sup> ICS in (2013), the UIS consisted of representatives of 46 member countries from all continents. Today, the UIS include 54 "active" member-countries that have honored their financial duties towards the Union. I must thank Nadja Hajna Zupan for her continuous effort in having our books up-to-date. Following the UIS Statutes, Member countries which do not honor their payment duties will not be considered affiliated to the Union and will need to re-apply to become Member-Countries. The UIS Bureau pledges on your behalf to apply the Statutes.

I have to mention again and again that the mechanism of contacts with Member-Countries via national delegates remains very problematic, especially when there are several self-appointed delegates, so-called national federations or associations in the one country. In some countries the legality of so-called elected or selected national delegate(s) is questionable. To be the national delegate to the UIS represents duty and no honor, it represents the service for national caving bodies and cavers and no income or prestige in return. The delegate must remember that he/she represents ALL the cavers of their country and not the one Federation, Association or Club they belong to. This is the very spirit of the UIS and it is expressed by strictly voluntary work for the sake of the community.

**THE FINANCES**

See separate report of Nadja Zupan Hajna, Acting Treasurer, on page 95. ([click here to access](#))

I would like simply to announce to you that our overall budget in 2016 was around 45,000 USD and 20,000 Euro, and it is today around 36,500 USD and around 29,000 Euro. This means that our accounts are stable and we expect to have additional input at this General Assembly as Member-Countries dues are paid.

**COMMISSIONS AND WORKING GROUPS**

The structure of UIS Commissions and Working Groups was traditionally the same as in the past. A lot of Commissions and Working Groups worked efficiently with substantial outputs (e.g., publications, symposia, conferences, workshops). About 13 of these entities reported their activities for the period 2013-2017 – today we have 25 commissions and working groups.

We have proposed some modifications to simplify the structures of such bodies. This entails of considering all of them under the term "Commissions". I hope that this matter will be approved by the General Assembly. Besides, the General Assembly has to vote on the continuing activities of the Commissions. The new UIS Bureau has to deeply analyze the situation of individual Commissions and to search for better future solutions – some inactive entities should be dissolved.

**THE UIS BULLETIN**

The Bulletin was published regularly since the last ICS (Brno, 2017). In 2014, two separate numbers (no. 56-1 and 56-2) were published. In 2015, two other numbers (no. 57-1, 57-2). In 2016, two other numbers (no. 58-1, 58-2). This year (2017), one Bulletin (no. 59-1) has just been published. Bulletin volumes could be found and downloaded from the UIS website as mentioned above. We ask you again to help in submitting articles, especially that now there is a simple and straightforward way to prepare such articles with a standardized format (found on the website).

**INTERNATIONAL JOURNAL OF SPELEOLOGY**

Since 2013 the IJS is exclusively electronic through the Karst Information Portal (and with the University of South Florida). It is our top medium for publication of scientific achievements. Prof. Bogdan Onac has followed on Prof. De Waele and is doing an excellent job as Editor-in-Chief since the last congress. In addition, the IJS is on SCI-extended and with, currently, a very good impact-factor (2015) 1.559.

**CO-OPERATION WITH OTHER NGOS, GOVERNMENTAL AND PRIVATE BODIES**

Colleagues and members of the UIS co-operate with the International Union of Conservation of Nature (IUCN) on the preparation of protected areas in karst and with the Commission of UNESCO for World Heritage List. We have also been present at the last ICSU Congress, as Associate Member. In addition, an excellent relationship with ISCA has been established in the last few years.

The relationship of the UIS with continent-scale bodies of speleology such as the FEALC, the European

Federation, the Asian Union of Speleology has improved tremendously. I salute a lot of initiative in this line. The UIS remains the world-umbrella organization of speleology and relates on its connections with regional and national bodies.

### THE UIS FUTURE

The future of our non-governmental, non-profit organization remains the most important challenge for any UIS Bureau. Though we have managed to bring UIS to be recognized as a prestigious international scientific union, cave- and karst-scientists are becoming increasingly independent of UIS and its commissions. At the same time, many exclusively sporting and touristic activities are emerging. They do generate a threat on our tradition, as for us caving must remain a mix of science, sports and culture and never a strictly competitive sporting activities. Our Code of Ethics clearly states that no competition should be in caves.

The future of UIS also involves the speleologists and the cavers of the whole world. UIS (General Assembly, Bureau and Commissions) need to listen to the needs of cavers and speleologists, and they need to consider themselves part of the UIS. For that we also need to be able to convey their messages (and voice) to larger authorities such as the National/Government institutions and International organizations (UNESCO). The Project of the IYCK 2021 with the excellent collaboration with the French Federation of Speleology is a good example of that. Our support to Cyprus Cave Project (funded by EU) is another concrete example and we are now hoping to achieve yet another such big project on the Mediterranean caves together with the French initiatives. The UIS needs to evolve. Our structure needs to be modern and able to survive in the future so that it can serve better the aspirations of the cavers and the protection of our world.

We should succeed in supporting the cavers irrespective of geopolitical and economical situations. The UIS Bureau has been working on new mechanisms for raising funds and supporting speleological projects and expeditions with the dedication of Zdenek Motycka. Yet, we face problems with the representation mechanism of these cavers at the UIS (here I recall the issues related to delegates). We have worked out a mo-

dified version of the Statutes and upgraded Internal Regulations. We have published them in the UIS Bulletin and gave more than 6 months for the Delegates to review them. We received comments only from six (6) Member-Countries and we have worked on answering them (to be presented later). The new Statutes are in line with Slovenian laws applicable on the UIS, since we are based in Postojna. I ask you on the behalf of the Bureau to vote them today and that we move forward with the Union.

Last but not least, Karst/Cave conservation and protection. Every year we are witnessing huge damage on karst features and caves all over the world. We can claim minor success in protecting some of them, but we have many still to fight for. This is a continuous fight and I hope that we will be able to be more successful in the future. Here again, the IYCK will be a pertinent step towards global awareness and cave protection.

I believe in international collaboration and initiatives of base-level cavers. There is room for everybody at the UIS and I keep saying to all cavers I meet that they have to consider the UIS as their own club, national and regional organizations. With the internet and today's technology, the world is becoming increasingly connected, and together we have more chances to serve our future generations of cavers and protect our caves.

Dear colleagues, at the end of this week you will elect the new UIS Bureau. I have one comment to the composition of this body similar to what I always asked for. Please, elect persons who are geographically spread over all continents. The concentration of members from one continent is not very useful for the Bureau activities; our operations need persons from Europe, Asia and Africa (including the Middle East), Australia, North America, Central and South America and Caribbean.

Dear friends, I hope that I touched the most important topics concerning the UIS and some of the lessons we learnt during the last four years. Do not hesitate to approach me, and any member of this Bureau, for any question, suggestion or comments.

**Fadi H. Nader**  
UIS Secretary General



## Final Report



17<sup>th</sup>  
International  
Congress of  
Speleology,  
Sydney 2017



Sydney, Australia, 23-30 July 2017

## *Caves in an Ancient Land*

By Denis MARSH (Australia)  
*President, 17<sup>th</sup> ICS Organizing Commission*  
*(a commission of Australian Speleological Federation Inc)*  
[denis.marsh@hotmail.com](mailto:denis.marsh@hotmail.com)

### Introduction

The 17<sup>th</sup> International Congress of Speleology (17<sup>th</sup> ICS), Speleo 2017, was organized by the Australian Speleological Federation Inc (ASF) (the host organization) on behalf of the International Union of Speleology (UIS). ASF is a wholly volunteer speleological organization with no institutional support and no paid secretariat. The 17<sup>th</sup> ICS was held at Penrith (western Sydney), Australia, 23 July – 29 July, 2017. This was the first time the ICS has been held in Australia and only the second time in the Southern Hemisphere (Brazil - 2001).

The 17<sup>th</sup> ICS showcased speleology in Australia under the theme “*Caves in an Ancient Land*”, inspired by the Australian landscape with Archaean rocks more than 2.5 billion years old, among the oldest known and containing some of the first evidence of life (primitive cyanobacterial mats known as stromatolites), together with Proterozoic dolomites 1.4 – 1.8 billion years old and known to contain significant caves.

The Congress followed the UIS tradition as a fo-

rum for the exchange of information in and between disciplines within speleology through a full program of paper and poster sessions and workshops. There was a wide scope of activities including mid-week excursions to nearby karst areas, technical sessions, a welcome reception and congress banquet, competitions in photography, cartography and art, along with sporting events and a partners' excursion program. Pre and post-Congress field excursions were run to various karst areas around Australia and New Zealand.

The UIS General Assembly meeting, attended by the world delegates, was convened during conduct of the Congress, split into two sessions, the first session on Sunday 23 July and the second on Saturday 29 July.

### Congress Support

Partners of the Congress included Australian Cave and Karst Management Association Inc. (ACKMA), the New Zealand Speleological Society (NZSS) and Cave Diving Association of Australia (CDAA).

**Companies, associations, agencies and individuals who provided financial or material sponsorship support included** (click on the logos to access respective websites):

**Major Sponsor**



Official business tourism promotion and marketing support organization

**Gold Sponsor**



Custom LED lighting solutions for Show Caves

**Silver Sponsors**



Technical outdoor clothing producer



Local Government body for Penrith region

**Bronze Sponsors**



New Zealand based manufacturer of caving overalls, harnesses, SRT kits, and gear bags



Access the inaccessible

Design and manufacture of superior quality outdoor adventure gear and caving equipment

Andy Eavis (UK)

**Supporting Sponsors**



Commercial adventure activities provider



Privately owned Show Caves



Supplier of quality Climbing and Caving hardware



Geosystems

C.R. Kennedy, Survey Solutions  
Australian distributor of Leica Geosystems products



Manufacturing batteries



Provider of high quality, powerful mobile LED lamps



Adventure thermals and women's fashion items from Tasmanian merino wool



Publisher of research and journals covering a broad range of topics related to speleology

**Supporting partners of the congress included**

(click on the logos to access respective websites):



Australasian Cave and Karst Management Association Inc. (ACKMA)



New Zealand Speleological Society (NZSS)



Cave Diving Association of Australia (CDA)

**We also acknowledge our smaller sponsors who added to the flavour of the event:**

- MTDE via Al Warild
- Seven Sheds Brewery & Meadery
- Spiroll Rope Protectors
- Marlyn Alpaca
- TFM Engineering
- Wild Cave Tours
- Engadine Cottage

**Many ASF members and their respective speleological organizations provided valuable in-kind support with special mention to:**

- Northern Caverneers
- Chillagoe Caving Club
- Metropolitan Speleological Society
- Canberra Speleological Society
- Orange Speleological Society
- Newcastle-Hunter Valley Speleological Society
- Western Australian Speleological Group
- Victorian Speleological Association
- Southern Tasmanian Caverneers
- Sydney University Speleological Society
- Cave Exploration Group of South Australia
- Highland Caving Group.

**A special mention also to:**

- Sydney Speleological Society (Australia)
- Nelson Speleological Group (New Zealand)
- NSW Office of Environment and Heritage (Jenolan Caves, Yarrangobilly Caves and Wombeyan Caves)
- Queensland Parks and Wildlife Service (Chillagoe-Mungana Caves)

- SA Department of Environment, Water and Natural Resources (Naracoorte Caves - World Heritage Site)
- Dubbo Regional Council (Wellington Caves)
- WA Parks and Wildlife Service (Margaret River Caves)

**Financial Summary of the ICS**

We can report that the 17<sup>th</sup> ICS was concluded in a positive financial position. A small loan from the UIS and significant loan funds advanced to the organizing Commission from the ASF have been repaid in full.

The ICS Organizing Commission has met all ICS financial obligations to the UIS in accordance with ICS protocols. As required by the UIS, 5% of the total income from ICS registration fees has been paid to the UIS Treasurer. The UIS surrendered a portion of this obligatory ICS payment towards 8 registration scholarships to assist attendance at the Congress.

As with other ICS's, the 17<sup>th</sup> ICS has also contributed a donation of US\$ 3,000 (A\$ 3,624) to the UIS towards their loan fund to assist future ICS organizers meet initial expenses before registration begins.

**Organization of the Congress**

The Congress was organized by the 17<sup>th</sup> ICS Organizing Commission, a commission established by the Australian Speleological Federation Inc (ASF). The ASF is the national body that represents the interests of 28 Australian caving clubs and currently has over 900 members. ASF appoints Australia's delegate to the International Union of Speleology, General Assembly meetings.

**The executive members of the Organizing Commission included:**

- Denis Marsh – Congress President/Convener, plus Chair, Public Relations Committee
- Nicholas White – Vice President, plus Chair, White Nose Syndrome Committee and Co-Chair, Program
- Jim Crockett – ICS Secretary, plus Chair, Venue & Audio Visual Facilities and Electrical Test & Tag Service Facilitator
- David Butler – ICS Treasurer, plus Chair, Finances and Registrations Committee
- George Veni - Ex Officio representative from UIS Bureau (UIS Vice President)
- John Cugley – Ex Officio representative from ASF (ASF President, UIS Adjunct Secretary)

**Other Chairpersons of the Organizing Commission in charge of the main organizational areas were:**

- Cathie Plowman – Chair, Pre and Post Congress and Mid-week Field Excursions Committee, Field Guides Coordinator, Registration Desk Coordinator, Merchandise Coordinator, Congress Satchel Filling Coordinator

- **Dr Janice March** – Chair, Sponsorship Committee, Chair, Exhibition Hall Committee and Donors Dinner Coordinator
- **Ann-Marie Meredith** – Chair, Promotions Committee, Facebook Administrator, eBulletin & Program Handbook Editor, Media Liaison
- **Dr Catherine Hemley** – Chair, Information Services Committee, Circular 3 and Field Guides Editor, Volunteers Coordinator
- **Dr Susan White** – Chair, Publications Committee, Chair, Papers Review Committee and Proceedings Coordinator
- **Jill Rowling** – Co-Chair, Program Committee and Arts Salon Competition Coordinator
- **Dr Mike Lake** – Speleo 2017 Web Server, Email Server & Conference Registration and Payment Management System Administrator, Congress Badge Coordinator

**Other executive team major support coordinators and facilitators included:**

- **Kevin Moore** – Circular 3, Program Handbook and Proceedings Layout and Production
- **Grace Matts** – Commission Meetings Facilitator
- **Colin Tyrrell** – Speleo 2017 Webmaster and Certificates of Appreciation Production
- **Justin Wilkinson** – Speleo Olympics Obstacle Course Coordinator, Exhibition Hall Facilities Coordinator
- **Ian Collette** – Speleo Olympics Rope Challenge Coordinator
- **Douglas Irvin** – Accommodation Coordinator
- **Mary Ann Irvin** – Partners Program Coordinator
- **Brian Evans** – Photographic Salon Competition Coordinator
- **Dr Phil Maynard** – Cartography Salon Competition Coordinator
- **Cindy Tan** – Circular 2 Layout and Publication
- **David & Sue Tweed** – Congress Satchel Contents Facilitator and Logistics Support
- **Sandra Chrystal** – Congress Banquet Coordinator
- **Greg Leeder** – Audio Visual Set-up Support and Session Presentations Data Collection
- **Terry Matts** – Electrical Equipment Test and Tag Services Facilitator
- **Daryl Carr** – Congress Registrants Group Photographer
- **Myf White** – Certificates of Attendance Facilitator
- **John Dunkley** – ICS Promotions Support and ICS Representative for NSS Convention Presentation
- **Robert Kershaw** – Administration Support
- **Ros Hart** – Book Launches Facilitator
- **Joan Crabb** – ASF Display Stall and Sales Coordinator
- **John Bonwick** – Storage Support Facilitator
- **Wendy Stanford** – Program Assistance

There were many volunteers who cannot be fully listed here but are deserved of our thanks, especially the field excursion coordinators and their support staff members totaling more than 45 volunteers, along with other numerous volunteers assisting in many ways during the running of the Congress. Their work contributed greatly to the smooth and success-

ful running of the congress event. The entire Congress was organized and run by volunteers. The Publications committee extend their thanks to the dozens of cavers and speleologists who gave their time to review the many papers and posters that were submitted.

**Promotion of the ICS**

The organizing Commission established a website (<https://www.speleo2017.com>) and Facebook Page (<https://www.facebook.com/Speleo2017>) to promote the ICS and inform registrants. Other methods used to promote the event included an email subscribers list, occasional email posts, eBulletins, posters, bookmarks and stickers. Three ICS Circulars were released and posted to the Speleo 2017 website. The 17<sup>th</sup> ICS website will remain live until December 2018.



*Circulars, bookmarks and two sizes of stickers were among the methods used to promote the event*

Congress promotion was assisted by the UIS Bureau, our Partners (ACKMA, NZSS) and a number of international federations around the world who shared 17<sup>th</sup> ICS bulletins, announcements and information posts with their contact lists and kindly provided links to the Speleo 2017 website. The ASF and ACKMA promoted the event extensively in Australasia.

The ICS was promoted at NSS conventions in the USA in 2014, 2015 & 2016. We especially wish to thank Emily Davis and Mike Warner from Speleobooks (USA) for their assistance with this. Representatives of the 17<sup>th</sup> ICS Organizing Commission attended and provided promotional material and presentations at several international events, including the 2<sup>nd</sup> Asian Transkarst conference (2015), 75<sup>th</sup> NSS Convention (2016), International Volcanospeleology Symposium (2016) and EuroSpeleo (2016).

We would like to acknowledge all the valuable assistance from international organizations and individuals which played an important role in our event promotion.

**List of participants**

The total number of registrants for the Congress was 462, representing attendance from 42 countries listed below by numbers in alphabetical order:

Australia.....	163
Austria .....	3
Belgium.....	1
Brazil .....	8
Canada.....	3
China.....	8
Croatia.....	4
Czech Republic.....	5
France.....	9
Germany.....	14
Greece.....	2
Hungary.....	4
Indonesia.....	6
Israel.....	1
Italy.....	13
Japan.....	6
Korea Republic of.....	7
LAO Peoples Democratic Republic.....	1
Lebanon.....	1
Luxembourg.....	1
Malaysia.....	2
Mexico .....	1
Netherlands.....	2
New Zealand.....	7
Norway.....	3
Papua New Guinea.....	1
Philippines.....	6

Poland.....	2
Portugal.....	5
PuertoRico.....	8
Romania.....	1
Russian Federation.....	4
Serbia.....	1
Slovakia.....	4
Slovenia.....	6
South Africa.....	1
Spain.....	3
Sweden.....	3
Switzerland.....	11
United Kingdom.....	11
United States.....	119
Vietnam.....	1

The registration numbers were within the anticipated range and budget calculations. It can be said these reflect the distance and cost of overseas travel to Australia which was always recognized as a challenge for the organizing committee. A suitable range of accommodation options was available in close proximity to the Congress and these were able to be personally booked online in advance. Participants arranged their own travel to the venue with trains being the main mode of transport from Sydney's domestic and international airport to the Congress venue.

Thirty nine Letters of Invitation were provided to overseas registrants to support visa applications. The ICS Organizing Commission cooperated with the Australian Government's Department of Immigration and Border Protection to facilitate visa approvals.

**17<sup>th</sup> ICS Attendance Scholarships**

In total, 14 ICS attendance scholarships were offered to eligible participants. These were offered by the UIS, ASF and a special Crowd Funding appeal.

The Crowd Funding appeal organized by Cathie Plowman (Chair, ICS Field Excursions committee) raised funds to financially support 2 registrants from emerging countries in the Oceania Region to attend the Congress. The two recipients were chosen from around 10 applications and required a presentation at the Congress. The recipients included Isma Dwi Kurniawan, Indonesia (Detection of Human Activities Impact on Show Caves Environment in Pacitan, Indonesia) and Roxanne Tsang, Papua New Guinea (Nakanai Cave/Karst Country, New Britain, PNG: An Anthropological Perspective).

The ASF financially supported 4 registrants from within Australia to attend the ICS from their special Congress Attendance Grants scheme. Recipients included Erica Barlow (Conveying the importance of stromatolites to self-guided tourists in Nettle



Cave, Jenolan, NSW), Matej Lipar (Speleogenesis in Stockyard Gully National Park and Beekeepers Nature Reserve, Western Australia), Heather Siebert (poster, The Pilkington-Lewis Squeeze Index) and Marcos Silverio (Methodological Planning for the Public Use of Caves and Karst Based on Spatial Analysis).

The UIS provided registration scholarships to 8 participants at the ICS, 6 full registrations and 2 half registrations (equivalent to 7 full registrations).

**These included:**

- **Harrison Burkitt**, Australia (did not present)
- **Hilary Reinhart**, Indonesia (Cave Exploration in Sangkulirang-Mangkalihat Peninsula, East Kalimantan, Indonesia and Application Cave Ecosystem Profile of Anjani Cave in Karst Jonggrangan, Central Java, Indonesia)

- **Wishnu Wibisono**, Indonesia (half registration) (A Speleo-Archaeology Study of Kali Banjar Underground River: Approach on the Research of Site Formation Process)
- **Irawati Yuniat**, Indonesia (half registration) (Speleolithophones Gua Tabuhan, Traditional Music in Prehistoric Sites Gunung Sewu Karst Area)
- **Eri Ando**, Japan (Water Quality Evaluation of Chima-chida Rimstone Pools in Akiyoshi Cave, Japan, Using Physicochemical and Biological Index)
- **Eric Bontuyan**, Philippines (The PSS and the 16<sup>th</sup> Year of the Annual Philippine National Cave Congress)
- **Maria Jhonnie Villareal**, Philippines (Permission for International Visitors to Philippines)
- **Gergard Du Preez**, South Africa (The Gcwihaba Caves Research project: Past, Present and Future Research Undertakings).

There were 3 additional UIS scholarships offered but recipients were unable to attend.



**CONGRESS KIT:** Certificate of Attendance, congress satchel, ID badge, mid-week excursion control, and other materials of general information and publicity.



**MERCHANDISE:** A range of products with congress logo was available for order.

**White-nose Syndrome and Congress Biosecurity**

The risk of introducing the fungus causing white-nose syndrome (WNS) into Australia was recognized early in the Congress planning. Organisers worked closely with the Chief Veterinary Officer (CVO), the Federal Department of Agriculture and Water Resources and Wildlife Health Australia in designing protocols and advice to Congress participants to manage this risk.

Wildlife Health Australia commissioned a report on the risk of WNS fungus introduction to the Australian cave dwelling bat populations in Australia. This assisted the development of protocols, established for our strategies to prevent the introduction of the fungus into Australia and New Zealand.

WNS information and protocols were extensively advertised via the Congress website, emails, e-Bulletins, Congress Circulars and social media, including a letter from the Australian Government CVO.

The Field Excursion leaders and excursion participants were advised of WNS procedures. The overall strategy was informed by overseas experience and was to minimize caving equipment and clothing from WNS infected Northern Hemisphere infected areas into Australia or New Zealand. This was to only bring the minimum required equipment as advised for each excursion and that should include only clean or new equipment and clothing.

Where possible loan equipment was provided for each excursion. We preferred participants bring and use new footwear only. Excursion leaders had a supply of approved decontamination wipes for all delicate equipment and disinfectant for boots. Participants reportedly complied willingly with our advice for equipment and clothing for the Field Excursions.

Several papers on WNS were presented at the Congress. In particular, Rick Toomey of Mammoth Cave, USA explained the protocols and experience of WNS arriving at the Park and the consequences for Management and visitors. Wildlife Health Australia sponsored a Veterinary Science student to survey Congress participants about their knowledge of the white-nose syndrome and its affects on cave dwelling bats.

The Congress provided a focus for the ASF, the Australian Government's Department of Agriculture and Wildlife Health Australia to frame policies to protect the cave dwelling bats of Australia and New Zealand from introduction of the fungus, currently and into the future.

The ASF and ICS Organising Commission especially thank Nicholas White for his dedicated contribution towards managing this complex issue.

**Congress Venue and Facilities**

The 17<sup>th</sup> ICS was held at the Penrith Panthers Events Centre which incorporates a world class conference facility, sporting club and entertainment complex. The Events Centre (conference facility) is located on the second level and includes 5 session/lecture/function rooms with theatre style seating capacities ranging from 130 to 400 people. The 5 session rooms

lead off from a large open pre-function/break-out area which was utilized for several social functions during the ICS. There was also a spacious separate Board Room which was utilized by the UIS Bureau and ICS organizing committee for their meetings. The venue also operates two other separate function rooms but these were not required for the congress event.



Outside view of the Penrith Panthers Events Centre, the venue of the 17<sup>th</sup> ICS. The place has been selected due to its proximity to the UNESCO World Heritage-listed Blue Mountains and the Jenolan Caves, an ideal base for technical tours during the congress.



© <http://penrith.panthers.com.au/event-centre/>

The Pre-Function Area (374 m<sup>2</sup>) was used for cocktails, conferences break-out and brief ceremonies, like the hoisting of the UIS flag at the beginning of the event (right), and informal parties (below).



José Ayrton Labegallini



Nivaldo Colzato



José Ayrton Labegallini



José Ayrton Labegallini

Reception desk in the entrance hall.



Above, a general view of the Boardroom (78 m<sup>2</sup>), especially reserved for the UIS general activities (below) and meetings (left).



Nivaldo Colzato

Arrigo Cigna (UIS Past President, Italy), signing certificates.



José Ayrton Labegallini



José Ayrton Labegallini

EVAN THEATRE: Kyung Sik Woo, UIS President, talking at the opening session.

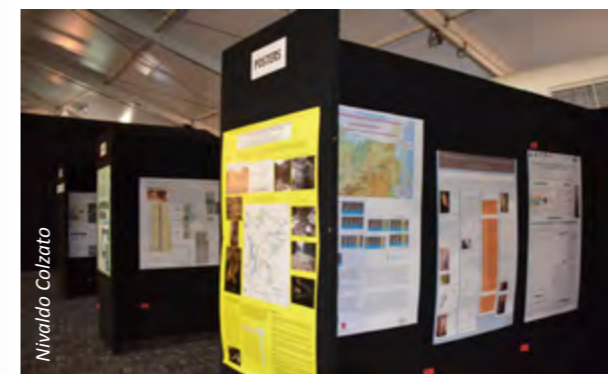
A large entertainment theatre (Evan Theatre) with state of the art audio visual equipment and tiered seating capacity for 800 people is located on the ground floor level of the venue and proved ideal for the opening session and plenary presentations held on the Monday morning, 24 July.

The registration desk was located in the foyer of the main Panthers Events Centre.

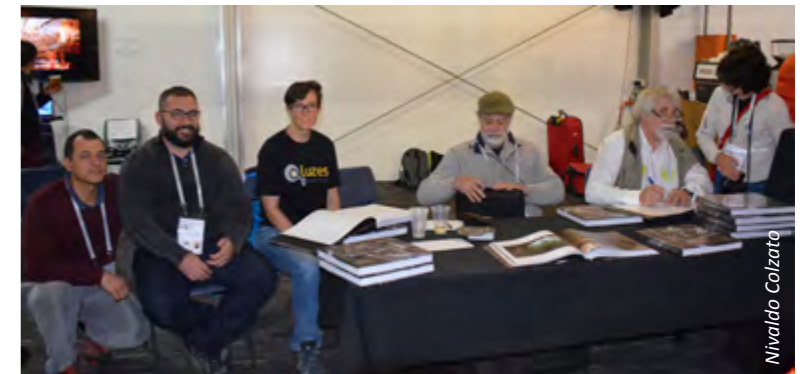
The adjacent large 1,875 m<sup>2</sup> Panther's Exhibition Marquee provided the ideal exhibition hall space for vendors and exhibitors to display their exhibits

and merchandise. This exhibition pavilion also housed the guest feature exhibit (*Sixteen Legs: Enter the Cave Exhibition*), the display of poster presentations, cartography and art competition entries and was the venue for the speleo sports competitions.

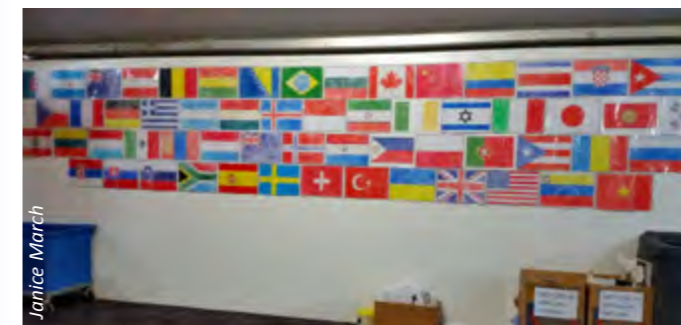
Several book launches were conducted and the congress banquet was also held in this exhibition hall at the end of the ICS. An extra session room was provided in the exhibition marquee which allowed for a total of up to six ICS sessions to be run concurrently.



Nivaldo Colzato



Nivaldo Colzato



Janice March

AT THE EXHIBITION MARQUEE: Display of poster presentations, cartography and art competition entries, and book launches, among other activities.



Janice March



Nivaldo Colzato

The venue provided a wide range of food options on site for meals to suit all tastes and participants who signed up for temporary membership of

the Panthers club enjoyed a 10% discount on their purchases of food and beverages.



At the venue, food and drinks to suit all tastes.

## Exhibitors and Vendors

Sixteen exhibitors and vendor stalls were located in the exhibition hall where vendors and caving associations presented displays of their activities and offered a range of speleological literature and materials. A White Nose Syndrome (WNS) display stand and a display of the UIS special book prize entries were located in the main conference centre.

### List of exhibitors and vendors:

- Weidmüller
- Aspiring Safety Products
- Speleobooks
- Jenolan Caves Historical and Preservation Society (JCH&PS)
- Fort Stanton Cave Study Project
- 3D mapping of the Worlds Largest Caverns

- Crawford Hydrology Laboratory
- Institute of Karst Geology, China
- Caves of Siberia
- Australian Speleological Federation / Karst Conservation Fund (ASF / KCF)
- Sydney Speleological Society publications (SSS)
- Confederation of Caving and Canyons, Spain (CEC)
- German Speleological Federation (VdHK)
- French Federation of Speleology (FFS)
- National Speleological Society, USA (NSS)
- Bookend Trust (Guest exhibit, *Sixteen Legs: Enter the Cave exhibition*)
- International Union of Speleology (UIS book award entries)
- Wildlife Health Australia and Faculty of Veterinary Sciences–University of Melbourne (WNS stall)



## Exhibitors and Vendors of the 17<sup>th</sup> ICS



### Invited Guest Feature Exhibition:

- **Sixteen Legs: Enter the Cave Exhibition**

The ICS Organizing Commission invited the not for profit Bookend Trust (Pennicott Foundation) to bring their showcase travelling exhibition, **Sixteen Legs: Enter the Cave Exhibition**, to the ICS as a guest feature exhibit.

The exhibition is set around the Tasmanian cave spider (*Hickmania troglodytes*) and tells a story about caves, cave biology and the work behind finding out what makes this unique subterranean environment work.

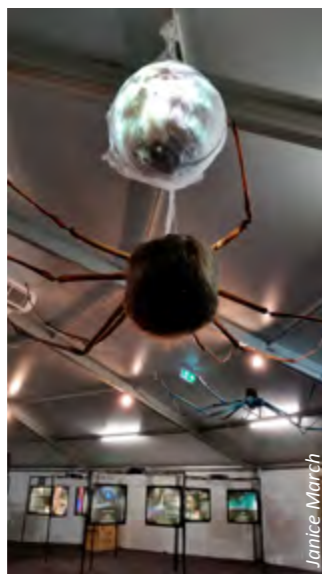
### The Exhibition consisted of:

(i) 64 giant backlit panels representing a photographic journey into the science and conservation management of caves and groundwater, including the biology of the caves and the spider,

(ii) woven within these is the outline of the dark fairy-tale telling of this story, designed in collaboration with Queensland artist Jodee Taylah and international best-selling author Neil Gaiman;

(iii) the exhibition also included art works inspired by the exhibition, and

(iv) 2 giant mating spider replicas with 18 foot leg-spans on a giant web suspended from the roof of the exhibition area, and a giant egg-sac pulsating with spider young.



*The 2 giants mating spider replicas for the showcase travelling exhibition "Sixteen Legs: Enter the Cave Exhibition"*

## Publications

In accordance with UIS protocols for ICS's the 17<sup>th</sup> ICS Organising Commission published the required ICS publications prior to the Congress.

Three ICS Circulars were produced in electronic format and circulated to email contacts and posted to the ICS website: Circular 1 (July 2015), Circular 2 (July 2016) and Circular 3 (May 2017).

Publicity materials in the form of eBulletins and Facebook postings were produced.

Excursion Field Guides with excursion details and karst area description were produced for each pre and post-ICS field excursion with a hard copy in A5 size format provided to all excursion participants.

The Conference Handbook (program guide) was produced in hard copy A4 format and provided to all Full ICS Registrants in their congress satchel. The Handbook consisted of 166 pages of text which included general conference information, venue maps, the detailed session program timetable, a list of poster contributions and the basic (short) abstracts of presentation contributions.

The peer-reviewed written extended abstract contributions were published digitally in two volumes of the Congress Proceedings. The ICS Proceedings, totaling over 860 pages of text, figures and pictures, were provided to all Full ICS Registrants on a USB flash drive in their congress satchels, avoiding the need to transport the two volumes of bulky Proceedings home on flights or to arrange package and



**CONFERENCE HANDBOOK (program guide):** Produced in hard copy A4 format and provided to all Full ICS Registrants in their congress satchel.

postage at registrants own personal expense. Printing of hard copies is expensive in Australia.

Due to some unavoidable circumstances and some delayed submission of contributions, coupled with the need to have the Proceedings available prior to the ICS, several paper presentations were missed from the Proceedings. A revised complete version of the Proceedings has been compiled and is to be made available for download from the 17<sup>th</sup> ICS website when completed. An email will be sent to all participants when Edition 2 is available on the website. Hard copies will not be provided but the revised edition will be available in both screen and print ready pdf. If a printed copy is required registrants can arrange this at their own expense at cheaper overseas rates and save postage costs from Australia. The pdfs of Edition 2 will be provided for upload to the Karst Information Portal.

## Congress Program - Scientific

The scientific program was opened on the Monday morning 24 July in the Panther's 'Evan Theatre' with a traditional acknowledgement of the indigenous first Australians by the ICS President and a 'Welcome to Country' by a local indigenous representative. The program session official opening was performed by the Honourable, Mr Shayne Mallard as a Member of the NSW Legislative Council and representative of the NSW Government.

### These official proceedings were followed by three invited plenary lectures:

**i) Australian Karst - Caves in an Ancient Land**, Associate Professor John Webb – Latrobe University, Melbourne (VIC),

**ii) The Contribution of Cave Sites to the Understanding of Quaternary Australian Megafauna Records**, Dr Liz Reed – University of Adelaide (SA), and

**iii) Cave Diving in Australasia**, Ken Smith (SA) – Cave Divers Association of Australia.

The scientific program was run over 5 days and divided into 21 thematically different session streams. Many of the streams included more than one session, with each chaired by a separate session convener. Session conveners were invited from notable Australian and international Congress participants.

The organisers thank all the session chairs who assisted so willingly. Presenters were allotted 20 minutes for a presentation, including questions and

answers. Digital presentations were uploaded prior to each session. With the exception of a couple of small technical issues with audio visual facilities and the delayed arrival of a couple of the presenters the whole week long program ran closely in accordance with the schedule. Session Chairs exercised good discipline in supervising the oral presentations' schedule.

Contributions to the program included some 250 oral paper presentations and 60 posters presentations.

### List of sessions were as follows:

- **Archaeology and Paleontology in Caves**
- **Speleological research and activities in artificial underground**
- **Australasian caves and karst**
- **Biospeleology, evolution, ecology and threats**
- **Karst and caves in carbonate rocks, salt and gypsum**
- **Cave climate and paleoclimate record of the global change**
- **Cave monitoring workshop**
- **Exploration and cave techniques**
- **Extra-terrestrial caves and karst**
- **Geomicrobiology of cave and karst environments**
- **History of speleology and karst research**
- **Cave mineralogy**
- **Protection and management of karst, education**
- **Modelling in karst and cave environments**
- **Karst, pseudokarst and caves in other rocks**
- **Sustainable development on karst**
- **Speleogenesis**
- **Speleothem research**
- **Karst and Cave Survey, Mapping and Data Processing**
- **Volcanic caves**
- **Other topics (including areas with very small numbers of papers)**

A number of UIS Departments, Commissions and Working Groups organized meetings during the week of the Congress to discuss topics relative to their areas of interest and activities. Several international speleological federations also held meetings during the ICS.

## Congress Program – Salons

The traditional variety of competitions were organized and judged in conjunction with the ICS. The Art, Cartography and Photography Salons were judged by teams of independent judges with expertise in those areas. Winners were announced at the ICS banquet held on the Friday evening of 28 July 2017.

**Photo Salon – Coordinator, Brian Evans**

A total of 350 photo entries from 24 photographers with awards going to:

**• BEST IN SHOW**

Winner: **Chris Howes** - Bat flight from Deer Cave, Mulu



**• CAVERS' CHOICE**

Winner: **Norman R. Thompson**  
Crystaline lily pads, Grotta Gualtiero, Italy



Second: **Phillippe Crochet & Annie Guiraud**  
Droplets on aragonite needles, France



**A – CAVERS IN ACTION**

Winner: **Chris Howes**  
The Bridge Cave streamway, Wales, UK



Highly Commended: **Chris Howes**  
Crossing the river in Clearwater Cave



Highly Commended: **Phillippe Crochet & Annie Guiraud**  
Mystic vision, France



**Photo Salon – Coordinator, Brian Evans**

**A – CAVERS IN ACTION**

Second: **Greg Le Couteur**  
Garden of Edam



**B – BUGS, BEASTS OR BIOLOGY**

Winner: **Garry K. Smith**  
Hanging by a thread, Tasmania



Second: **Phillippe Crochet & Annie Guiraud**  
A nice place to sleep when you are a bat



**C – CAVES AND KARST FEATURES**

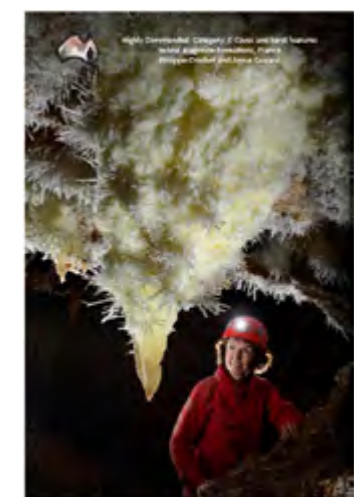
Winner: **Chris Howes**  
Bat flight from Deer Cave, Mulu



Equal Second: **Phillippe Crochet & Annie Guiraud**  
Mystic vision, France



Equal Second: **Phillippe Crochet & Annie Guiraud**  
Yellow aragonite formations, France



## Photo Salon – Coordinator, Brian Evans

### D – DREAMED, FANTASY OR SURREAL

Winner: **Garry K. Smith**

*Below the forest*



Second: **Garry K. Smith**

*Exploration of earth's hidden gem*



### E – STORY SERIES

Winner: **Phillippe Crochet & Annie Guiraud**

*3N Cave: an Iranian salt cave*



### E – STORY SERIES

Second: **Phillippe Crochet & Annie Guiraud**

*Let it drop*



### F – FUN AND HUMOUR

Winner: **Phillippe Crochet & Annie Guiraud**

*Beware of the cave monster*



Second: **Garry K. Smith**

*Back out in fresh air*



## Art Salon

Coordinator, **Jill Rowling**

Three entries were selected for an award:

First: **Jill Rowling**

*Dragon Cave entrance – knitted shawl*

Second: **Bob & Charlotte Ridges**

*Caving splendour - quilt*

Third: **Jill Rowling**

*Stalagmites and stalactites – woven textile*

## Congress Program – Speleo Olympics

The Speleo Olympics competition consisted of an individual 30 m timed prusik event and an obstacle course team event. Both events were run in the exhibition hall and attracted much interest from competitors and onlookers. Details of the results are:

### OBSTACLE COURSE

Winning team: **Team Boricuaje, Puerto Rico - 8:29 minutes**

### 30 m PRUSIK WINNERS

Mens: **Greg Thomas, Australia - 1:36.9 minutes**

Womens: **Luana Dwyer, Australia - 2:14.1 minutes**

Over 55 years: **David Butler, Australia - 1:49.6 minutes**



General view of the structure prepared for the Speleo Olympics competition (above), and one competitor in action (right).



## Cartography Salon

Coordinator, **Phil Maynard**

A total of 20 map entries submitted for judging with awards going to:

Winner: **Bob Richard**

*Leandras Cave*

Highly commended: **Pat Kambesis**

*Barrel Cave*

Highly commended: **Tudor Tamas**

*Krem Muhabon Cave*

## Congress Program – UIS General Assembly

Two UIS General Assemblies were convened. The first was held on Sunday, 23 July, where reports on the activities of the Bureau, UIS Departments, Commissions and Working Groups were presented, along with a presentation from the next ICS bid proposal ([See the Minutes on page 102](#)).

The second UIS General Assembly was held on Saturday 29 July ([See the Minutes on page 103](#)), where the new UIS Bureau was elected as follows:

### President:

George VENI (USA)

### Vice-President for Operations:

Efraín Mercado (Puerto Rico)

### Vice-President for Administration:

Zdeněk MOTYČKA (Czech Republic)

### Secretary General:

Fadi NADER (Lebanon)

### Treasurer:

Nadja ZUPAN HAJNA (Slovenia)

### Adjunct Secretaries:

Nivaldo COLZATO (Brazil)

Mladen GARAŠIĆ (Croatia)

Bernard CHIROL (France)

Satoshi GOTO (Japan)

Gyula HEGEDUS (Hungary)

Tim MOULDS (Australia)

Baerbel VOGEL (Germany)

### Honorary Presidents:

Paolo Forti (Italy)

Andrew Eavis (United Kingdom)

The next host country for the 18<sup>th</sup> International Congress of Speleology was confirmed as Lyon, France in 2021.

## Congress Program – Social

A busy social program was organized for registrants and their partners during the ICS as follows:

### Sunday 23 July

**Welcome cocktail party:** attended by over 400 congress participants

### Monday 24 July

**Opening of the guest feature exhibit "Sixteen Legs: Enter the Cave Exhibition"** - Set in the exhibition hall, a showcase travelling educational exhibition of caves, cave biology and the work behind understanding this unique environment. Brought to the ICS by the not for profit organization, Bookend Trust.

**Special Donors Dinner** - Held in a local restaurant and attended by 29 participants with guest speaker Steve Milner who captivated everyone with tales of the explorations of the Nullarbor cliffs spanning South Australia and Western Australia.

**French Party** - Organized by the French Federation of Speleology (FFS) for invited guests.

### Tuesday 25 July

**Book launches:** presented in the exhibition hall by 5 authors.

**Special screening of the world acclaimed Sixteen Legs documentary** - A film about the sex life of the Tasmanian cave spider, Hickmania troglodytes, the last of an old Gondwanan lineage of spiders, nearest relatives are found in South America.

### Wednesday 26 July

**Exhibition hall opened to the local general public:** This was an opportunity for the Congress to interact with the local Penrith community by opening the exhibition hall displays and Sixteen Legs guest feature exhibition on the Wednesday evening to the general public.

**Aussie Night Markets** - Held adjacent to the exhibition hall on the Wednesday evening, this food market added to the local flavor of the ICS.

**UIS party** - organized by the UIS Bureau for invited guests.

### Thursday 27 July

**Australia Night party and auction:** Fancy dress party in an Australian theme together with an auction of donated goods to raise money for the ASF's Karst Conservation Fund. A presentation on the next ASF Biennial Conference to be held in Tasmania, Australia was also featured.

### Friday 28 July

**ICS Banquet:** attended by 345 participants with entertainment provided by a local indigenous dance group performing traditional songs and dances. Salon competition winners were announced and presented with awards. The UIS also announced the traditional UIS Prizes ([see special article on page 42](#)) and a highlight was the singing and guitar playing by outgoing UIS President, Kyung Sik Woo, who contributed to the friendly atmosphere on the night.

## 17<sup>th</sup> ICS Banquet



Nivaldo Colzato



Phillip Crochet and Annie Gehard



Phillip Crochet and Annie Gehard



José Ayrton Labegalini

## 17<sup>th</sup> ICS Banquet



José Ayrton Labegalini



José Ayrton Labegalini



José Ayrton Labegalini



Nivaldo Colzato



José Ayrton Labegalini



José Ayrton Labegalini



Phillip Crochet and Annie Gehard



José Ayrton Labegalini

## Congress Program – Accompanying Partners

A program of interesting excursions were organized for registrants' accompanying partners not attending the ICS. Four separate day trips were run for up to 21 participants during the week:

**Monday 24 July** - A visit to the local Featherdale Wildlife Park to enjoy close-up encounters with a range of native Australian mammals, birds and reptiles.

**Tuesday 25 July** - A day beside Sydney Harbour,

including a walk across the iconic Sydney Harbour Bridge, lunch at the Museum of Contemporary Art, followed by a visit to the magnificent Sydney Opera House and Royal Botanical Gardens.

**Thursday 27 July** - A train trip to Katoomba in the heart of the World Heritage listed Blue Mountains National Park to visit Scenic World and the Aerial Skyway or just take in the fantastic panoramic views.

**Friday 28 July** - A historical tour of the nearby city of Parramatta and its commercial area, rich in history and a significant part of colonial New South Wales.

## Congress Field Excursions Summary

The 17<sup>th</sup> ICS offered a range of pre and post-ICS excursions visiting varied karst and cave locations around Australia and New Zealand, endeavoring to provide a range of experiences to cater for the interests, budgets and styles of the people we anticipated would be coming to the ICS. In summary, a program of 27 pre and post-ICS excursions were prepared and offered to ICS participants.

Due to insufficient bookings 10 of these excursions were cancelled in January 2017, leaving 17 pre and post-ICS excursions being run to karst regions throughout Australia and New Zealand, attended by 198 participants. Special excursion field guides were prepared with excursion details and karst area description for each pre and post-ICS excursion; excursion participants each received a copy at the start of their field excursion trip.

In addition, four mid-week excursions were offered on the Wednesday (26 July) of the Congress. The Wednesday mid-week excursions were attended by 249 participants.

## Wednesday Congress Excursions

A tradition for a UIS International Congress is the mid-week excursions. The majority of participants on the mid-week (Wednesday) excursions visited the world-renowned Jenolan Caves for a variety

of activities and tourist cave tours. This caused much anxiety for the Committee in the planning stages. Multiple buses had to get to Jenolan on a very narrow road which imposed severe time constraints. It was also not unknown for the road to be cut by snow in mid-winter; even worse if the group were stranded at Jenolan and unable to return to their Congress accommodation.

As there was no possible Plan B it was a matter of hoping for the best. As it turned out the Congress had perfect weather for the week. So at a chilly 6:45 am on the Wednesday morning 149 of the 150 participants booked for the excursion boarded the 5 coaches and were away by 7:00 am. Once at Jenolan there was a very busy schedule for tours. There were three cello performances held in the Cathedral Cave as part of the program during the day. The staff at Jenolan did a marvellous job on the day, many taking holiday time off for this event.

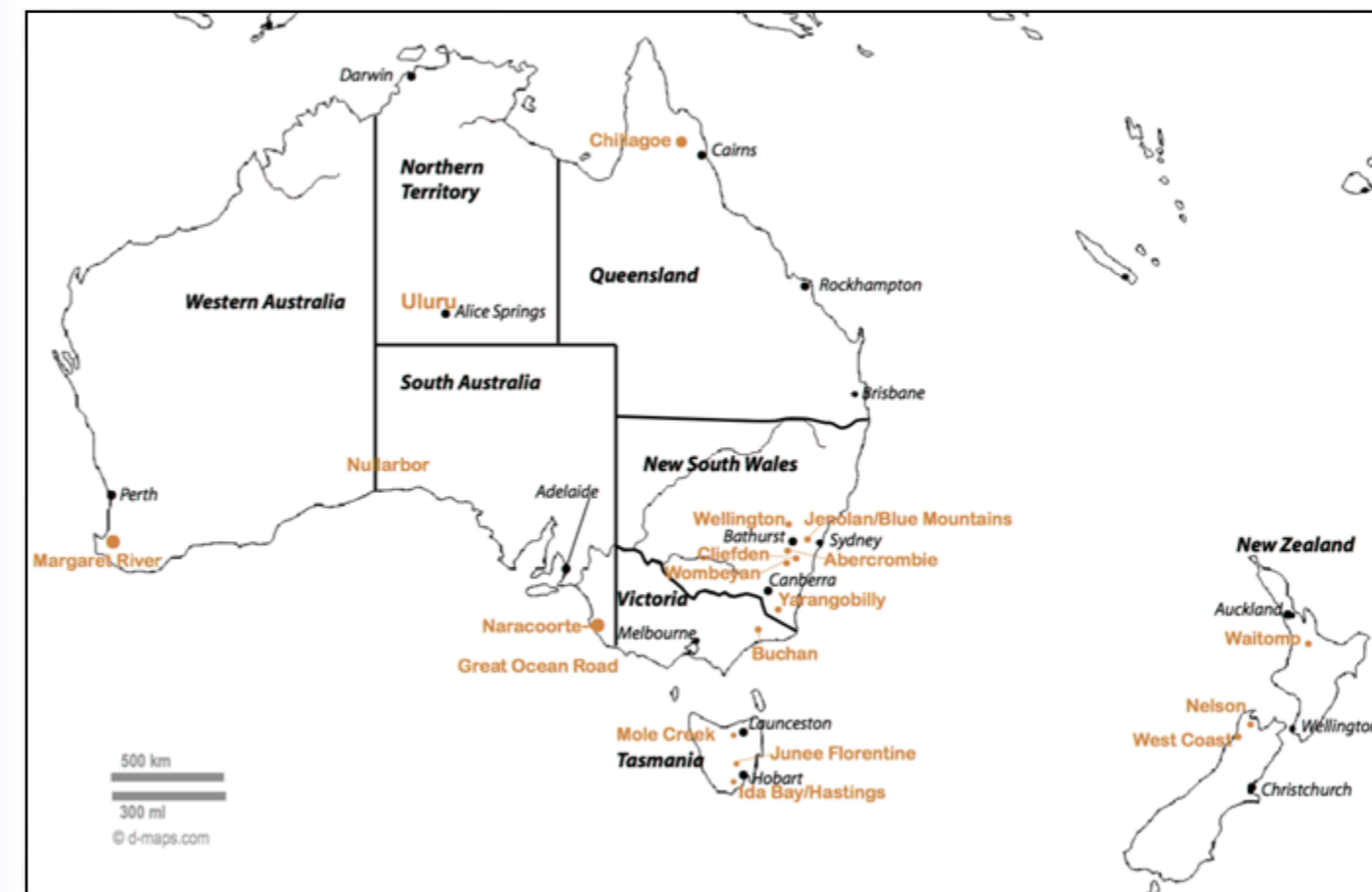
*(The person who missed the Jenolan trip advised that he was so excited about the trip that he had very little sleep the night before. He went to sleep on the train and missed the Penrith Station. When he finally arrived at Panthers he had to make do with the Excursion to the Australian Museum).*

Alternative Wednesday excursions included a bush walk in the Blue Mountains National Park, a Blue Mountains dry canyon trip, or a visit to the Australian Museum in the centre of Sydney where a special program had been arranged for the Congress group. This is Australia's oldest museum and has an international reputation in the fields of natural history and anthropology.

## Pre and Post-ICS excursions

These were categorized and labeled with letters, 'B' signifying pre (before) Congress and 'A' signifying post (after) Congress. With the ICS convened during the Southern Hemisphere winter, a

number of ICS attendees unfortunately contracted a strain of influenza during the Congress, affecting some post-ICS field excursion participants and limiting their caving enjoyment. Some of those affected were still unwell for up to 2 – 3 weeks after the Congress.



List of excursions offered for the 17<sup>th</sup> ICS.

### B – PRE-ICS EXCURSIONS

Below are listed all field excursions which were run pre-congress:

#### B1.MR - Margaret River Caving Caves, beaches and forests

Western Australia

The Margaret River region is about a three hour drive south of Perth, the capital city of Western Australia, and is well-known for its forests, world-class caves, beaches and wineries. While some caves require SRT to enter them, most of the caves are horizontal in nature and can generally be completed in a few hours, so several caves can be visited each day depending on individual trip leaders and participants. Excellent opportunities and time was available for photography in many caves, and also above-ground. The caves are dry so participants do not get wet underground.

The caves are syngenetic in nature, being formed at the water table during the lithification process of calcareous dunes, and are relatively young (<500,000 years).

Basic vertical caving and ladder skills only were required. Accommodation was provided at a caving club hut in the forest with basic facilities. *The trip ran from Monday 17 July to Friday 21 July (5 days).*



Wednesday Congress  
Excursion to Jenolan Caves





### B5.YB - Yarrangobilly Caves

**Kosciuszko National Park**  
New South Wales

Caves at Yarrangobilly are among the longest, deepest and most spectacular in south-eastern Australia, renowned for their extensive and delicate decoration. This rugged limestone area is hidden within tall eucalypt forests of Kosciuszko National Park in southern New South Wales, and is the premier sub-alpine caving area on the Australian mainland.

Participants visited a representative selection of wild caves in the area, experiencing large, highly decorated chambers, underground rivers, fossil stream passages, a few short crawls as well as scrambles over and through large breakdown blocks. Special trips were also arranged into the show caves in the area.

All participants were accommodated in the historic and recently refurbished Caves House, an ideal base for relaxation and enjoying nature, including close-up views of local wildlife. After caving, participants were able to take a hot shower, relax in the comfortable lounges of Caves House, swim in the nearby open-air thermal pool, look for platypus in the river or watch kangaroos from your bedroom

window or from the verandahs. Yarrangobilly is a beautiful, natural area above and below ground. This field excursion catered for all levels of caving experience. Leaders for this trip were experienced cavers from the Metropolitan Speleological Society Inc (MSS) and the Canberra Speleological Society Inc (CSS) who are very familiar with the area.

*The trip ran from Monday 17 July to Saturday 22 July (6 days).*



Caves House Yarrangobilly, excursion accommodation

### B6.SKC - A taste of Australia

**The karst and caves of southern New South Wales**

A seven day excursion visiting a variety of cave, karst and other geological sites in southern New South Wales, including an interpretive guided walk, beautiful beaches, spectacular coastal scenery, the Blue Mountains World Heritage Area, geology of the Sydney basin, three regional cities and more.

There were lots of places to experience the Australian bush and its unique vegetation and wildlife. Included was an overnight at the Wombeyan Caves Reserve where participants saw kangaroos and other wildlife close to their accommodation. Bungonia Caves, Wee Jasper Caves and Abercrombie Caves were

also visited. Participants enjoyed some outstanding scenic coastal sites near Wollongong and visited the World Heritage listed Blue Mountains.

This trip was suited to those wanting to see a variety of bush, cave, mountain and coastal environments in southern NSW. There was plenty of walking and activity but no need to be super fit.

No crawling or helmets were required on the cave trips and there was plenty of time for sight-seeing and photography.

*This trip ran from Monday 17 July to Sunday 23 July 2017 (7 days).*



### B8.CC - Cliefden Caves and Fossil Site

New South Wales

With over 60 recorded caves, all on private property, Cliefden Caves is one of the most cavernous limestone areas in New South Wales. The caves are extremely well decorated in places and some contain rare blue speleothems. Cliefden Caves have been ranked among the 70 most significant fossil sites in Australia. The caves and fossil sites have recently been listed on the NSW State Heritage Register, which affords the caves a level of statutory protection.

All the caves visited were horizontal with the

exception of one which involved a short ladder pitch just inside the entrance. Some squeezing was involved and a couple of the caves had areas with lots of mud.

Five participants joined this excursion, including from USA x 1, Papua New Guinea x 1, Netherlands x 1 and Australia x 2. Accommodation was provided in rustic disused shearers' quarters on one of the private farms.

*This was a short 4 day excursion from Friday 14 July to Monday 17 July.*



ACCOMMODATION



MAIN CAVE



MAIN CAVE

Photos by  
George Veni



BOONDEROO CAVE



TRAPDOOR CAVE



TRAPDOOR CAVE



TAPLOW MAZE CAVE



TAPLOW MAZE CAVE



TRAPDOOR CAVE

### B9.PK - Palaeokarst and per-ascensum caves in the Lachlan Fold Belt

New South Wales

This was a trip for serious scientists. The participants visited and discussed at length classic in-cave palaeokarst localities and ancient multi-phase caves at Wellington, Borenore, Jenolan, Wombeyan and Bungonia. The excursion involved mostly show caves with some off-track visits and easy caving at Bungonia.

The trip ran over 8 days from Sunday 16 July to Sunday 23 July.



### B11.HS - Highlights of Sydney

New South Wales

This excursion was all about enjoying the fabulous sights and interesting places in the centre of Sydney, before the start of the Congress. There was a full day at Taronga Zoo, one of Sydney's top attractions, including a guided tour of the Australian animal section and the opportunity to see the Birds of Australia presentation. The ferry trip to Taronga Zoo and return allowed participants to enjoy Sydney Harbour from the water including close up views of the Sydney Opera House.

Arriving at Taronga Zoo, the group took the aerial Sky Safari ride high over the Zoo grounds to the top entrance. From the gondolas there was a bird's-eye view of some zoo inhabitants. An expert guide lead everyone on the Australian Walkabout tour where participants discovered the fascinating world of the kangaroo, echidna, wallaby, koala, Australian birds and more. The wonder of a Blue Mountains sandstone gorge has been recreated at the platypus pools, where there are over 40 species of Australian animals and the 'dinosaur tree'; the Wollemi Pine.

After this tour there were options to decide which sections of the zoo you want to see. There were expert talks available throughout the day, including the popular seal show and the Australian bird

show which is held in an amphitheatre overlooking the harbour.

The second day included a visit to the Australian Museum to see the First Australians Galleries and Mineral Exhibition, followed by a visit to Hyde Park, the Botanical Gardens, a walk around the Opera House and a visit to the historic Rocks area.

This was a two-day excursion with participants organising their own accommodation and transport to the meeting places. There were many accommodation options in the central Sydney area for participants.

This trip was run on Friday 21 July and Saturday 22 July.



### B13.CHC - Chillagoe Caves

Far north Queensland

The trip commenced from the tropical coastal city of Cairns where there was the option to spend a few days before the trip enjoying the adjacent World Heritage area of the Great Barrier Reef and Wet Tropics.

There was an early morning mini-bus pick-up for transport to Chillagoe followed by two and a half days of caving at Chillagoe and return mini-bus transport to Cairns on the third afternoon. Chillagoe is a small outback mining town of about 300 people, about 230 km west of Cairns.

The Chillagoe tower karst comprises nearly 600 documented entrances and the caves vary in difficulty from easy mostly horizontal to difficult SRT. Very few are straight walk easy 'walk-ins'. There was usually some climbing, use of wire ladders and squeezing and crawling in dust (as it is the dry season). The more difficult caves required use of specialist technical equipment and needed a reasonable standard of fitness. Most cave visits took between four to six

hours allowing a second cave to be visited or other activity. The caves feature a variety of life including echo-locating swiftlets, bats, snakes and insects.

There was a wide number of caving options and participants were split into groups according to level of proficiency, fitness and caving experience.

Trip commenced Tuesday 18 July and concluded Thursday 20 July (3 days).



### B15.JC - Jenolan Caves

New South Wales

Jenolan Caves is believed the world's oldest, known and dated, open cave system. The cave network has over 40 kilometres of multi-level passages with more than 300 entrances and 11 show caves. The caves are located within the Jenolan Karst Conservation Reserve in the Blue Mountains World Heritage Area and are about a three hour bus trip west of the ICS venue. The caves are set in a picturesque valley surrounded by limestone cliffs, spectacular arches and caves.

The group traveled by private bus from Penrith with stops en route to Jenolan at some lesser known Blue Mountains areas. Caving included some of Jenolan's first tourist caves (now used for adventure tourism), exploring some of the larger underground systems and a day walking the karst.

The final morning was set aside for participants to visit the show caves. Entrance fees were not included in the excursion price. Participants who wished to see more of the show caves could elect to skip

other parts of the caving program.

A moderate level of fitness was required. An average day of activities involved six to eight hours of mostly horizontal caving. Two of the days had a morning then afternoon activity and participants could choose to only complete the morning portion of the day if preferred. Some of the caves have reasonably confined spaces.

The trip ran from Tuesday 18 July to Saturday 22 July (5 days).



## CAVING ACCIDENT – PRE-ICS

Although not an ICS excursion, a private caving trip was organised to Tasmania for a couple of ICS registrants before the start of the Congress. A female Swiss caver broke a leg after a fall in a vertical multi pitch cave. This

resulted in a dramatic 12 hour rescue and night evacuation by helicopter to hospital followed by an emergency operation. The injured caver was able to attend the last couple of days of the Congress on crutches.

## A – POST-ICS EXCURSIONS

Listed below are all excursions run post-Congress:

### A3.CC - Cliefden Caves and Fossil Site New South Wales

This trip was an extended version of the pre-congress Cliefden field excursion. Mostly horizontal caves were visited with one vertical option offered to participants. Some squeezing and mud was involved. Day visits were arranged to other nearby karst areas of Walli Caves and the Borenore Karst Conservation Reserve. There was also a visit on one afternoon to the Age of Fishes Museum in nearby Canowindra with its impressive displays of Devonian fish fossils, discovered in the local area.

With over 60 recorded caves, all located on private property, Cliefden Caves is one of the most cavernous limestone areas in New South Wales. The caves are extremely well decorated in places and some contain rare blue speleothems. Cliefden Caves have been ranked among the 70 most significant fossil sites in Australia. The caves and fossil sites have recently been listed on the NSW State Heritage Register, which affords the caves a level of statutory protection.

Cave visits ranged from 2 hours to 4 hours,

which allowed for a cave to be visited in the morning and another in the afternoon on most days.

This excursion was joined by 9 participants, two from Greece, two from Slovakia, three from USA and two from Australia. Accommodation was provided in the rustic disused shearers' quarters on one of the private farms in the area.

*This trip was run over 8 days from Monday 31 July to Monday 7 August.*



### AA4.JC - Jenolan Caves New South Wales

Jenolan Caves is believed the world's oldest, known and dated, open cave system. The cave network has over 40 kilometres of multi-level passages with more than 300 entrances and 11 show caves. The caves are located within the Jenolan Karst Conservation Reserve in the Blue Mountains World Heritage Area and are about a three hour bus trip west of the ICS venue. The caves are set in a picturesque valley surrounded by limestone cliffs, spectacular arches and caves.

The half-day journey to Jenolan Caves included stops at the famed lookouts at the Three Sisters and Govetts Leap. The excursion included four days of wild caving trips, with an optional vertical caving trip on one of the days which required a good level of stamina and rope skills to participate. The Wednesday was a free day for participants to pursue activities as they choose (show caves, walking, photography and just enjoying the tranquil Jenolan environment at your own pace). There were options for participants to choose horizontal trips each day. A few squeezes

and a little mud was involved on some trips. Participants could opt out of any days planned activities to relax or visit a guided show cave (at additional expense).

Accommodation was provided at the dormitory style backpacker lodge (the Gate House), which had bunk beds with four or six persons per room. Participants had the option to upgrade their accommodation at their own cost.

*The trip ran from Sunday, 30 July till Saturday 5 August (7 days).*



### A5.CHC - Chillagoe

Far north Queensland

Photos by George Veni

This was a repeat of the pre Congress excursion, commencing from the tropical coastal city of Cairns.

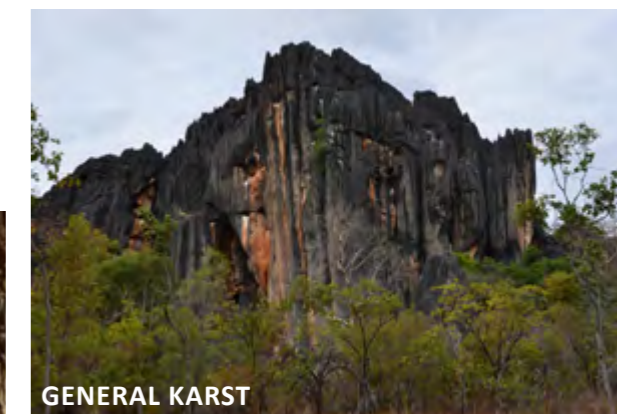
There was an early morning mini-bus pick-up for transport to Chillagoe followed by two and a half days of caving at Chillagoe and return mini-bus transport to Cairns on the third afternoon. Chillagoe is a small outback mining town of about 300 people, about 230 km west of Cairns.

The Chillagoe tower karst comprises nearly 600 documented entrances and the caves vary in difficulty from easy mostly horizontal to difficult SRT. Very few are straight walk easy 'walk-ins'. There was usually some climbing, use of wire ladders and squeezing and crawling in dust (as it is the dry season). The more difficult caves required use of specialist technical equipment and needed a reasonable standard of fitness. Most cave visits took between four to six

hours allowing a second cave to be visited or other activity. The caves feature a variety of life including echo-locating swiftlets, bats, snakes and insects.

There was a wide number of caving options and participants were split into groups according to level of proficiency, fitness and caving experience.

*This trip commenced Tuesday 1 August and concluded Thursday 3 August (3 days).*



GENERAL KARST



TREZKINN CAVE



TREZKINN CAVE



ROCK ART

### A7.NP - Nullarbor Plain, Bunda Cliffs

South Australia

This excursion was for pre-approved skilled vertical cavers only. The Nullarbor Plain is one of the world's largest single exposures of limestone and is about 200,000 square kilometres in area. It is remote, flat, almost treeless, semi-arid country, has no towns and only a handful of small settlements with very limited facilities.

In recent years, the Cave Exploration Group of South Australia (CEGSA) has conducted a series of

speleological expeditions at the Bunda Cliffs, on the Great Ocean Bight, at the edge of the Nullarbor Plain; a 173 kilometre long cliff-face reaching up to 100 metres above the sea. A major expedition was planned for August 2017, following the 17<sup>th</sup> ICS, involving bush camping in a very remote area. The camp was located close to the cliffs, approximately 100 kilometres east of the border between South Australia and Western Australia and approximately 1200 kilometres from Adelaide, the nearest major city.

The expedition involved descending the cliffs to enter unexplored target caves; close to sea level and mid-cliff. The caves above sea level are usually dry; around 18° C. When working underground, the caves are a very pleasant temperature. Cotton-type overalls are generally adequate for caving.

The descent of the cliffs can be hazardous, but safe when undertaken with due care. A very high degree of vertical caving competency was essential and references to confirm this competency were required.

Members of the expedition, were expected to fully and enthusiastically contribute to the discovery, exploration and record-keeping (including photography and mapping) of caves which had never been explored before. There was little shelter from the weather at the camp site and conditions proved uncomfortable at times. Participants on the excursion were exposed to strong winds and cold overnight temperatures.

The Bunda Cliffs are in an area of outstanding natural beauty and there was always opportunity for photography, bird watching, whale/dolphin/seal watching, etc. There was also an opportunity to engage with the local indigenous community on the expedition.

*The expedition was run from Sunday 30 July till 12 August (14 days).*



### A9.NC - Naracoorte Caves, fossils, and the Great Ocean Road

*South Australia and Victoria*

This excursion was a high-end, all-inclusive excursion to give participants an insight into the Naracoorte Caves World Heritage Site, including ongoing research and provide an opportunity to meet some of the researchers working there and view their laboratories, plus get access to view the extensive fossil collections held at the South Australian Museum.

The field component included visiting fossil sites within the caves at Naracoorte and karst and volcanic features in the broader Limestone Coast region. The excursion also included a scenic tour along the Great Ocean Road, one of the world's great scenic coastal drives.

Leaders Steve Bourne and Dr Liz Reed have been extensively involved in research and management at Naracoorte Caves for several decades. Liz is the Chief Scientist at Naracoorte Caves. The nine participants came from Germany, Italy, New Zealand and Australia. At the South Australian Museum participants were shown some of the extensive fossil collection. At the University the complicated thermo-luminescence dating process was explained. It is no wonder that the tests cost \$ 2000 each.

Participants then drove to Naracoorte for a 3 night stay. Two days were spent being shown the many fossil deposits in the caves. There are hundreds of years of work ahead of the palaeontologists. Many

are the same megafauna that are found at Broken River, Queensland.

A highlight of the trip was the mystery dinner. The area is an up and coming wine producer much like the nearby Coonawarra. Trip participants were driven in the dark into a vineyard and then walked down rough stone steps into a hole in the ground. This led to about 100m of passage that opened into a chamber set up for a banquet. This venue is used by the major winemaker Treasury Estates for VIP dinners. The winemaker described the areas wines which we sampled. On another night, overseas visitors were thrilled to see a very large Echidna (Australian spiny anteater) at their accommodation.

Then it was off to Mt Gambier to look at the famous sink holes, a mecca for cave divers. Overnight was at Warnambool. The final day was the tourist drive along the scenic Great Ocean Road to end up in Melbourne.

*This trip was run from Monday 31 July to Friday 4 August (5 days).*



### A10.UL - Uluru and Central Australia

*Northern Territory*

This trip was provided by a commercial outback camping and touring company Wayoutback Australian Safaris, a highly reputable company providing tour services for National Geographic. Bookings and payment for this optional tour were made direct with the tour operator.

The splendid monolith of Uluru (formerly known as Ayers Rock) was a feature of the trip. In keeping with the wishes of the local indigenous people, who own the land, our group did not climb the rock. As well there was a visit to the cultural centre at Uluru to learn about local traditions.

Kata Tjuta, Curtain Springs, Kings Creek Station, Watarrka (Kings Canyon), Redbank Gorge, Glen Helen and the Henbury Meteorite Crater were all visited. Participants slept in outback camps, enjoying campfires and star-filled skies.

There was a visit to the Oak Valley Aboriginal Community to see ancient rock art paintings and carvings and gain a personal experience of the understanding the owners have of this remote environment. This was an acti-

ve trip, with plenty of walking, and with good vantage points to enjoy sunset and sunrise at Uluru.

*The tour ran from Sunday 30 July to Friday 4 August (6 days).*



ULURU, WORLD'S LARGEST MONOLITH



KINGS CREEK STATION

<http://www.kingscreekstation.com.au/>

### A11.WV - Waitomo and Volcanoes

*North Island, New Zealand*

New Zealand cavers offered three consecutive excursions that linked together, so you could choose to select any one, two or all of the excursions.

The first trip was based at Waitomo for four days and then traveled south down the North Island, via the volcanic area of Taupo–Ruapehu to Wellington. From Wellington the ferry connected participants with the second excursion on the South Island. The cost of this excursion included group transport. There was a range of accommodation and meal options in Waitomo so participants could choose what suited their style and budget. The local organisers were well-acquainted with all the local options and were happy to assist participants with accommodation options.

Two options were available on each of the first four days (Tuesday to Friday). These included either wild caves or show caves/karst walks.

*The trip was run from Monday 31 July to Sunday 6 August (7 days).*



VOLCANIC AREA OF TAUPO-RUAPEHU



WAITOMO CAVES

## A12.NL - Nelson

South Island, New Zealand

Nelson was the second of the three NZ excursions and followed on from the A11.WV (North Island) excursion. You could either join this excursion as an extension of A11.WV or make your own way to Nelson to meet on the evening of Sunday 6 August. The Nelson excursion linked to the third New Zealand excursion (A13.WCK).

The Nelson excursion introduce participants to the different Nelson karst areas and a variety of caves to suit their ability. The excursion began with one night in Nelson, followed by two nights on Takaka Hill and two nights in Golden Bay. There were talks and presentations introducing the Nelsons karst.

The Nelson karst contains the deepest and longest cave systems in New Zealand. Every year a significant amount of new caves and passages are discovered. Due to it being winter it was not practical to visit any alpine cave systems. The Takaka Hill is the closest karst to Nelson, approximately one hours drive away. Takaka Hill marble contains extensive cave systems to a depth of 400 metres. Golden Bay is a

further one hours drive to the west of Takaka Hill. Golden Bay has diverse karst areas ranging from sub-tropical forest, to coastal and steep hill country. The limestone caves here tended to be horizontal.

The excursion commenced with one night in Nelson, followed by two nights on Takaka Hill and two nights in Golden Bay. Up to three options were available each day with participation dependent on peoples skills and physical capability for the excursion.

*The trip was run from Sunday 6 August to Friday 11 August (6 days).*



## A13.WCK - West Coast Caves and Karst

South Island, New Zealand

This was the third of a series of post-congress excursions in New Zealand that were run consecutively. The excursion followed on from the A12.NL (Nelson) excursion and you could either join this West Coast excursion as an extension of A12.NL or make your own way to Nelson to meet on the morning of Friday 11 April.

Participants visited the Paparoa National Park, New Zealand's largest limestone reserve, with original vegetation cover over most of the limestone landscape. Options included caving trips, surface karst walks and interpretation tours. There were talks and presentations to introduce the West Coast caves and karst. Examples of the proto-karst landscape of the dry, eastern South Island were visited on the Tuesday.

The tour was based in Charleston until the morning of Monday 14 August, before

relocating to the town of Kumara for the final night. Options were offered for trips to the classic caves of the Charleston and Punakaiki areas (four to six hours underground each day); or surface karst, interpretive walks and sight-seeing of the exciting West Coast landscape.

There was also the option for a tour of the cave used by Nor West Adventures, which could suit most people. The final days trip from Kumara to Christchurch included time to stop and investigate the Flock Hill syncline and its intriguing boulder-field.

*This trip was run from Friday 11 August to Tuesday 15 August (5 days).*



## Cancelled Excursions

Excursions which did not proceed due to insufficient bookings included:

**B2.MC - Mole Creek caving and Cradle Mountain, Tasmania**

**B3.IB - Vertical Caving at Ida Bay, Tasmania**

**B4.JF - Vertical Caving in the Junee-Florentine, Tasmania**

**B7.BM - Blue Mountains Canyons, New South Wales**

**B12.BCK - Buchan Caves and Karst Victoria**

**B10.WO - Wombeyan Caves New South Wales**

**B14.AC - Arts and Caves Tasmania**

**A1.MC - Mole Creek caving and Cradle Mountain, Tasmania**

**A2.SKC - The karst and caves of southern New South Wales**

**A6.ND - Nullarbor Diving, Western Australia**

## Conclusion

The organization of the 17<sup>th</sup> International Congress of Speleology in Penrith (western Sydney) Australia involved several years of planning by a dedicated team of volunteers from around Australia. This process commenced on 12 March 2012 with a **Notification of Intention of proposal to Host IUS Congress of Speleology in 2017** (letter of intent to UIS President) from the Australian Speleological Federation Inc (ASF). This was followed by a formal bid proposal presented at the 16<sup>th</sup> ICS in Brno, Czech Republic in July 2013 by an Australian delegation (ICS Bid Committee representatives). The bid proposal was subsequently accepted at the UIS General Assembly meeting of world delegates, held in Brno on 28 July 2013 (Second Session).

The Australian Speleological Federation, as the host organization, established an internal Commission (the 17<sup>th</sup> ICS Organizing Commission) to handle all aspects of the ICS organization and conduct under a set of Terms of Reference. The organization of the 17<sup>th</sup> ICS closely followed the UIS **'Instructions and Recommendations for Organisers of International Congresses of Speleology (ICS).'**

We can confidently state from feedback received during and since the conclusion of the event, the 17<sup>th</sup> ICS was a success. In terms of membership, the ASF may be considered a small national speleological federation on world standards, so it is particularly noteworthy that we acknowledge the dozens of volunteers who worked extremely hard and contributed to this success. All aspects of

the ICS organization, technical and social program and field excursions met all expectations and was well appreciated by all participants.

A full and rich program of events was provided during the week long Congress, together with a varied and exciting range of field excursion opportunities for registrants, before, during and after the ICS. These ICS's convened by the UIS are arguably the most significant singular world event which contributes much to the furtherance of speleology on the world stage through the presentation of the latest discoveries and scientific findings at each ICS and the 17<sup>th</sup> ICS has successfully continued this tradition.

We again thank all our partners, sponsors and supporting organizations for their generous financial, material and in-kind support and contribution towards the success of the Congress.

As President of the 17<sup>th</sup> ICS Organizing Commission and on behalf of the ASF let me convey a final thank you to all those who personally contributed voluntarily to the assessment and review of papers and poster contributions, to the many field excursion coordinators and their support teams, and in particular, to all members of the ICS organizing team who over the past few years have sacrificed tens or hundreds of hours of personal time at the expense of their own activities and their families for the success of the 17<sup>th</sup> ICS.

# UIS PRIZES 2017

By Nivaldo Colzato (Brazil),  
Chairman of the Organizing Committee  
UIS Adjunct Secretary  
[nivaldo@karinaetiquetas.com.br](mailto:nivaldo@karinaetiquetas.com.br)

Every four years the UIS gives prizes at the International Congress of Speleology (ICS) for specific accomplishments at the congress or during the period since the previous congress. These prizes are non-competitive and not related to the cartographic, photographic, athletic, or other competitions at the congresses.

The UIS Prizes were introduced by the Organizing Committee of the 11<sup>th</sup> ICS in China (1993) and formally accepted by the UIS Bureau at the 12<sup>th</sup> ICS in Switzerland (1997). Since then the organization was in charge of Julia James (Australia, *UIS President 1993-1997*). For the edition 2017, during the UIS annual meeting in Dalesbridge, UK, August 2016, the UIS Bureau elected a new Committee, which counted also on the collaboration of Julia. It was composed by:

- **Nivaldo Colzato** (Brazil)  
*Chairman, UIS Adjunct Secretary*
- **Jean-Pierre Bartholeyens** (Belgium)  
*UIS Adjunct Secretary*
- **José Ayrton Labegalini** (Brazil)  
*UIS Past President*

The first action of the new committee was to create the email address [uisprizes2017@uis-speleo.org](mailto:uisprizes2017@uis-speleo.org) in order to concentrate all electronic communication related to the process.

## CATEGORIES

The next step was to define the categories for awards as well as the general rules for nominations and judgment. For the UIS Prizes 2017, four categories were considered:

### 4.a – The most significant discovery/exploration

Judged by a committee of international speleologists familiar with exploration throughout the world, this category could have also an Honorable Mention, if more than one nomination was outstanding enough.

According to internal agreement among the three members of the Organizing Committee, Jean-Pierre took care personally of this category, since the nominations until the selection of experts for judgment.

### 4.b – The most significant publication about caves or a karst-related topic

Scientific and/or technical publications were considered for this prize.

### 4.c – Special Book

Prize for books that don't have special scientific contents, however are important speleological publications.

### 4.d – Poster Prize

Prize for the best poster displayed at the ICS, divided in two categories, as follows:

- **Best Scientific Poster** – Judged by a Scientific Committee composed of international experts.
- **Caver's Prize** – The best poster in the opinion of the visitors to the poster display. The poster could be about any cave or any karst-related topic. Entries in the cave photographic and surveying competitions were not considered for this prize.

## NOMINATIONS

When categories and rules were defined, a letter of invitation for nominations was published on the UIS Website as well as the Speleo 2017 e-Bulletin.

Besides that, it was sent by email to the whole mailing list of the UIS, which covers all the Commissions and Working Groups, National Associations and publications of the 54 Member Countries, National Delegates, and Regional Federations.

All recipients were also encouraged to distribute the letter to their whole personal contacts in their countries and their local communities. The intention was to have the letter accessed by a largest possible number of speleologists and cavers all over the world.

For the category 4.a (*"The most significant discovery/exploration"*) we received two nominations.

Regarding to the categories 4.b (*"The most significant publication about caves or a karst-related topic"*) and 4.c (*"Special Book"*) besides the nomination by the internet a copy of the printed book was requested to be mailed to Julia James's home address in Sydney, Australia.

The author(s) agreed that the books would be exhibited during the 17<sup>th</sup> ICS and would be sent to the UIS Library in La Chaux-des-Fonds, Switzerland, after the event.

A total of 16 nominations were received for the above categories. As three of them were not "physically" present during the congress, only thirteen were considered for the prize.

For the category 4.d (*"Poster Prize"*) we didn't have nominations but only judgment by the Scientific Committee (*"Best Scientific Poster"*) and votes by the visitors of the 17<sup>th</sup> ICS (*"Caver's Prize"*).

This category was represented by 60 entries, although 40 was actually displayed for appreciation and judgment.

## REVIEW AND JUDGMENT

Regarding to the Judging Committee, an international team of renowned scientists of the karst studies, also involved with the national speleological associations in their countries and having close relationship with the UIS itself was invited to take care of the long work of reviewing each nomination, applying marks and judge them due to select the winners.

All seven scientists who formed the Judging Committee were present at the congress. The majority belongs to the Scientific Committee of the UIS.

The criteria adopted for review as well as the logistics that would permit all scientists to have direct access to all nominations was discussed and defined among the scientists themselves and the Organizing Committee.



The thirteen books displayed on the table for free appreciation by the general public as well as the Judging Committee.

For the categories 4.b and 4.c (*Books*), the following items were considered:

- Overview & Organization
- The adequacy of the images and text
- Graphic quality (design)
- Originality
- Content
- Relevance of the publication
- Writing quality
- Scientific quality
- Interdisciplinarity
- Readability for the non-specialist reader
- Importance for the Speleology
- General mark for the publication

Each scientist received paper forms with the above 12 items where they could rate each one on a scale of 1-10, 10 being the best, as well as to write down personal comments about the publication itself.

The organization of the 17<sup>th</sup> ICS provided a table where the 13 books were displayed for the appreciation by the general public as well as direct access of the scientists at the most appropriate time for each one. The table was located at the entrance of the main hall of the event, just beside the UIS Meeting Room.

Regarding the category of posters (4.d), the scientists also evaluated the entries according to their availability throughout the event.

As we had only two nominations for the category of discovery/exploration (4.a) and the committee elected by Jean-Pierre considered both as outstanding, they just decided the winner and the other was awarded as Honorable Mention.

To align all the whole work of organization and judgment of the UIS Prizes 2017 three meetings were held during the congress at the UIS Room, when all involved people could express their opinion about the general process and the scientists were able to discuss about the "candidates" before to elect the winners.



## RECOGNITION

The main recognition delivered to the winners was the official certificate of the UIS signed by the outgoing UIS President Kyung Sik Woo (*Republic of Korea*). Besides that, some of the awarded also received money, as described further on this report.

## PRESENTATION

The awarding ceremony of the UIS Prizes 2017 was on Saturday 29<sup>th</sup> July during the Closing Banquet of the 17<sup>th</sup> ICS, in Sydney, Australia. The presentation was led by Nivaldo Colzato and illustrated by a sequence of slides summarizing the categories and all awarded nominations.

The certificates and the money of the two prizes that didn't have representatives during the ceremony were delivered after the congress.



From left to right: *Kyung Sik Woo, Julia James, Nivaldo Colzato and Jean-Pierre Bartholeyns during the presentation of the UIS Prizes 2017*

# UIS PRIZES 2017

## FINAL RESULT

### Category 4.a The most significant discovery/exploration

#### Perovo-Speleo Team,

from Moscow, Russia

Represented by *Pavel Demidov*

for the last 4 expeditions to *Veryovkina Cave*  
(*West Caucasus, Abkhazia, Gagra Region*).

The depth of the cave was 420 m and now it is 1.832 m.

**It is actually the second world's deepest cave!**

**Recognition:** Certificate and 200 Euros in cash.

**Note of Editor:** since August 2017 *Verëvkina* became the world's deepest cave - see special article on Page 49)

For this category 4.a, an Honorable Mention went to **Krzysztof Starnawski and his team**, for the diving work done in *Hranická Propast (Hůrka u Hranic National Reserve, Czech Republic)* on September 27<sup>th</sup>, 2016, when reached 404 meters, making the cave the deepest known underwater cave on Earth.

The discovery was made using a remotely operated underwater vehicle, with Starnawski personally preparing the route for the robot down to approx. -200 m and then deploying it from around -60. This success came after many years of systematic exploration and technical effort.

**Recognition:** Certificate

### Category 4.b The most significant publication about caves or a karst-related topic

#### Microbial Life of Cave Systems

Annette Summers  
Engel, editor



**Recognition:**  
Certificate, 100 Euros  
in cash and a book  
*FIFTY YEARS OF THE  
UIS-1965-2015*, by  
José A. Labegalini.

*Annette Engel,  
editor of the  
book, receiving  
her prize from  
Kyung Sik Woo.*



### Category 4.c - Special Book

#### CAVES Exploring New Zealand's Subterranean Wilderness

Marcus Thomas  
and Neil Silverwood,  
authors



**Recognition:** Certificate, 100 Euros in cash and the book *FIFTY YEARS OF THE UIS-1965-2015*, by José A. Labegalini.

*Marcus Thomas,  
one of the  
authors,  
during the  
Book  
Launching  
Ceremony  
of the 17<sup>th</sup> ICS*



For both categories 4.b, and 4.c, Honorable Mentions went to:

#### Guia de Boas Práticas Ambientais na Mineração de Calcário em Áreas Cársticas

Guidebook of Good  
Environmental Practices in  
the Quarrying of Limestone  
in Karst Areas

Luis Enrique Sánchez  
and Heros Augusto Santos Lobo,  
organizers



**Recognition:** Certificate



*Elvira Branco (Brazil), on the right,  
receiving the prize on behalf of the  
organizers of the Brazilian book*

and to

#### Reisen ins Unterirdische

Travelling into the  
Underground –  
A Cultural History of  
Cave Research in Austria  
through the Interwar Years in  
an International Context

Johannes Mattes,  
author



**Recognition:** Certificate



*Bernard Chirol (France), receiving  
the prize on behalf of the author,  
Johannes Mattes*

**Category 4.d**  
**Poster Prize – Caver's Prize**


- Analysis of scallops in Gomantong Caves, by GIS processing of 3D terrestrial laser scanner data - Joyce Lundberg et al., author.

**Recognition:**  
Certificate and 100 Euros in cash.

# Analysis of scallops in Gomantong Caves, by GIS processing of 3D terrestrial laser scanner data

Joyce Lundberg<sup>1</sup>, William Carroll<sup>1</sup>, Warren Roberts<sup>2</sup>, Donald A McFarlane<sup>2</sup>, Manfred Buchroithner<sup>3</sup>, and Guy van Renterghem<sup>4</sup>

<sup>1</sup> Carleton University, Ottawa, Canada; <sup>2</sup> The Claremont Colleges, California, USA; <sup>3</sup> Technische Universität, Dresden, Germany; <sup>4</sup> Koninkrijk Astridstraat, Dierce, Belgium



**Introduction**

Gomantong Hill (5°17' N, 118.06° E), Sabah, Borneo (Fig. 1) is an isolated hill of limestone, emergent from the sandstone plain of the Kinabatangan River (Fig. 4). It houses large relict phreatic caves (famous for huge populations of bats and swiftlets), Simud Hitam (or Black Cave), the lower-level tourist cave, and Simud Putih (or White Cave), the upper-level cave (Fig. 5).

**Research question**

Can we use GIS processing of 3D data from cave scallops to re-construct paleo-flow directions and thus former hydraulic gradient? How does this information elucidate speleogenesis?

**Methods**

- 3D data acquired using FRODO TLS, cm-scale resolution?
- Seven populations of fluvial scallops chosen (avoiding air scallops)
- Data extracted using SCENE LT software
- Point cloud data imported as ASCII points into ArcGIS
- In ArcGIS, digital elevation models, DEMs, produced for hillshade
- Colour-coded SLOPE maps produced (red = steepest slope)
- Cross sections produced
- End result is direction of asymmetry of scallops and thus flow direction
- Plotted onto survey, assessed in relation to regional geology

**Results**

3D output from SCENE (Fig. 2) shows cave morphology and allowed us to print a 3D model in plastic (Fig. 5) and select regions of clear scallops (e.g., Fig. 2).

GIS analysis of slopes (Fig. 4) clearly, and non-subjectively, reveals whether the scallops are asymmetric and the direction.

The cave is made up of dip tubes tilting downwards from entrances at ~22° and opening into large central passages (Figs. 3 and 5). Many surfaces, especially in the lower-level cave, Simud Hitam, are strongly modified such that the original scallops are destroyed. Scallops in the upper-level cave, Simud Putih, are generally better preserved (Fig. 2).

Paleo-flow direction could not be assessed for passages with no scallops, or with surfaces severely modified by biogenic activity<sup>1</sup>, (e.g., main chamber of Simud Hitam), associated condensation corrosion (e.g., Dul Tinobatang), or roof collapse (e.g., main chamber of Simud Putih).

Simud Putih has seven clearly distinct passages, five of which we could study (results shown as arrows in Fig. 5). Simud Hitam, largely made up of a complex and considerably modified chamber, has few clear passages and scallops could only be measured in two areas.

Results were surprisingly consistent:

- In all passages studied, scallop analysis indicated **flow outwards and upwards against dip**, i.e., all passages were left tubes, with no evidence of dip-and-left tube sequences typical of many classic caves!
- Flow was generally **towards the east** in all six of the higher-level passages and shifted more towards the north in the lowest-level outlet, the main entrance to Simud Hitam.

Thus the results indicate:

- that the **paleo-hydraulic gradient was strongly WEST – EAST**
- that regional **groundwaters rose from depth to flow into the limestone**
- a **distinct recharge source**

The absence of evidence of any vadose phase suggests rapid de-watering.

**Discussion**

Results were assessed in relation to the regional geological<sup>2</sup> and topographic setting (Figs. 4 and 7).

- ~300-m-thick Gomantong Limestones (Miocene)
- Gomantong Hill is one of several isolated carbonate reefal units surrounded by sandstones, mudstones, coal
- Exposed by post-Pliocene uplift and erosion

THEREFORE:

- Interpretation of paleo-hydraulic gradient as WEST to EAST is consistent with regional geological setting
- Rising water in all passages implies deep regional flow
- Non-ferrous rocks surrounding the isolated limestones may have acted as aquicludes, promoting artesian flow in the limestones
- Cave passages were already formed before complete exhaustion of limestones
- Speleogenesis probably occurred in last 2 million years since Late Pliocene uplift!

**Conclusion**

Measuring scallop asymmetry by traditional techniques (i.e. cave measurement or analysis of photographs) is limited.

Many scallops are simply not visible/accessible under normal lighting or cave conditions (e.g., too high, too dark).

In this example we have demonstrated how **3D laser scanning can revolutionize such studies**:

- It frees us from the limitations of in-field identification of features
- It facilitates study of technically-difficult and complex caves
- The extraordinary density of data allows rapid and accurate measurements not possible or too time-consuming in field

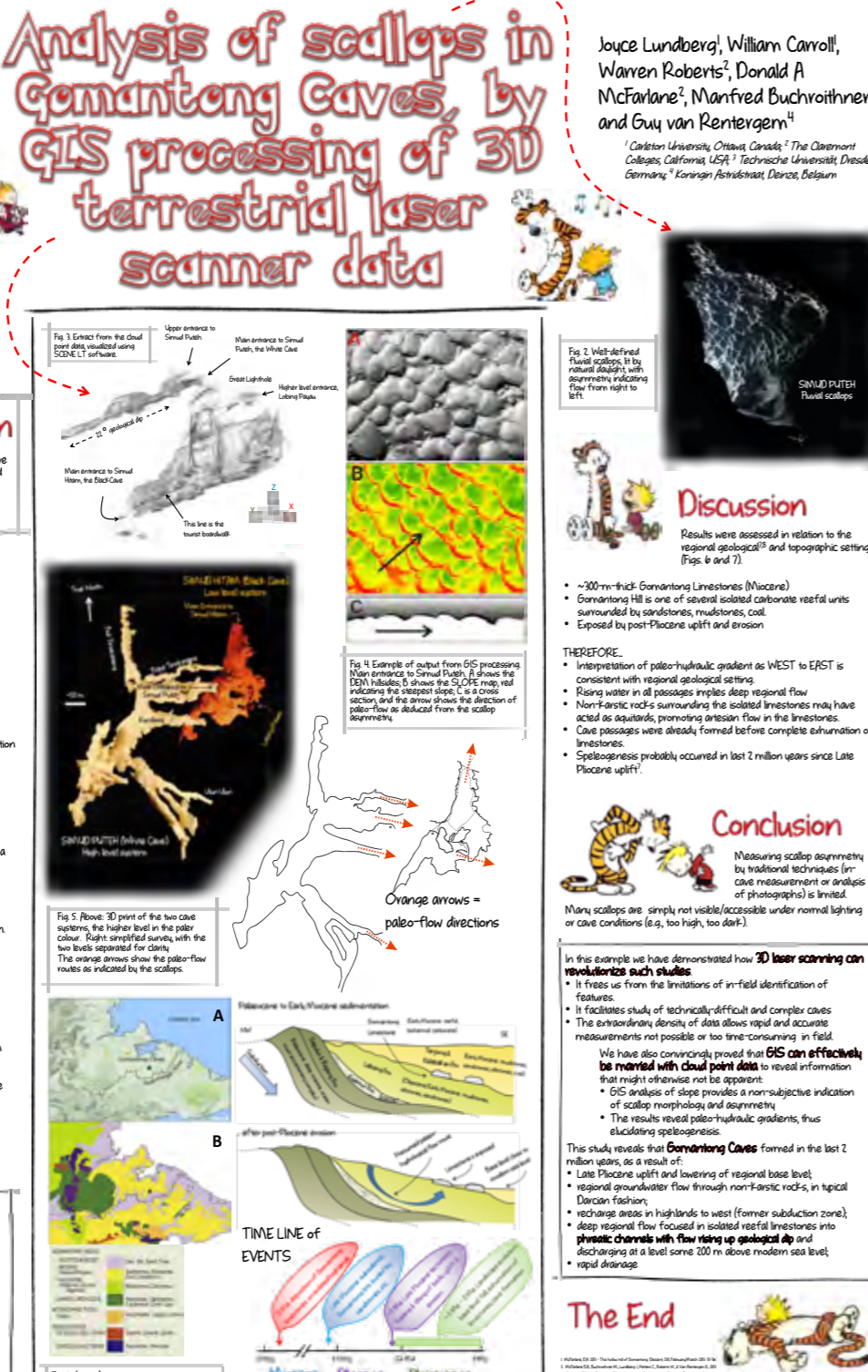
We have also convincingly proved that **GIS can effectively be married with cloud point data** to reveal information that might otherwise not be apparent:

- GIS analysis of slope provides a non-subjective indication of scallop morphology and asymmetry
- The results reveal paleo-hydraulic gradients, thus elucidating speleogenesis

This study reveals that **Gomantong Caves** formed in the last 2 million years, as a result of:

- Late Pliocene uplift and lowering of regional base level
- regional groundwater flow through non-ferrous rocks, in typical Darwinian fashion;
- recharge areas in highlands to west (former subduction zone);
- deep regional flow focused in isolated reefal limestones into **phreatic channels with flow rising up geological dip** and discharging at a level some 200 m above modern sea level;
- rapid drainage

**The End**



**Category 4.d**  
**Poster Prize – Best Scientific Poster**

- Iron-rich rocks: A little recognized habitat for troglofauna colonization - Gustavo A. Soares and Augusto S. Auler, authors.

**Recognition:** Certificate, 100 Euros in cash and the book FIFTY YEARS OF THE UIS-1965-2015, by José A. Labegalini.

# Iron-rich rocks: A little recognized habitat for troglofauna colonization

Gustavo A. Soares<sup>1</sup>; Augusto S. Auler<sup>1,2</sup>

<sup>1</sup> Centro Ciências e Meio Ambiente, Belo Horizonte, MG, Brazil; gsoares@ufop.edu.br; <sup>2</sup> Instituto de Geologia, Belo Horizonte, MG, Brazil; auler@ufop.edu.br



**Occurrence area of canga**



**Characteristics of canga**

- Superficial distribution on the relief
- Assorted clasts size and shape and composition of material
- High porosity level
- Important water recharge area for aquifers

**Troglobionts found in canga**



**Fauna Sampling Methods in canga**

**López & Oromí Trap**

- 90 cm long PVC pipe with 5 cm of diameter
- Drilled along the surface
- Into shallow holes
- Propylene-glicol
- Bait: liver

**Litter Bag Trap**

- Perforated bags with sterilized litter
- Inside small cavities

**Dripping Trap**

- Funnel that collects and directs de drip water to a plastic recipient

**Conclusions**

- Troglofauna occurs in interconnected voids within canga
- Araneae seems to be best sampled with Litter Bag Trap
- Coleoptera and Chilopoda seems to be best sampled with López & Oromí Trap
- Collembola, Opiliones and Pseudoscorpiones seems to be best sampled in Litter Bag Trap

**Bibliography**

**Special Thanks:**

CARSTE, Instituto de Geologia, GERDAU, AngloAmerican, Tanja Pipan e David Culver





Augusto Auler (Brazil, on the right), one of the authors of the poster awarded in the category "Best Scientific Poster"

## FINAL CONSIDERATIONS

The UIS Prizes 2017 Committee thanks:

- All of the authors and nominators of this issue.
- Denis Marsh, President of the Organizing Commission of the 17<sup>th</sup> ICS and his team, for the support and facilities provided before and during the event
- The seven scientists of the Judging Committee, for their great support, hard work and long time they spent during the event to review all the books and posters carefully in order to elect the best in each category. As a tradition in the organization of the UIS Prizes, the names of the judges are not mentioned in order to preserve the confidentiality of the judgments.
- Julia James, for collecting the books at home as well as for her great enthusiasm and commitment with the organization of the whole UIS Prizes process.

The issue 2021 of the UIS Prizes is planned to be announced in September 2020. Some suggestions for improvement were already received and noted with thanks. Any other ones will also be welcome.

We count on the participation of the whole international speleological community in order to highlight even more the next issue of the UIS Prizes, which final result will be presented on July 29, 2021, in Lyon, France, at the Closing Banquet of the 18<sup>th</sup> International Congress of Speleology. See all of you there.

### UIS Prizes 2017 Committee

- Nivaldo Colzato (Brazil) - Chairman, UIS Adjunct Secretary
- Jean-Pierre Bartholeyns (Belgium) - President of the UIS Karst and Cave Protection Commission.
- José Ayrton Labegalini (Brazil) - UIS Past President

## EXPLORATION

# THE DEEPEST CAVE IN THE WORLD

Seventeen years after entering the cave for the first time The Perovo-Speleo Team - together with The Perovo Caving Club - reached the spectacular mark of 2.204 meter below the surface, a new world record in caves.

By Pavel Demidov (Russia)

[demidov.speleo@mail.ru](mailto:demidov.speleo@mail.ru)

Credits of the photos to Dmitry Parshin

The entrance of Verëvkina (Veryovkina) Cave is situated on the southern slopes of the Arabika massive, on the Gagry ridge, in Abkhazia, only 5 km to the east of the Krubera-Voronya cave. It was found in 1968 by Krasnoyarsk cavers under the leadership of V. Vaskevitch. In 1986 cavers from The Perovo Caving Club, led by V. Reisner, explored it down to -420 m. We, The Perovo-Speleo Team, came to the cave for the first time in August 2000. During three expeditions we tried hard to push the final passage but in vain. In November 2002, after another unfruitful difficult attempt, we started exploring the upper parts. Finally, at a depth of 140 m we found a squeeze, which led us to the new part of the cave. During four more expeditions we struggled in this part. It was extremely narrow and has many dead ends. In July 2010, we stopped at a depth of 320 m. During four more expeditions, guys from the Perovo Caving Club explored it until, in August 2015, they came to

the head of the pit, unfortunately without a rope or equipment at -360 m.

The next five expeditions were a real race into the depths of the cave. Never before, had I imagine that the exploration could be so fast and amazing.

June 2016. A small group from The Perovo-Speleo Team, led by Konstantin Zverev, launched an expedition. The first new pit was 40 m deep. However, after it came the huge -155 m Babatunde shaft. Then other smaller ones. We ran out of ropes at the depth of 630 m. It was obvious that the cave had at last opened its passages for us and we had to prepare a bigger expedition.

In August 2016 our Perovo-Speleo Team together with The Perovo Caving Club launched its next expedition. We set a camp at -650 m, big enough for 12 people. One group worked on improving the rigging, the other one was responsible for laying the phone lines. So, after 800 m of the rope and 20 days



The arrow above shows the speleologists near the Verëvkina Cave on February 2017. About five meters of snow over the entrance awaited the group.

## UIS France HABE Prize 2017

The France Habe Prize is a speleological award managed by the Karst and Cave Protection Commission of the UIS and financed by the UIS budget.

The France Habe Prize helps to promote amongst the world speleological community karst and cave protection activities in an integrated ecological way.

The Jury of the France Habe Prize is composed by 2 members of the Scientific Committee of the UIS Department of Karst and Cave Protection and its President, Jean-Pierre Bartholeyns.

The presentation of the 2017 issue was held together of the UIS Prizes, and led by Jean-Pierre.

This year, five submissions were received. They concern a good variety of subjects connected to karst and cave protection.

The Jury congratulates Joerg DREYBRODT from Germany, Elena TROFIMOVA from Russia, Ciril MINAR from Slovenia and Luciano Emerich FARIA from Brazil for their investment in the karst and cave protection.

The France Habe Prize 2017 went to **Irawati JUNIAT, from Indonesia**, for her work **"Protection and management of karst regions in Indonesia"**

*Recognition: Certificate, 250 Euros in cash and the book FIFTY YEARS OF THE UIS-1965-2015, by José A. Labegalini.*



Irawati Juniata receiving her prize and exhibiting the Certificate



underground we reached the blocks at -1010 m. For the guys from The Perovo Caving Club it was the first expedition to such a depth, but they were learning fast from us.

We returned to the cave in October 2016. It was A Perovo-Speleo Team expedition. There were only seven of us, including two colleagues from The Caving Club. We passed the blocks very easily, in less than half an hour. At -1.050 m we finally found the place for the next camp and we built it. The exploration continued. We discovered at -1.150 m very beautiful pink siltstone meander. After it the cave dropped down again with a 200 m cascade and I found myself hanging on the last piece of rope under the cold waterfall at the depth of 1.350 m. It was time to get back home and do some more thinking.

In February 2017 we launched another expedition. Again, we did it with the small Perovo-Speleo Team and two representatives of The Perovo Caving Club. First of all, we needed a helicopter to get to the cave. Lucky for us, Apsny Heliski co. was operating a MI 8 Russian helicopter, probably the best one for our needs. It easily dropped us with all 500 kg of our cargo on the snowy slopes next to the mouth of the cave. Once again, we were lucky to manage to dig through the snow in just one day. There were five meters of snow over the entrance, but we got through it pretty fast. But then we made a mistake. In order not to make two trips to the surface, we carried three bags each. So, it took us almost 10 hours of hard work to get to the -650 camp. And I wouldn't advise anyone to repeat this trick.

As soon as possible, we moved to the -1.050 camp to continue exploration. The very first day we found the big chamber for a camp at -1.350 and set up there. Some 50 m lower there were some boulders. We just took all our courage and crawled through them,



The small entrance in August, during the summer. That's where the odyssey begins.

even though they seemed unstable at first. Then came the *Poltorashka* (One and a half in Russian) shaft of 115 m. On the bottom of this pit the cave already had a depth of 1.500 m. Some more passages and we got to the sump. The depth was about 1.700. "Tomorrow we are going to bring our drysuits from -1050" - my buddy Evgeny Kuzmin told me, but I already had this strange kind of confidence and answered him, that tomorrow we would bypass it. And with Konstantin Zverev we made it. After 50 m of crawling we started to rig again and stopped only at a depth of 1.832 m, before the semi-sump, which we could not pass without the drysuits...

This August it was The Perovo Caving Club, which first came into the cave. In the first phase of the expedition, they completed almost all the vertical work. Passing through the semi-sump at -1.832 the group rigged some pitches and installed the -1.900 base camp. They finally found rather big (or so we thought) horizontal part at -2.100 m and stopped at -2.151 m by one of the multiple sumps.

We, the Perovo-Speleo Team, came for the second phase of the expedition on the 14<sup>th</sup> of August. Upon arrival at the bottom part of the cave, we found a lateral part with spacious galleries. We installed the base camp at -2.100 m.



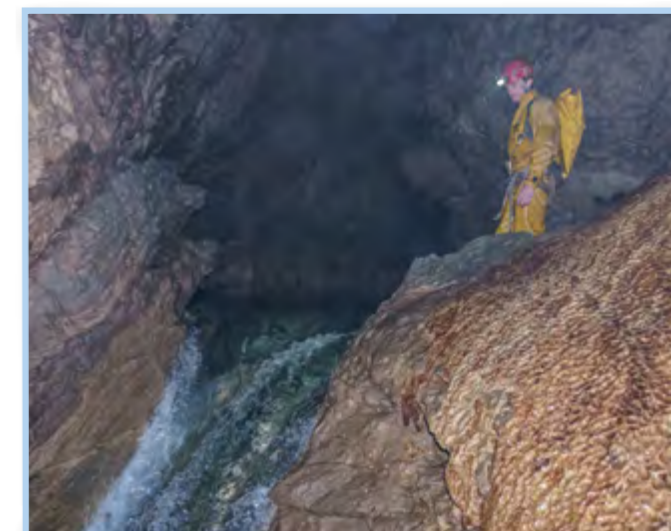
Details of the interior of the cave. At the bottom, at least 2 km of passages still to be surveyed.

The next two weeks were amazing. Two sumps, or what our colleagues believed to be sumps, proved to be lakes and we explored some parts behind them. We found as well a small part of a big river. It was 15 m long and had a discharge of 0.5 cubic meters per second. The creek flows out of the small lake and in 15 m drops down into a small cavity and we did not see it again anywhere in the cave.

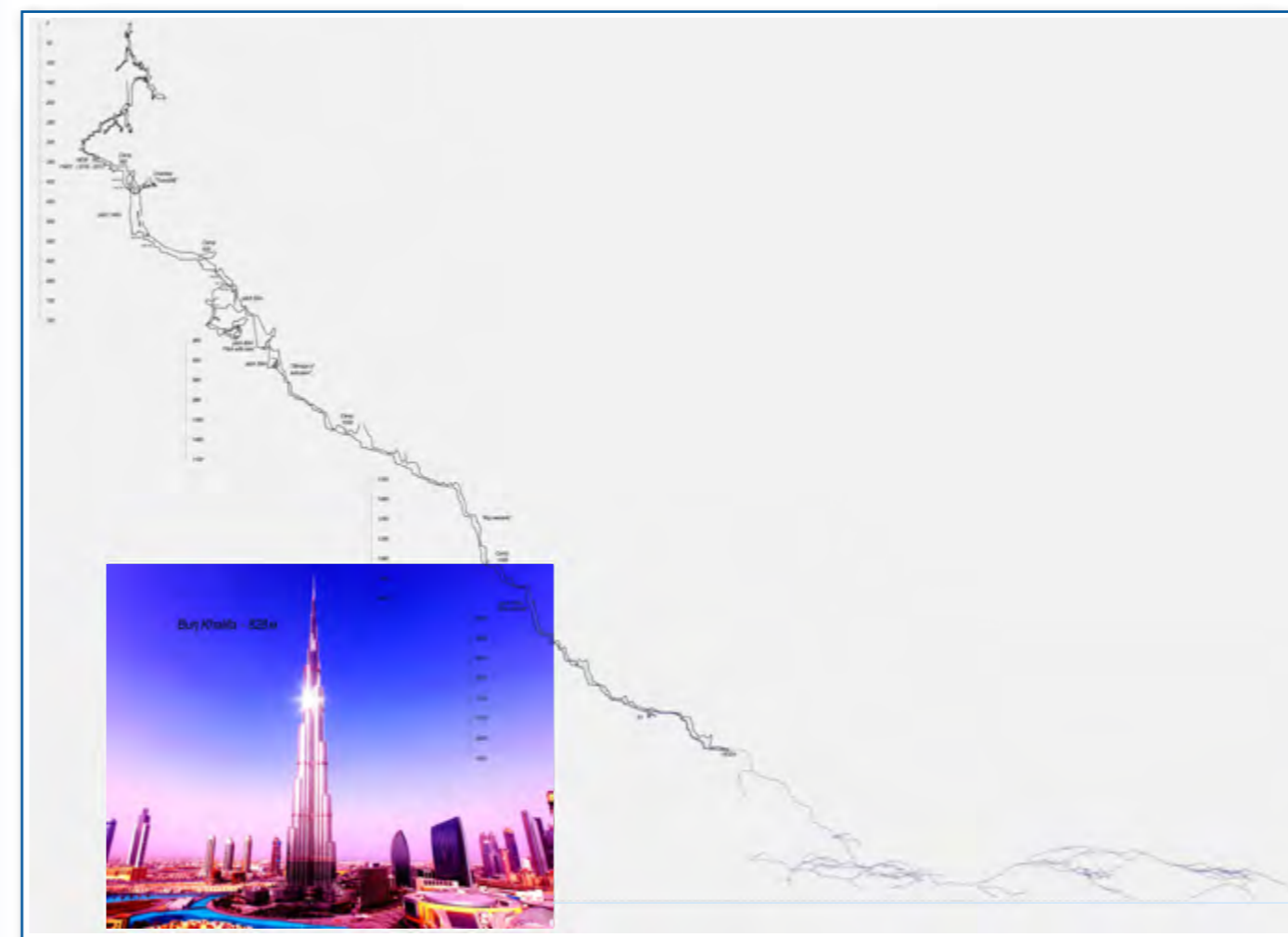
At the ceiling of southern part of the gallery, we found a large passage. After a 27 m climb, we entered a passage that led us to a chamber 30 m in diameter and, behind it, 6 kilometers of passages, most of them larger than 3 m.

The final sump that we found at the depth of 2.204 m is a 20 m pit that leads to a chamber of at least 20 m in diameter, flooded with blue water. In my opinion, we have at least two more km of unsurveyed passages only in this large system of galleries.

So, the end is a new beginning!



A 15 m long river (on the photo) as well as a 200 m high cascade are among the many other challenges faced by the speleologists during the exhaustive work of exploration.



Topographic profile of the Verëvkina Cave. The 828 m of the Burj Khalifa, in Dubai (the world's tallest building), is represented here in the same scale of the cave due to give the idea of how hard and impressive has being the work of the speleologists to reach the depth "so far" of 2.204 meters below the earth.

# LARGEST CAVE CHAMBERS IN THE WORLD - 3D Scanning Project

3<sup>rd</sup> October 2017

By Roo Walters (UK) - Long, Deep and Large Caves Commission of the UIS

[Richard.Walters@Commendium.com](mailto:Richard.Walters@Commendium.com)

Over the past 5 years a core team of Tim Allen, Andy Eavis and Roo Walters and a host of others have been mapping the world's largest cave chambers with a view to finding out which really are the biggest. This is a preliminary update for UIS with view to a full report being written in due course which shall investigate the findings and issues in more detail. The surveys were completed using state of the art LIDAR scanning tools and software allowing us to create 3D models of each chamber and calculate dimensions very accurately.

The results are in the table below.

A few points are necessary. We have ranked the chambers by volume. This is because, in our opinion, they are three dimensional spaces and therefore should be quantified by a three dimensional metric. Volume means the 'occupiable airspace' in the chamber and does not include the tiny cracks gaps between boulders. Further consideration has revealed that measurement by area, which until now, has been the

only means to reliably measure caves, has little meaning and is open to subjective assessment.

There are three possible means to by which to measure area. The traditional, Plan Area, which is a projection of the chamber onto a 2D map is unambiguous but is unrepresentative of the area of most of the chambers as they are almost never flat. As it is unambiguous, it is included in our table. A "Projected Slope Area" can be calculated by projecting the chamber onto a 2D slope that conveys the slope of the chamber, but in places like Cloud Ladder Hall, Hong Meigui Chamber and La Muneca there are several 'general' slopes to consider; how many slopes should we consider? Lastly there is the surface area of what might be considered the floor of the chamber, but there are subjective considerations as to what should be included as floor and where the boundaries between the floor and the walls might be.

Incidentally, ranking by any of the three measurements of Plan, Projected Slope and Floor surface

	NAME	CAVE	VOLUME	SURFACE AREA	PLAN AREA	COUNTRY	LOCATION
Nº			(x106m³)	(x103m²)	(x103m²)		
1	Miao Room	Gebihe	10.57	642.06	145.04	China	Ziyun County, Guizhou
2	Sarawak Chamber	Nasib Bagus	9.81	584.69	168.87	Malaysia	Mulu National Park, Sarawak
3	Cloud Ladder Hall	Quankou Dong	6.23	341.45	56.74	China	Tongzi, Wulong County, Chongqing
4	La Muneca Fea	Tlamanictli-TZ1	5.90	283.15	65.06	Mexico	Tepepan, Zaragoza, Puelba
5	Hong Meigui	Niu Ping Dong	5.25	252.72	58.34	China	Leye County, Guangxi
6	Ghar-e-Dosar	Ghar-e-Dosar	4.33	237.90	79.14	Iran	Mehrib, Yazd
7	Majlis al Jinn	Majlis al Jinn	4.11	273.57	59.41	Oman	Selma Plateau
8	Salle de la Verna	Reseau de la Pierre San Martin	3.65	187.37	43.15	France	Sainte-Engrace, Pyrénées-Atlantiques
9	Api Chamber	Clearwater System	2.89	202.39	42.73	Malaysia	Mulu National Park, Sarawak
10	Titan Chamber	Ban Dong Xinu - Chu Yan Dong	2.43	179.38	52.81	China	Doshan, Anlong County, Guizhou
?	Gran Sala GEV	Torca de la Carlista	2.14	282.12	84.31	Spain	Cantabria
?	Marco Polo	Nongluidong	1.44	239.07	45.69	China	Dinlong, Jinya, Fengshan District, Guangxi
?	The Big Room	Carlsbad Caverns	0.93	156.10	45.36	USA	New Mexico
?	Belize Chamber	Chiquibul Cave	0.81	167.83	46.38	Belize	Chiquibul

area, gives the same ranking order. Then there is also the area of the surface of the three dimensional shape of the chamber, The Surface Area, which is unambiguous. So, for now, this list contains the objective, unambiguous measurements of Volume, Plan Area and Surface Area. Of course this list is, the list today. Discussion still exists over whether or not, voids such as El Sotano De las Golondrinas (Mexico), should be included, but the author find that the majority of speleologists now agree that these are all chambers. In addition, there are already candidates, in Mexico, France, Slovenia and China for further study, so, such is the pace of modern cave exploration, speleologists can expect this list to evolve.

They have now been printed as 3D models, all to the same scale. These were presented at the 17<sup>th</sup> International Congress of Speleology, in Sydney, Australia, and people can bring a forum of opinions as to how they think these caves should be rated. Is it by volume, is it by floor area and where do the chambers begin and end, and, how do you measure the largest known cave passage in the world?

It should prove an interesting discussion.



Chambers printed as 3D models, all to the same scale, displayed during the 17<sup>th</sup> ICS. As a reference of size, note the black Kingston Communications Stadium (Hull, United Kingdom), on the right.

## ACTIVITY REPORT 2013-2017

# ARTS AND LETTERS COMMISSION

Ian Ellis Chandler (Spain), *President*  
[artcaves@yahoo.es](mailto:artcaves@yahoo.es)

In these years the President of the Commission together with Taraneh Khaleghi (Iran/Austria) have been involved with the following congresses with respect to their Art Salon and/or associated activities.

**Romania, Baile Herculane**  
August 2014

Speleology Federation of Romania  
**Assisting in setting up the Art Salon and in workshops.**

**Italy, Casola Valsenio**  
November 2014

Caving Symposium  
**Setting up art salon with work from many different artists**

**Italy, Pertoso-Auletta**  
June 2015

Italian cave science symposium  
**Providing an art exhibition which included a number of artists from different countries.**

**Yorkshire Dales, United Kingdom**  
August 2016

EuroSpeleo  
**Assisting in setting up art salon and contributing to three overground and one underground workshop.**

**Sydney, Australia**  
August 2017

17<sup>th</sup> International Congress of Speleology  
**Assisting the organisers in preparing the art salon and associated activities.**

## FUTURE ACTIVITY

**Ebensee, Austria**  
August 2018

Eurospeleo Forum  
**Art salon and workshops**

ACTIVITY REPORT 2013-2017

# KARST AND CAVE PROTECTION DEPARTMENT (1)

By Jean-Pierre Bartholeyns (Belgium), *President UIS Adjunct Secretary 2009-2017*  
[jp.bartholeyns@gmail.com](mailto:jp.bartholeyns@gmail.com)

Photos ©  
Jean-Pierre Bartholeyns

- In August 2013, in Gabon, I met with the officials of the Ministry of Scientific Research and Technological Development, the National Agency of National Parks and the Institute of Research for Development to try to establish a collaboration Speleological research and for the cave protection.

- The Department has accepted the invitation of the Lebanese Minister of Tourism to the UIS Karst and Cave Protection Department to do a mission of expertise. In June 2014, J-P. Bartholeyns, A. Cigna and J. A. Labegalini, visited the show caves of Jeita, Rihan and Qadisha and write a rapport.

- During the 2015 North Luzon International Caving Expedition Philippine (NLICEP) I was request by the Governor and the Provincial Culture and Tourism Committee of Balbalan Province to advise them and make a rapport on the possibility to develop a "Caving trek" (51 km) through 3 villages of a long valley. During the second part of this expedition, at the request of the Mayor of Santa Teresita – Philippines, the UIS has, by my presence, enhanced the 3<sup>th</sup> National Ecotourism Festival in Santa Teresita.

- I took part in the 33<sup>rd</sup> Congress of the Brazilian Speleological Society in August 2015 and have there a good contact with the responsible of Voltorantim who manage a karst project with the SBE. May be could we ask them to be an UIS associated member.

Action to follow and to finalize on the base of the new internal regulations.

- The Department has been asked to participate in the 4<sup>th</sup> National Ecotourism and Cave Festival - Santa Teresita - Luzon - Philippines in February 2016.

J-P Bartholeyns was the president of the jury of a cave scale model competition on char realised by each barangay (local municipality) of Santa Teresita.

- On 02-03 May 2016, at the request of the University Gadjah Mada – Faculty of Geography, the Department has been asked to participate in field work, to animate in Yogyakarta – Indonesia a Workshop on Show Cave Management and to make a presentation on "Good practices in show cave management".

- On 04-05 May 2016, at the request of the Indonesian Speleological Society, the Department has been asked to participate in field work, to animate in Bogor - Indonesia a workshop on Show Cave Management and to make a presentation on "Good practices in show cave management".

**(1) After this report was written, the UIS General Assembly decided in July 2017 to change all departments to commissions, so this is now the Karst and Cave Protection Commission.**



The president had the chance to meet there Dr Robby KO, the UIS Indonesian delegate.

- \* Fauna & Flora International (the world's oldest international conservation organisation and working in 44 countries) has [because they found our joint 'international guidelines on show caves' from the web and found it useful] contacted the Department and Renata Marinelli (ISCA) in the frame of its project on karst/caves in Myanmar. They have had several biological surveys done, and as part of their work they are engaging with temple communities on the management of their caves/pagoda.

Thinking of adapting them and giving it more stress and guidance on the micro-endemic fauna which lives in some of the caves, and on possible archaeological/cultural property aspects they ask us whom would we advise them to contact in the Asian region for advice on practical, sensitive and cost effective management of caves for visitors?

The president answers them immediately, telling them that the Protection Department of the UIS and members of its Scientific Committee have a much broader vision of sustainable management of tourist caves without losing sight of their important socio-cultural and historical aspect and the educational aspect of their different individual strengths while ISCA has a very commercial and mercantile vision of the problem.

The department has been then asked to animate a Myanmar Cave Management Workshop in Hpaan – 17-22 July 2016 and to make a presentation about "Good practices in show cave management".

- Presence of the Department at the 1<sup>st</sup> Asian Speleological Conference and the 2<sup>nd</sup> Asian Transkarst Conference in Lichuan (China) in November 2016 where the Asian Union of Speleology was officially founded. I also actively take part in the Cave Management workshop.

- During these four years, the Department had continued to organize the France Habe Prize who is granted each year of 250€. Notice that consequently to a better and a repetitive promotion the number of candidacy is increasing. [http://www.uis-speleo.org/index.php?option=com\\_content&view=article&id=79&Itemid=383](http://www.uis-speleo.org/index.php?option=com_content&view=article&id=79&Itemid=383)

## THE DEPARTMENT HAS INTERVENED

- in March 2014 the Department marks its indignation at advertising filmed for Red Bull in the Jeita Cave. It will finally not used or diffused.

- in March 2015 the Department ask information because it learn from various sources about degradations and destructions made at the entrance of a salt cave near 3N on Qeshm Island (Iran).

- in January 2016, sending a letter to the Environmental General Office Sao Paulo State – Brazil to ask a better management of Caverna do Diabo.

- in January 2016, at the request of G. Badiño he supports a study project about the show cave (PRIN) in order to obtaining a grant for.

- in September 2016. Written reaction against a new wave of selling speleothems in China.

- in May 2017 the Department wrote to Clair-Obscur Production to draw their attention to the fact that making a fire in a cave or under the entrance porch of a cave, even for the purposes of shooting a film on "Cro-Magnon" is likely to be very damaging to bats, mammals protected by the law in Belgium.

- in June 2017, as the UIS Karst and Cave Protection Department knows, that the National Park of Caves of Peruaçu, where the Janelão Cave is situated, has fill up the application to become a UNESCO





## THANKS

The Department is very grateful to the members of the Scientific Committee for their support, encouragement and cooperation in the pursuit of its objectives.

The Department express its thanks to Jasmina Rijavec, the UIS webmaster for her help in the rapid publication of its information's on the UIS website.

## KARST AND CAVE PROTECTION COMMISSION

### ACTIVITIES AND PROJECTS: 2017-2021

During the UIS General Assembly held in Sydney in 2017, the decision was made to change all UIS departments in order to only have commissions. The new name of this group is now the **UIS Karst and Cave Protection Commission**.

It was decided during the meeting of the commission in Sydney to totally support the work needed to get the agreement of UNESCO to make 2021 the International Year of Caves and Karst (IYCK). The Commission will ask every volunteer to obtain letters of support for the IYCK from the maximum number of associations at a national and international level to show UNESCO that there is real interest for this project everywhere in the world.

### The Commission also decided to:

- recommend setting up an electronic petition in favor of the IYCK;
- asking all UIS commissions and national delegates to be involved with the IYCK;
- propose to the new UIS Bureau that the Commission will organize the France Habe Prize for the next four years and to grant it with 250€/year to support the prize.
- continue facilitating the exchange of experiences and information relating to karst and cave protection by transmitting them more often through the UIS Website; and
- because the protection of karst and caves is an important and ongoing concern, the Commission should answer and react to all the requests and problems which will pop up during the next four years.



World Heritage. The UIS Karst and Cave Protection Department wants to support this idea.

At the occasion of the 34<sup>th</sup> Congresso Brasileiro de Espeleologia (June 2016), the UIS Karst and Cave Protection Department proposes to vote a special motion to see this candidacy also totally supported by the Sociedade Brasileira de Espeleologia (SBE).

\* Showing the importance of the cave protection, the Department was very active to promote the 2021 IYCK. Contact with UNESCO Belgium commission for the 2021 International Year of Caves and Karst who agree to support the project and to help to finalise the file. He also asked some Belgian and/or international organisations in connection with (the protection of) karst and caves to obtain letters of support of this project.

\* The department continue to promote the Recommended International Guidelines for Show Caves during the meetings its president attend or directly to the cave managers. [http://www.uis-speleo.org/documents/Recommended\\_International\\_Guidelines\\_published\\_version.pdf](http://www.uis-speleo.org/documents/Recommended_International_Guidelines_published_version.pdf)

- Help to a cave of the Mavrolo National Park (Macedonia) to continue to have the possibility to stay a show cave for tourists. (July 2017)

## CONCLUSION

The Department has fulfilled its role in raising awareness of different audiences and promoting the Guidelines and the France Habe Prize.

“Protection” remains a hot, intense and delicate subject that is always evolving.

Consequently, the Department continued its work during this quadrennium.

## REPORT OF ACTIVITIES 2013-2017, AND FUTURE PERSPECTIVES

# ARTIFICIAL CAVITIES COMMISSION

By Mario Parise (Italy), *President*

University Aldo Moro, Bari, Italy

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The period between the last International Congress of Speleology, in Brno (Czech Republic) and the 17<sup>th</sup> Congress in Sydney (Australia) has been very important for the Commission on Artificial Cavities of the International Union of Speleology. A great effort has been done in order to widen the number of members and to include other countries in the Commission. Such effort produced significant results, and so far, the Artificial Cavities Commission is formed by about 20 members from 11 countries. The complete list of members is provided at the end of this report, and is available at the UIS website as well. The Commission is still open to inclusion of other members, especially from countries so far not yet represented (from the Middle East, to Asia, and America, but also other European countries as Greece, Romania, etc.).

Apart from the increase in the number of members, and of represented countries, several activities have been successfully planned, organized and carried out.

The most significant was without any doubt the organization of International Congresses of Speleology in Artificial Cavities, under the name “Hypogea”, entirely dedicated to studies and research in artificial cavities. The first edition, HYPOGEA 2015, was held in Rome (Italy) in March 11-17, 2015 (Parise et al., 2015), with the patronage and the financial support by UIS, and was hosted in the prestigious venue of the Sala Guglielmo Marconi at the headquarters of the National Research Council of Italy.

About 150 scholars, coming from 14 countries (Austria, Armenia, Bulgaria, Croatia, Czech Republic, France, Georgia, Germany, Great Britain, Italy, Israel, Switzerland, United States, and Turkey) attended the congress, talking and comparing their different experiences on issues as study and inventory of ancient hydraulic works, worship sites, the use of new technologies for the exploration and the topographic survey of artificial cavities, the analysis of peculiar speleothems in underground artificial sites, research and re-explorations in underground mines (with particular reference to the risks in exploration), the diving explorations in artificial cavities. Further, comparing the different typologies of artificial cavities in different countries, their registration in dedicated

cadastres, and the definition of symbols to represent and map features typical of artificial cavities, have been object of specific discussion and meetings, too.

The city of Rome hosted for the first time such an important speleological meeting, of international level. The remarkable event is also testified by the ponderous book proceedings, consisting of 550 pages (edited by Mario Parise, Carla Galeazzi, Roberto Bixio, and Carlo Germani), which was distributed at the opening of the congress (Figure 1). The book includes all the accepted presentations, which were organized in 37 posters and 36 oral presentations.

Following the three days of congress, the round table “Mundus subterraneus” was held in the Pietro da Cortona Hall of the Musei Capitolini; during this event, several personalities discussed with cavers the-

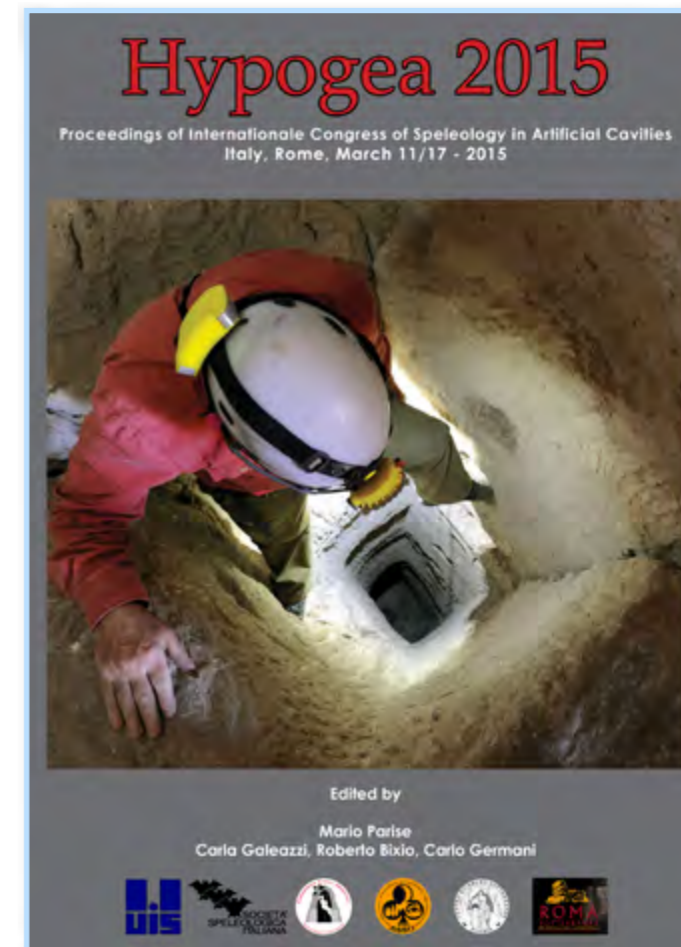


Figure 1 - Cover of the book proceedings for “Hypogea 2015”.

mes such as the research, safeguard, protection, risk, and valorization of the artificial cavities, and of the cultural heritage they represent and host.

Further, the congress also included field visits to significant underground sites in Rome and nearby regions, and three post-congress excursions which allowed the participants to “travel” in a time span of 23 centuries (from the 6<sup>th</sup> century B.C. to the 17<sup>th</sup> A.C.), along ancient hydraulic channels, underground aqueducts, mines and domus of roman age, nymphs and Inquisition jails.

The large success of the Hypogea 2015 congress in Rome pushed others to work toward a follow-up of this initiative, and soon after the first edition the work started to prepare and organize the second one, this time in Turkey, in the magnificent natural scenario of Cappadocia.

Together with this idea, a new brand was established, namely “Hypogea”, which significantly marked the birth of the first edition of the congress. The name HYPOGEA was originally born in Italy from the will to share the experiences and expertise of three different caving organizations in Latium: Asso, Egeria Underground Research Center, and Roma Sotterranea. It has then become a brand for designing and identifying the International Congresses of Speleology in Artificial Cavities, and is now inextricably linked to international caving appointments in artificial cavities (Galeazzi & Parise, 2017).

The 2<sup>nd</sup> International Congress of Speleology in Artificial Cavities HYPOGEA 2017 took place from March 6 to March 10, 2017, again under the auspices of the International Union of Speleology, and with patronages from different associations and institutions.

Notwithstanding the difficult organization, related to the political turnmoils in the eastern Mediterranean and the middle East in the last months, the congress was attended by more than 50 scholars from 11 countries (Bulgary, France, Georgia, Germany, Greece, Italy, Israel, Russia, Spain, Turkey, and Ukraine). A variety of different themes about artificial cavities were explored, analyzed, and discussed during the week of the congress: from the inventory, to exploration methods and techniques, from mapping, to the use of new technologies for exploration and topographic survey, to research and re-explorations in mines, up to hazards related to instability processes within artificial cavities.

The spectacular natural landforms of Cappadocia, a region worldwide-known for the richness and variety of artificial cavities, within one of the most beautiful natural landscapes in the world, was the perfect scenario for the congress.

The book proceedings (Figure 2), edited by Mario Parise, Carla Galeazzi, Roberto Bixio and Ali Yamac (Parise et al., 2017), are a volume of about 560 pages, which reflects the huge amount of work done in the months preceding the congress. They are organized in different sections, covering all the themes discussed during the congress:

- i) **Archaeology, Archaeometry, Art history;**
- ii) **Geology, Geomorphology, Environmental Hazards;**
- iii) **Hydraulic underground works;**
- iv) **Hypogean civilian dwellings;**
- v) **Military and defensive works;**
- vi) **Mining works;**
- vii) **Religious – cult structures;**
- viii) **Typologies, Symbols, terms and cadastre of artificial cavities.**

The field trip program has been particularly rich, with great participation and appreciation by the attendees, and covered some among the most magic and significant sites of Cappadocia.

The congress once more confirmed the need and the importance of having a periodic opportunity

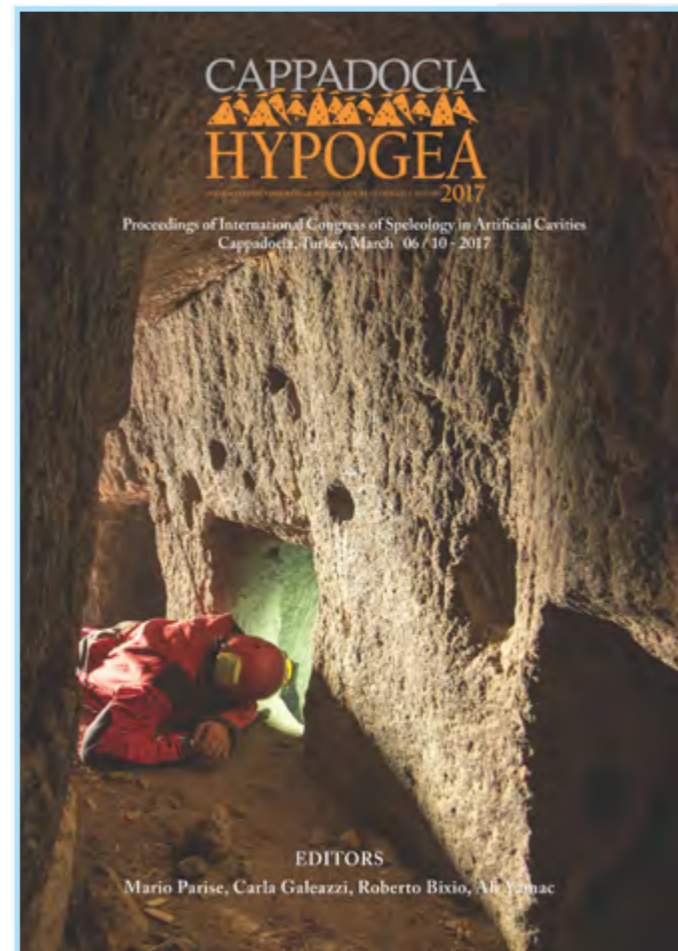


Figure 2 - Cover of the book proceedings for “HYPOGEA 2017”.

to meet, in order to share the research experiences, and the international studies on artificial cavities. This also to further strengthen the activities of the Commission on Artificial Cavities of the International Union of Speleology. The great interest by scholars is further testified by the proposal, recently accepted by the Commission, about the 3<sup>rd</sup> edition of the International Congress of Speleology in Artificial Cavities “HYPOGEA 2019”, which will be held in north-east Bulgaria, in the city of Dobrich, on May 20-25, 2019 (Figures 3 and 4). The Bulgarian team, held by Alexey Zhalov, is already hardy working for the organization of the congress, in the attempt to follow the previous editions, and to continue to publish the book proceedings at the time of the congress.

Since 2013, the UIS Commission on Artificial Cavities is providing its auspices to the “Speleology and Speleology” International Scientific Correspondence Conference Series, organized in Russia, and printed in Naberezhnye Chelny. It has to be noted that the term “Speleology” is used in the Russian language to indicate speleology in artificial cavities. Further, the President of the UIS Commission, Mario Parise, has been included as member in the Editorial Board of the Conference Series.

In 2013, the 4<sup>th</sup> International Scientific Correspondence Conference “Speleology and Speleology” resulted in a book of 382 pages, comprising 68 works, half of which (34) dealing with artificial cavities.

In 2014, the 5<sup>th</sup> International Scientific Correspondence Conference “Speleology and Speleology” resulted in a book of 342 pages, comprising 53 works, 24 out of which dealing with artificial cavities.

In 2015, the 6<sup>th</sup> International Scientific Correspondence Conference “Speleology and Speleology”, organized also for the 170<sup>th</sup> Anniversary of the Russian Geographical Society, resulted in a book of 312 pages, consisting of 52 works, 20 out of which dealing with artificial cavities.

In 2016, the 7<sup>th</sup> International Scientific Correspondence Conference “Speleology and Speleology” resulted in a book of 335 pages, consisting of 43 works, 19 out of which dealing with artificial cavities.

Eventually, as concerns other international meetings, the UIS Commission on Artificial Cavities also provided patronage for the International Scientific Forum “Caves as objects of history and culture”, held in Voronezh and Divnogorye (Russia) in April 19-22, 2016 (Gunko et al., 2016).

The Commission on Artificial Cavities started to have contact in Brno in 2013 with members from other UIS Commissions, aimed at beginning joint projects, in order to have two or more UIS Commissions working together. For instance, contacts were

started with the Pseudokarst Commission, the Informatics Commission, Working Group on Caver’s Multi-Langual Dictionary, the Informatics Commission, Working Group on Survey and Mapping, and the Department of Karst and Cave Protection. In Rome, during the works of “Hypogea 2015”, some of these contacts had the first outcomes, with works by Bixio et al. (2015) and by Hauselmann (2015), about symbols in artificial cavities, and by Garasic (2015), about the multi-language dictionary of caves.

In detail a joint project was started with the Informatics Commission, Working Group on Survey and Mapping, to define a specific set of symbols for artificial cavities, to be added to the existing UIS Symbol List (available at <http://www.carto.net/neumann/caving/cave-symbols/>).

Starting from the set proposed by Bixio’s team in their contribution at Hypogea 2015, Philippe Hauselmann and his Working Group worked to prepare a set of symbols for artificial cavities, which then came back to the Commission on Artificial Cavities, and was discussed, before being accepted and shared with the other group. The final set of symbols, shown in Figure 5, will be eventually presented during the Congress in Sydney.

This activity has already been recently presented in a Regional Congress of Speleology, held in Naples (Italy) in June 2017 (Parise et al., 2017).

The Newsletters of the Commission was founded in 2014, and two issues have been so far produced. In the last year, work of the Newsletter slowed down, but it is our intention to re-start it, and to produce two newsletter per year. This will be a matter of discussion within the Commission in the next weeks, aimed at a better organization, and flux of news about artificial cavities for the newsletter.



Figure 3 - Logo of the 3<sup>rd</sup> International Congress in Artificial Cavities “Hypogea 2019”.



# DOBRICH HYPOGAEA

International Congress of Speleology in Artificial Cavities 2019

## FIRST ANNOUNCEMENT

Dear Colleagues,

The first International Congress of Speleology in Artificial Cavities; HYPOGAEA 2015 was held in Rome / Italy during March 11-15, 2015. The second one - HYPOGAEA 2017 took place in Ürgüp-Cappadocia / Turkey during March 6-10, 2017. The 3-rd edition of HYPOGAEA congress will be held in Bulgaria from 20 to 25 May 2019.

This important event will be organized by Bulgarian Caving Society in collaboration with different Bulgarian regional museums of history and scientific institutions and under the patronages of International Union of Speleology in the face of its Commission of Artificial Cavities, Balkan Speleological Union, HYPOGAEA Federation – Italy and Municipality of Dobrich City, Bulgaria. This speleological congress is dedicated to the 90 - th anniversary of organized speleology in Bulgaria.

### Date and venue

HYPOGAEA' 2019 will be held in Dobrich City in May 20 -25 2019. During and after the Congress there will be several excursions to various artificial cavities, rock monasteries and churches, cave dwellings in North – East Bulgaria.

### Goals & Objectives of the event

The main object of HYPOGAEA 2019 Congress is to continue the tradition to gather together the explorers of artificial cavities all over the world, which beginning was put in Roma and continue during the second edition of the congress in Capadocia - Turkey. The second, but not the last goal of the Congress is to increase dialogue and encourage the collaboration among the non-professional and professional explorers of artificial cavities and to provide an opportunity for members of the community to share their experiences under exploration and study of underground cavities and to promote the preservation of subterranean historical and cultural heritage.

Working language: English

### Focuses of the discussions:

- Results of the exploration of different kind of objects in accordance of their type, origin and use;
- Historical, cultural and economic importance of the artificial cavities;
- Hazards, protection, remediation and rehabilitation;
- Technics for collecting of scientific information, cave mapping, visualization and interpretation of obtained data;
- General matters concerning artificial cavities.

The contributions are expected in English language and can be presented orally (max. 12 min. + 3 min. discussion) or as a poster, based upon a selection by the Scientific Committee.

In order to ensure distribution of the proceedings during the Congress, the above deadlines will be strictly maintained.

### POINTS OF INTEREST

#### Artificial Cavities:

- Old mines
- Rock cut structures
- Monasteries & Churches
- Underground Quarries
- Derange Channels
- Catchments & Qanats
- Study & Survey
- Protection
- Rehabilitation
- Socialization

### DEADLINES

Abstract submission:	December 31 <sup>st</sup> 2017
Confirmation of the abstracts:	March 31 <sup>st</sup> 2018
Final contribution:	July 31 <sup>th</sup> , 2018
Early birds up to:	October 15 <sup>th</sup> , 2018
Registration closing date:	May 1 <sup>st</sup> , 2019

Figure 4 - First announcement of the 3<sup>rd</sup> International Congress in Artificial Cavities "Hypogea 2019", to be held in Bulgaria in 2019.

During the 17<sup>th</sup> UIS Congress in Sydney, the meeting of the Artificial Cavities Commission was attended by the Commission members present at the congress, and by newcomers interested in the topic as well. The discussion was very fruitful, and in the next months likely new members will join the Commission, from important countries so far not represented, such as United States of America, Germany and Australia.

The Commission is strongly interested in keeping working with other UIS Commissions: at this regard, the aforementioned set of symbols for arti-

cial cavities should be soon ready, and added to the general list of symbols. In addition, at Sydney an agreement was reached with the President of the UIS Informatics Commission, Peter Matthews, to contribute to the Cavers Multi-lingual Dictionary by adding terms specifically related to artificial cavities. This project will start in the following months.

As further future commitments, the Commission will work on building a website of the Commission, that will include the main information on events linked to artificial cavities, a short description

generic cavity (artificial)		cavità generica (artificiale)	masonry shaft		pozzo in muratura
underground water work		opera idrica sotterranea	rock-cut pits (connection shaft)		pozzi rupestri passo d'uomo (di collegamento)
rock-cut apiary		apiario rupestre	ventilation shaft		pozzo di ventilazione
rock-cut dovecote		piccionaia rupestre	well		pozzo idrico
rock-cut kitchen		cucina rupestre	shaft with raised edges (for qanat)		pozzo con bordi rialzati (di qanat)
rock-cut refectory (trapeza)		refettorio rupestre (trapeza)	direction of cut		direzione di scavo
domestic cistern		acquaio domestico	superimposed cut-marks overlying structure		sovrapposizione struttura soprastante
rock-cut grape treader/winery		pigiatoio/cantina (vineria) rupestre	rock-cut surface (anthropic)		superficie roccia scavata (dall'uomo)
underground shelter		rifugio sotterraneo	rock-cut ring (hanger) wall ring ceiling ring		anello di roccia (attaccaglia) anello a muro anello a soffitto
rock-cut tombs chamber tomb		tombe rupestri tomba a camera	handhold		maniglia (appiglio)
trench tombs		tombe a fossa	foothold		pedarola
			pigeon nest (pigeonhole)		nido per piccione (colletta / casella)
			lamp niche		nicchia per lampada
			pole/bar hole (pole support)		buca pontata (sostegno per palo)
			bayonet connection notch		incastro a baionetta (a virgola)
			standard-small basin		vaschetta-campione
			pillar cut off at the ceiling		colonna troncata sul soffitto
			pillar cut off at the base		colonna troncata alla base
			silos mouths		bocche di sili
			ceramic finds		reperti fittili
			wooden finds		reperti lignei
			hole with wooden remains (peg)		foro con resti lignei (piolo)
			inscription		iscrizione
			cross		croce

Figure 5 - Preliminary set of symbols for artificial cavities (as produced by Philippe Hauselmann and the UIS Working Group on Survey and Mapping, and revised by Roberto Bixio and Mario Parise).

of the Commission members, links to their main publications and works, and a newsletter to describe the on going activities.

For the next years, we are planning to have a Commission meeting in early 2018 (likely in Israel), while the organization of the 3<sup>rd</sup> edition of Hypogea, the International Congress of Speleology in Artificial Cavities, is already active for the 2019 edition in Bulgaria, as previously described in this article.

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## UIS COMMISSION ON ARTIFICIAL CAVITIES (AS OF JULY 2017)

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### Vice President:

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**Roberto Bixio** (Italy)

**Guy De Block** (Belgium)

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**Amos Frumkin** (Israel)

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**Sophia Kondratieva** (Russia)

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**Jérôme Triolet** (France)

**Laurent Triolet** (France)

**Tzvika Tsuk** (Israel)

**Katherin Yanovskaya** (Russia)

**Boaz Zissu** (Israel)



## PLANNED ACTIVITIES FOR 2017-2021

# COMMISSION PERMANENTE DE SPÉLÉOTHÉRAPIE (CPS) PERMANENT COMMISSION ON SPELEOTHERAPY (PCS)

By Iuri Simionca, MSR-II, Biol. Dr., Ph.D. (Romania), *President*  
[simionca\\_iuri@yahoo.com](mailto:simionca_iuri@yahoo.com)

## The Permanent Commission on Speleotherapy / Commission Permanente de Spéléothérapie (PCS/CPS-UIS) and its role in development of speleotherapy and descendants methods



PCS/78 /2017.07.26

To the 2<sup>nd</sup> UIS General Assembly - July 29, 2017 - Sydney, Australia

[Activity Report from 30.05.2017 from July 2013 to May 2017 to UIS Current Bureau, UIS Bulletin and 1<sup>st</sup> UIS General Assembly of 23.07.2017 (President PCS/CPS of UIS, Iuri Simionca, MSR-II, Dr. Biol., Ph.D.) was published in the UIS Bulletin N° 59-1/2017. See at <http://www.uis-speleo.org/downloads/uis-bulletins/uisb591.pdf>].

## I. PLANNED ACTIVITIES OF THE PERMANENT COMMISSION ON SPELEOTHERAPY/COMMISSION PERMANENTE DE SPÉLÉOTHÉRAPIE (COMMISSION ON SPELEOTHERAPY/COMMISSION DE SPÉLÉOTHÉRAPIE) FOR THE YEARS 2017-2021.

Currently speleotherapy occupies an important place in salt mines and carst caves with different parameters: Wieliczka, Poland; Klutert Hohl, Germany; Zlate Hory and Cisarska Cave, Czech Republic; "National Speleotherapy Clinic" in Soligorsk Potassium Salt Mine, Belarus; Bystrianska Jaskyna, Slovakia; Kurzen-trum Bad Bleiberg with speleotherapy in Heilklimastollen Rudolfsschacht, Austria, "Unirea" Salt Mine - Slănic Prahova, Romania and will occupy a significant place the Praid and Turda salt mines from Romania.

In the last ten years, an important place occupy Halotherapy – therapy on the surface in room / spaces with artificial salt mine environment (sodium or potassium chloride) and aerosol from salt micro-particles dispersed through halogenerators. This is a method of complementary therapy occurred in Solotvino-Uzhgorod (Ukraine) based on studies in the field of underground salt mines therapy and which has developed in many countries, with different hall building constructions and cure methodologies, often erroneous.

Most of the activities for development of speleotherapy and halotherapy, and scientific results in

this field were topics of speleotherapy symposiums in the last and the current decade, especially at scientific events organized or coordinated by the Permanent Commission on Speleotherapy/Commission Permanente de spéléothérapie (PCS/CPS-UIS) (XIV<sup>th</sup> International Symposium of Speleotherapy in Turda, Romania, 2012; the XV<sup>th</sup> International Symposium of Speleotherapy in Wieliczka, Poland, 2014; Speleotherapy Symposium at the International Congress of Speleology of the UIS, Brno, Czech Republic; conferences of speleotherapy In Solotvino, Ukraine, 2013, 2015; workshops in Wieliczka, Poland - 2013, 2014; working meeting in Turda, Romania, with the participation of specialists in the field of speleotherapy and mining tourism from Wieliczka, Poland - 2016).

These activities and results in the field as well as the evaluations of several centers for speleotherapy were described in the reports published in editions of the UIS Bulletin.

As a result of direct consultations with Commission Board members (Permanent Commission on Speleotherapy/Commission permanente de spéléothérapie (PCS/CPS-UIS) within scientific manifestations, working sessions and by modern media in May - July 2017, as well as in accordance with previous resolutions has coincided that it is necessary to develop the field of speleotherapy and halotherapy and to promote these fields based on scientific data on the therapeutic factors of underground salt and karst environment or of other origin, existing in underground spaces or created in special surface constructions, factors having different effects on the human body (prevention, therapy, health, speleotherapeutic tourism, recreation and relaxation, mining or cave tourism).

Thus, for the next four years, the Permanent Commission on Speleotherapy/Commission Permanente de Spéléothérapie (PCS/CPS-UIS) provides activities for the development of the directions of



activity started in the last years for a scientific speleotherapy and halotherapy in dependence on the presence, the quality and the curative effect of the underground environmental factors (from the karstic caves, salt mines or other origins) specific of location and characteristics geological, geochemical, microbiological, etc., or created in surface construction.

It keeps the existing structure and the board of the Permanent Commission on Speleotherapy/Commission Permanente de Spéléothérapie (PCS/CPS-UIS) but it is foreseen enlargement and concretisation activity of the internal working groups.

#### AMONG THE PLANNED ACTIVITIES TO MENTION THE FOLLOWING:

1. Developing information methods on the PCS/CPS of UIS work; data on the activity of different speleological centers in the world (state or private hospitals with underground sections of speleotherapy in salt mines or caves of different origins; various state or private (non-medical) institutions that use salt mines or caves of different origins for “speleotherapeutic - health” tourism or recreation (with or without additional medical or medical check-ups); their interest in participating at scientific studies and the development of the field of speleotherapy / a paradigm of studies with which the institution has the opportunity to integrate in the scientific development of speleotherapy; meetings for work of the PCS/CPS of UIS (activating the Commission’s website, presenting information on the UIS website, within the UIS Bulletin and the Commission’s Bulletin of Bibliography and also on the bibliographic platform of the UIS as well as in the medical, biological and geo-mining information centers).

2. Research activities to assess the possibility of some galleries from karst caves and salt or other mines, for use in speleotherapy purposes (it is envisaged procedures and cure of speleotherapy and the existence of the surface treatment base, as well as by medical specialists), for tourism - “speleotherapeutic tourism”, involvement in the respective research activities of specialized scientific institutions and of societies or associations of specialists, including representatives of various UIS commissions, taking into account the following:

1. Not all caves and mines or underground areas have the same microclimatic and physico-chemical parameters of underground environment or the same curative properties. The existing data in the field, as well as those that can be accumulated by conducting multidisciplinary underground environmental studies, can allow to discuss and to make a decision

about a possible speleotherapeutic effect and the lack of toxic substances or radioactive minerals in the underground spaces. It can not be used for speleotherapy or “speleotherapeutic tourism” or other origin underground space. If there are toxic or radioactive minerals in the area, or if this space is not adapted for the stay of human beings or also if the mining security is not functional.

2. After research to evaluate the possibility of using cavities in the cave or salt mine, or of other origin for use in speleotherapy purposes, may be necessary multidisciplinary and complex laboratory and physiological experimental studies to determine the curative or relaxing effect of the underground environment in order to establish the medical indications and contraindications of the cure, the procedures and methodology of speleotherapy in this underground environment for people suffering from indicated pathologies, as well as for tourists who may have different pathologies.

3. These activities will allow the scientific re-qualification of the karstic caves or salt mines or other origins for the different use of the respective underground spaces for speleotherapy, “speleotherapeutic - health” tourism or recreation (with or without additional medical or medical check-ups).

4. Resumption of knowledge activity for some karstic caves and salt mines or other origin in different countries and assessing the status of their use for speleotherapeutic purposes, “speleotherapeutic - health” tourism or recreation, according to the functional legislation in these countries.

5. Collaboration of the PCS/CPS of UIS with specialists from other UIS commissions as well as authorized state institutions from different countries (according to the legislation on the application of natural physicochemical, microclimatic and spa therapies for medical or tourism purposes, already existing in some countries) for realization of planned activities or for development of speleotherapy and halotherapy.

6. The XVI International Symposium of Speleotherapy (2018, October 24 – 28, Zlate Hory, Sanatorium EDEL, Czech Republic).

7. The International Conference of Speleotherapy and Halotherapy (dedicated to 50 years from the opening the first Underground Section for Therapy in Solotvino Salt Mine - Transcarpathian region, Ukraine) (2018, May 24 – 25, Solotvino, Ukraine).

8. PCS/CPS of UIS workshops on the status of speleotherapy and halotherapy in some UIS member countries (2018, 2019, 2020).

9. The XVII International Symposium of Speleotherapy (2021).

## II. PERMANENT COMMISSION ON SPELEOTHERAPY/ COMMISSION PERMANENTE DE SPÉLÉOTHÉRAPIE (COMMISSION ON SPELEOTHERAPY/ COMMISSION DE SPÉLÉOTHÉRAPIE)

FOR THE YEARS 2017-2021 (EXTENDED FORM)

**President:** *Iuri SIMIONCA (Romania).*

**Vice President:** *Pavel SLAVÍK (Czech Republic) - Past President.*

**Vice President:** *Svetozar DLUHOLUCKY (Slovakia) - Past President.*

**Vice President:** *Ivan S. LEMKO (Ukraine).*

**Responsible Secretary and Website:** *Ovidiu MERA (Romania).*

**Adjunct Secretaries:** *Vanja DEBEVEC (Slovenia); Alexandra PLEVAČOVÁ (Czech Republic);*

*Magdalena KOSTRZON (Poland).*

### BIBLIOGRAPHY BULLETIN “SPELEOTHERAPY & HALOTHERAPY”:

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**Editor in Chief:** *Iuri SIMIONCA (Romania).*

**Editorial Secretary:** *Marta HAISAK (Ukraine).*

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*Svetozar DLUHOLUCKY (Slovakia); Oldrich NAVRÁTIL (Czech Republic); Ion SANDU (Romania).*

### WORKING GROUP: SPELEOTHERAPY IN SALT MINES AND SALT CHAMBERS

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**Members:** *Ioan IETCU (Romania); Iuri SIMIONCA (Romania); Ewa CZARNOBILSKA (Poland);*

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**Advisors Members:** *Nicholae GRUDNICKI (Romania); Krzysztof CZARNOBILSKI (Poland);*

*Claudia CHIAPPINO (Italy).*

### WORKING GROUP: HALOTHERAPY (SPELEOTHERAPY IN ARTIFICIAL SALT CHAMBERS)

**Chairman:** *Pavel P. GORBENKO (Russia).*

**Members:** *Ivan S. LEMKO (Ukraine); Iuri SIMIONCA (Romania); Ion SANDU (Romania);*

*Andranik G.VOSKANJAN (Armenia).*

### WORKING GROUP: SPELEOTHERAPY IN CARST AND OTHER CAVES

**Chairman:** *Pavel SLAVÍK (Czech Republic).*

**Members:** *Svetozar DLUHOLUCKY (Slovakia); Vierka RAJČANOVÁ (Slovakia);*

*Vladimir SVOZIL (Czech Republic); Alexandra PLEVAČOVÁ (Czech Republic);*

*Jarmila ÜBERHUBEROVÁ (Czech Republic); Iuri SIMIONCA (Romania).*

**Advisors Members:** *Viorel Traian LASCU (Romania); Ksenija DVORSAC (Slovenia).*

### WORKING GROUP: ASSESSMENT OF POTENTIALLY CURATIVE UNDERGROUND ENVIRONMENT IN CAVES, MINES AND OTHER ARTIFICIAL SPACES; MEASUREMENT TECHNIQUES

**Chairman:** *Iuri SIMIONCA (Romania).*

**Members:** *Peter JOVANOVIČ (Slovenia); Liviu ENACHE (Romania); Marian Romeo CALIN (Romania);*

*Rudolf PAVUZA (Austria).*

REPORT OF ACTIVITIES \*

# HISTORY OF SPELEOLOGY COMMISSION

## COMMISSION POUR L'HISTOIRE DE LA SPÉLÉOLOGIE

By Bernard Chirol (France), *President*  
[bearchirol@orange.fr](mailto:bearchirol@orange.fr)

\* Presented at the General Assembly of the UIS  
(Penrith, Sydney, Australia, 23<sup>rd</sup>-29<sup>th</sup> of July 2017).

An updated version (in French) was produced after the congress. Interested parties can request the file directly from Bernard Chirol.

Dear UIS Officers, dear colleagues,

At first I must apologize Christian Dodelin for not being with us because of health reasons: he felt himself unable to support the long flight to Sydney because of his medical treatment for heart disease. He sent his report for Rescue Commission to the UIS Bureau. He is still working for International caving activity and we wish he could recover all his possibilities very soon. I was recently elected as Delegate by the Administration Council of the French Federation of Speleology-FFS and I will try to help him as possible. Christian is finishing his term as Adjunct Secretary of the UIS 2013-2017.

Concerning the HISTORY COMMISSION, I must remember the beginning for me, old caver but young UIS member.

To learn more you can read the 523 pages of the book published during Postojna meeting for the 50<sup>th</sup> Birthday of the creation of the UIS (Labegalini, 2015).

The commission was managed by the Austrian colleague Karl Mais. Hubert Trimmel was temporary in charge after Karl's death but Hubert's destiny made he had no time to work on it. In Brno (2013), a new President had to be found. Friedhardt Knolle and I decided to candidate for the direction of the commission.

Since 2013, we try to keep the contact with historian cavers all over the world. We meet during the Conferences and have private meetings in the respective countries of Europe and many contacts by electronic or postal mails. We try to inform the community about our works and to help each other when some subjects need.

Although we must regret our lack of contacts with American cavers, most of all with US cavers and speleologists, we must thank our American colleague Joe Douglas for his important help. Perhaps this Sydney Conference will help to create more links between the old Europe and the rest of the world for historical survey.

However I must thank all the karstologists, ca-

vers and speleologists for the numerous informations shared during the passed 4 years. I have personally appreciated the solidarity for my actual main work about the feminine contribution to history of speleology.

Our network is very active and we will try to go on working together. A real common project has still to be decided. I propose to determinate the vectors of the world development of speleology.

You can read the last UIS Bulletins to have our reports (N° 57 to 59 - [http://www.uis-speleo.org/index.php?option=com\\_content&view=article&id=81&Itemid=408](http://www.uis-speleo.org/index.php?option=com_content&view=article&id=81&Itemid=408)). Most of all the June 2017 Bulletin N° 59-1 gives a panorama of the activity of the world members. Who are they? These are all the researchers working about historical roots of karstology.

I mean the reknown Trevor Shaw, Stephan Kempe, Arrigo Cigna, Paolo Forti and all our Central European colleagues very active about History in Slovenia, Croatia, Bosnia, Hungary, etc. Forgive me for the impossibility to mention all of them but I have special thoughts for the Austrian Johannes Mattes working for Geoscience history meeting in Brazil and for the Englishman Franck Pearson, ending his PhD.

Personally, I could obtain some results when working about world caving history since the Brno Conference (2013).

Leaving my regional researches in France, I have understood lately the richness of historical datas from every country.

First, the Rhône-Alpes Region (around Lyon) has published the lonely book speaking about caving in Cyprus (Chirol, Savoie, 2015).

At the end of 2015 I have discovered when learning about our greek colleague Anna Petrocheilou (1984) that a labyrinth was studied in Crete. This labyrinth was mapped. This is the most ancient cave-map of the world (1415 published 1417). We used to consider the Stufe di Nerone map by Agricola as the most ancient one (1546).

In 2017, as I told you, I went on working for my database about female contribution to speleology (sport and science). Because of the numerous world federations datas, I can say that I am rich in knowledges and I hope to do the best to diffuse them and I thank once again the different federations for their help.



REPORT OF ACTIVITIES 2013-2017

# CAVE RESCUE COMMISSION

By Christian Dodelin (France), *President*  
*UIS Adjunct Secretary 2013-2017*  
[dodelinchristian@gmail.com](mailto:dodelinchristian@gmail.com)

Photos © Spéléo  
Secours Français

La commission Spéléo Secours de l'UIS est animée par une équipe constituée de représentants par continent. Cela permet de faire suivre l'information et de répondre à des demandes de formation.

- **Efrain Mercado** (Puerto Rico)  
pour l'Amérique latine et Caraïbes;
- **Joe Sydney** (Australie)  
pour l'Océanie;
- **Badr Jabbour Gedeon** (Liban)  
pour les pays d'Asie Mineure;
- **Goto Satoshi** (Japon)  
pour l'Asie;
- **Tony (Antoniya) Vlaykova** (Bulgarie) - [tonisv@gmail.com](mailto:tonisv@gmail.com)  
pour l'Europe.

L'historique de la commission est tenu par **Gyula Hegedus** (Hongrie)

## Formation secours à l'international pour 2013

Cette année 2013 aura vu 5 actions de formation secours spéléo après le congrès UIS à Brno en République Tchèque:

### STAGE SPÉLÉO SECOURS AU BRÉSIL du 7 au 13 septembre 2013

Avec Jean François Perret. Compte rendu détaillé en suivant le lien suivant: [http://speleo-secours-francais.fr/images/stories/international/CR\\_formation\\_Bresil\\_2013.pdf](http://speleo-secours-francais.fr/images/stories/international/CR_formation_Bresil_2013.pdf)

Ce stage pour 50 stagiaires a été animé par des membres du SSF. «Cette année, l'équipe de cadres français est riche et variée avec cinq cadres pour répondre aux attentes des stagiaires: deux conseillers techniques nationaux, deux conseillers techniques départementaux (un médecin urgentiste, référent médical, et un technicien référent plongée), ainsi qu'un chef d'équipe évacuation et plongée. Pour le Brésil, en plus d'un cadre technique aguerri et très compétent, nous avons désigné au début de la formation quatre cadres stagiaires pour préparer l'autonomie des équipes de formation brésiliennes.»

### STAGE SPÉLÉO SECOURS ASV - MÉDICAL EN RÉPUBLIQUE TCHÈQUE

du 29-30-31 juillet 2013 à Rudice

Une vingtaine de sauveteurs de la République Tchèque comprenant un médecin, 6 paramédicaux, 4 chefs d'équipe et des sauveteurs suivent cette formation.

Le stage est animé par deux cadres du SSF (Spéléo Secours Français) de la Fédération Française de Spéléologie Bernard Tourte et Christian Dodelin. Une traduction française - tchèque a été assurée par Bohuslav Koutecky, l'ancien président du spéléo secours Tchèque.

Ce stage orienté sur l'Assistance Victime fait suite à une succession de formations secours depuis deux ans. Il a pour objectif, de permettre à la République Tchèque de bénéficier d'un enseignement faisant usage des techniques et concepts les plus récents en matière de spéléo secours.

Le stage a été organisé juste après le congrès de l'UIS en Tchéquie, espérant recevoir des médecins venus sur le congrès. Faute de réponse de leur part c'est l'équipe Tchèque qui en a bénéficié.

### STAGE SPÉLÉO SECOURS EN CROATIE du 14 au 22 septembre 2013

Animé par Bernard Tourte et Christian Dodelin dans le cadre

du programme Proteus. Ci après le lien pour avoir le contenu détaillé du stage: <http://www.speleo-secours-francais.com/images/stories/international/Stage%20spla%20secours%20en%20CROATIE%20CR%20complet.pdf>. Le stage s'est déroulé au profit d'une vingtaine de spéléologues venus des pays des Balkans.



## FORMATION BINATIONALE UKRAINE ET RUSSIE du 14 au 21 septembre 2013 à Sudak en Crimée

Ce stage animé par une équipe plongée et technique classique du SSF a profité à 23 stagiaires. Il a été animé par Jean Michel Vallon, Frédéric Martin, Bernard Abdilla et Wym Cuyvers. Le compte rendu détaillé peut être vu avec le lien suivant: [http://www.speleo-secours-francais.com/images/stories/international/stage%20SSF%20OCR%20SUDAK\\_7.pdf](http://www.speleo-secours-francais.com/images/stories/international/stage%20SSF%20OCR%20SUDAK_7.pdf)

## EXERCICE SPÉLÉO SECOURS FRANCO – BELGE les 9 – 10 et 11 novembre 2013 en Savoie

Sur le réseau souterrain de la commune des Déserts: Trou du garde- Creux de la cavale.

Ce sont 43 Belges, 2 Luxembourgeois, 29 spéleôs du SSF Savoie qui ont mis leur moyens en commun pour un exercice secours de grande ampleur. L'exercice s'est déroulé dans le réseau souterrain du Trou du garde-cavale-Périn de 48 kilomètres de développement pour 310 m de profondeur. Desvic-times sont à retrouver par les 3 entrées entraînant la mise en place de toutes les techniques de gestion, recherche, communication, médical, désobstruction, ASV, évacuation. Cet exercice a été la première action secours entre plusieurs pays européens à recevoir l'agrément de la commission spéleo secours de la fédération européenne de spéléologie.

## Formations 2014

### EXERCICE SPÉLÉO SECOURS BALKANS 2014 Au mois de novembre 2014

Il y avait l'exercice spéleo-secours international à l'organisation de secours montagnards serbe, avec participation des spéleôs de Slovénie, Croatie, Bulgarie, Serbie, Bosnie et Herzégovine, Roumanie et Grèce à Miroc en Serbie.

## STAGES

### STAGE SPÉLÉO SECOURS INTERNATIONAL À LA CHAPELLE EN VERCORS 8 novembre au 15 novembre 2014 Organisé par le SSF

Ce stage est agréé par la FSE (Fédération Spéleo Européenne) et l'UIS (Union Internationale de Spéléologie).

Encadrement permanent: Bernard Tourte, Christian Dodelin. Cadres d'appoints: Olivier Lanet (plongée), Rafael Chevalier (radio-communication),

Dominique Beau (ASV).

19 Participants (2 femmes et 17 hommes): 2 Angleterre, 1 Canada, 1 espagnol vivant au Chili, 1 Mexique, 6 Brésil, 1 Ukraine, 2 Suisse, 3 République Tchèque, 2 Espagne.



### STAGE INTERNATIONAL ASV 12 au 15 novembre 2014

Organisé par le SSF à La chapelle en Vercors a rassemblé 17 spéleôs venant de Russie, République Tchèque et Roumanie. Il a été animé par Dominique Beau, France Rocourt, Wim Cuyder, Olivier Lanet. Un exercice secours avec le SSF26 a conclu ces deux stages:

### FORMATION SECOURS AU PÉROU Du 8 au 14 septembre 2014

À Nueva Cajamarca, organisé par le SSF et le Pérou. Ce stage a été animé par Jean François Perret, Patrick Romieu, James Apaestegui, pour 27 stagiaires péruviens.

### STAGE SPÉLÉO SECOURS EN CHINE Novembre 2014

Organisé par des cadres SSF: Eric sanson, Bruno Hugon, Jean Bottazzi.

### STAGE SPÉLÉO SECOURS EN TUNISIE Septembre du 26 au 28 inclus, 2014

Est assuré par une équipe SSF d'Alsace au profit des spéleôs tunisiens, une quarantaine venant de 11 clubs, ainsi que deux spéleôs algériens. Le stage a été animé par David Lippart Bruno Goergler, Michel Spenle, Eric Zipper.

### RENCONTRES NATIONALES SPÉLÉO SECOURS SUISSE

Samedi 29 et dimanche 30 novembre

Participation de Christian Dodelin à ces deux jours de formation et d'information

### PRÉPARATION DU RIS 2015

La 13<sup>e</sup> rencontre internationale de la Commission Spéleo Secours de l'UIS.

Ces rencontres se tiendront du 16 au 19 avril 2015 en Suisse à: le Camp, Vaumarcus. Un pré camp se tiendra pour ceux qui le souhaitent du 13 au 15 avril 2015.

C'est le spéleo secours suisse qui se charge de l'organisation logistique de cette rencontre. Plusieurs réunions ponctuent cette préparation et je suis allé à l'une d'entre elle à Berne le 11 juin 2014.

Le site concernant ces rencontres est: [www.speleo-secours.ch/LeCamp2015/](http://www.speleo-secours.ch/LeCamp2015/)

### COMMISSION SECOURS DE LA FSE

#### ROUMANIE FSE À BAILLE HERCULANE 21 au 24 aout 2014

EUROSPELEO FORUM 9<sup>TH</sup> EDITION  
"Where the Carpathians meet the Danube"  
[www.speleoevent.ro](http://www.speleoevent.ro)  
20 years of Romanian Federation of Speleology

Nous avons en même temps et sur le même lieu une réunion anniversaire de la création de la fédération spéleo roumaine et une réunion FSE. Nous en profitons pour réunir la commission secours européenne. Le principal thème abordé est en lien avec le secours récent en Bavière. Les pays présents adoptent quelques points concernant les renforts entre pays en cas de secours importants. Notamment: l'unité des techniques de secours basée sur l'enseignement du SSF, le respect des règles de demande de renfort du pays demandeur, ne pas s'imposer sur un site de secours. Les équipes de secours sont invités à trouver une place significative dans l'organisation des secours de leur propres pays. A la lumière du secours en Allemagne il est évident encore une fois que la gestion des secours spéleôs soit confiée à des spéléologues.

Enfin les spéleôs doivent s'impliquer dans le secours, il en va de la liberté de pratique de l'activité. En 2014: secours importants en Allemagne puis au Pérou.

"In 2014, in different countries occurred several accidents, like every year. When the cavers are invested inside the cave rescue organization, the cavers find good condition in case of rescue. The unfortunate accident in Germany is an opportunity to tell the cavers and federation of caving: "you have to be present in the cave rescue organization at all the levels if you want keep a free practice".

## TRAINING

So the first principal action of the rescue commission was to propose agreement for training, when several countries work together.

These trainings have serious program, efficiency leaders and update techniques. For receive agreement the leader send the project with the dates, countries concerned, and program; and after training he send a report.

For 2014 we received 5 trainings in Europe, Africa, and South America, often managed by French cavers.

130 cavers from 15 countries: Peru, France, Tunisia, Algeria, United Kingdom, Canada, Ukraine, Spain, Chile, Czech Republic, Brazil, Mexico, Suisse, Russia, and Romania.

### RESCUE TRAINING 8 to 14 September 2014

Nueva Cajamarca – Peru

It was for Cavers in Peru by team French (Speleo Secours Français). The leader was Jean François Perret for 27 trainees and 3 leaders.

### RESCUE TRAINING 26 to 28 September 2014 Zaghuan – Tunisie

It was for Tunisian cavers by French team of Alsace (Speleo Secours Français). The leader was Eric Zipper for 24 trainees from Tunisia, 2 trainees from Algeria and 4 leaders from France. The logistic was by 15 cavers from Tunisia.  
Report: <http://www.speleo-tunisie.com/>

### INTERNATIONAL RESCUE TRAINING 8 to 15 November 2014 La Chapelle en Vercors – France

Organized by S.S. France for 19 trainees who come from: United Kingdom, Canada, Ukraine, Spain, Chile, Czech Republic, Brazil, Mexico, Suisse.

The leaders are Bernard Tourte and Christian Dodelin from France.

We find the report: <http://www.speleo-secours-francais.com/images/stories/international/Stage%20international%20speleo-secours%20France%202014.pdf>

### INTERNATIONAL RESCUE TRAINING ASSISTANCE VICTIM

12 to 15 November 2014

#### La Chapelle en Vercors – France

This training was in the same time and place than the technique training. We can have common exercise in a big system. It was 19 trainees from Russia, Czech Republic, and Romania. The leader was Dominique Beau from France.

### RESCUE TRAINING

25 October to 2 November 2014

#### Cordisburgo (Minas Gerais) - Brazil

This training is organized for Brazilian cavers and rescuers with collaboration of French cavers of S.S.F. Leader was Jean François Perret from France (S.S.F), every year since 2009. At each training 40 at 50 cavers follow the formation.

### CAVE RESCUE EXERCICE BALKANS 2014

November 2014

It was an exercise international organized by Serbia mountaineering rescue, with Slovenia, Croatia, Bulgaria, Serbia, Bosnia Herzegovina, Romania and Greece at Miroc in Serbia. But we don't receive program, report...

## Activité en 2015

La commission secours UIS a eu son 13<sup>e</sup> rassemblement international à Vaumarcus du 15 au 19 avril 2015. 109 participants sont venus de 15 pays différents.

Le SSF a contribué aux formations internationales avec des stages organisés au Brésil, en Russie et en Chine. Ces stages ont été animés par 10 cadres différents, concernés 137 stagiaires dans trois domaines de compétences: équipier-chef d'équipe, assistance victime et plongée.

La formation du Brésil se déroule au centre du pays, dans la petite ville de Mambá, au nord-est de l'Etat du Goiás et au cœur de la zone karstique. La formation s'est déroulée du 5 au 13 septembre 2015.

Objectifs :

- 1 – Évaluer pédagogiquement les cadres brésiliens.
- 2 – Valider le programme de la formation, pro-

poser et orienter si besoin des modifications.

3 – Aider l'organisation dans le choix des sites et lieux d'enseignement.

4 – Apporter l'expérience du Spéléo secours français lors des contacts avec les autorités locales.

4 cadres brésiliens et 3 cadres français (SSF) pour 37 stagiaires.

### STAGE SPÉLÉO SECOURS EN CHINE

28 octobre au 4 novembre 2015

#### Massif de la Shuanghe Guizhou

Organisé par des cadres SSF: Eric Sanson, Bruno Hugon, Jean Bottazzi.

Participants: 31 spéléos dont 25 stagiaires, 5 cadres et 1 personne pour la logistique. Les spéléos Chinois viennent de 9 provinces différentes.



Le projet initial est d'incorporer un stage spéléo secours en camp pré-congrès de la deuxième rencontre internationale de la Fédération asiatique de spéléologie. Le projet n'avait que sept stagiaires inscrits une semaine avant le stage. Jean Bottazzi a ouvert le projet aux spéléologues chinois et proposé le site de la Shanghe. Dans les quatre jours qui ont suivi vingt trois candidats se manifestaient alors que par ailleurs quatre Malaisiens pressentis n'avaient pu obtenir leur visa. Finalement, le stage se fait avec des spéléologues chinois venus de différentes régions.



Rescue training in China: 31 cavers coming from 9 different provinces.

### FORMATION SPÉLÉO-SECOURS INTERNATIONAL DANS L'OURAL

Du 3 au 12 Juillet 2015

La session de formation qui s'est déroulée était envisagée depuis près de deux ans. C'est Jean-Michel Vallon qui a joué le rôle de coordinateur SSF pour sa mise en place, soit un important travail préparatoire, dont une reconnaissance sur le terrain en juillet 2014 afin de bien s'assurer de la faisabilité du projet.



#### Ce sont au total trois stages qui ont été réalisés.

- Un stage E/CE coordonné par Bernard Tourte et Cheredniko Philippe (responsable Russie des formations techniques secours). Cette session rassemblait trente-cinq participants.

- Un stage ASV, comprenant vingt-deux spéléologues, coordonné par Wim Cuivers et Rychagov
- Sergey (responsable Russie des formations ASV qui, en septembre 2014, a participé à une formation ASV à la chapelle en Vercors avec huit spéléologues russes.

- Un stage plongée secours qui a regroupé treize spéléo-plongeurs, encadré par Cédric Lacharmoise, Jean-Michel Vallon et Akimov Vladimir pour sa gestion organisationnelle russe.

Pour ces sessions, la quasi-totalité du matériel secours spéléo a été fournie pas les Russes, bouteilles de plongée comprises.

Le seul matériel amené de France a été:

- Trois TPS
- Deux ensembles de recherche en siphon (flasheurs, ardoise, cookies)
- Vingt mètres de fil d'Ariane avec l'âme électrique pour la communication.



Comme à chaque fois, des interprètes ont été mobilisés pour ce séminaire dont Aleksey Tereschenko, qui était une nouvelle fois de la partie vu qu'il était déjà présent lors du stage en Crimée qui s'est déroulé il y a deux ans. Au total, cinq interprètes sont venus épauler l'équipe d'encadrement. Certains d'entre eux, non spéléologues, ont clairement été mis à rude épreuve, du matin au soir, pour que l'information transmise puisse être comprise par tous.





### STAGE EQUIPIER / CHEF D'EQUIPE MISSION D'EVALUATION DES FORMATEURS BRESILIENS

Brésil, 4 au 11 septembre 2016

La formation se déroule dans le Sud du pays dans l'Etat du Sao Paulo, dans le Parc Naturel du Patar (Parque Estadual Turístico do Alto Ribeira), au Sud-Ouest de l'Etat et dans un massif montagneux au coeur de la zone karstique. Les objectifs.

- 1 – Valider le programme de la formation, proposer et orienter si besoin des modifications.
  - 2 – Aider l'organisation dans le choix des sites et lieux d'enseignement.
  - 3 – Appuyer la diffusion et la justification des techniques employées.
  - 4 – Evaluer pédagogiquement les cadres brésiliens.
- 10 cadres dont 3 Français pour 36 stagiaires.



### Formation en 2017

#### STAGE À DUBAÏ WE

Du 24 février au 4 mars 2017

Animé par le SSF, Philippe Bence et Laurent Chalvet s'est adressé à 24 stagiaires séjournant à Dubaï et explorant des cavités dans le Sultanat d'Oman. La provenance des stagiaires est de 15 pays différents:

### Formation en 2016

#### PÉROU 2016

Du 27 août au 30 août 2016

Nueva Cajamarca, Département de San Martin

4 Cadres dont 2 SSF pour 14 stagiaires.

#### STAGES GESTION DE SAUVETAGE & ASSISTANCE VICTIME

Du 11 au 18 juin 2016

Formosa, Goiás, BRESIL

Pour le stage gestion 16 stagiaires pour 4 cadres dont 2 SSF. Pour le stage ASV 22 stagiaires pour 4 cadres dont 2 SSF.

#### STAGE INTERNATIONAL SPÉLÉO-SECOURS EN FRANCE

Dans le Doubs en octobre 2016

Il a été animé par 9 spéléos au profit de 28 stagiaires, venus d'Irlande, Suisse, Pays Bas, Portugal, Espagne, Slovénie, Grèce, Israël, Chili.



Allemagne, Arabie Saoudite, Bahreïn, Bulgarie, Canada, Corée, Egypte, Géorgie, Hollande, Liban, Nouvelle Zélande, Pologne, Royaume Uni, République Tchèque, USA.

#### STAGES AU BRÉSIL

Spécialisé gestion et Assistance victime. Ce stage a eu lieu au printemps et dirigé par Jean François Perret au profit de 15 stagiaires du Brésil (dont un mexicain).

Projet d'autres stages au Brésil sur les transmissions, la plongée avec le SSF.

#### PROJET DE STAGE EN ISRAËL PAR LE SSF STAGE INTERNATIONAL EN BULGARIE EN JUILLET PAR LA BULGARIE

#### STAGE SSF PLONGÉE INTERNATIONALE EN JUILLET 2017

### Conclusion

Les actions communes avec le Brésil correspondent à un programme sur le long terme.

«Quelques chiffres: Depuis 2009, 11 stages co-organisés par le SSF au Brésil dont quatre stages spécialisés (2 gestion, 2 ASV).

Environ 350 participants au total (par contre de

nombreux stagiaires ont fait plusieurs fois le même stage).

Sur les stages techniques la moyenne est d'environ 40/45 stagiaires. Sur les stages spécifiques, elle est d'environ 15 stagiaires.

L'encadrement est constitué en général de 4 cadres du SSF et 4 cadres brésiliens.

Actuellement, le potentiel d'encadrement des Brésiliens par les stages techniques de base est de 8 instructeurs (notion Brésilienne).

Une réserve de quatre ou cinq instructeurs stagiaires supplémentaires devrait pouvoir faire augmenter ce nombre rapidement.

Nous allons pouvoir valider rapidement (je pense l'année prochaine) certains de ces instructeurs pour l'enseignement des spécialités ASV et gestion.

La provenance des stagiaires spéléos est assez diffuse mais ce sont les clubs les plus dynamiques qui fournissent le plus de stagiaires et de cadres.

LEGB de Brasilia (DF de Brasilia), le Bambui de Belo Horizonte (Minas Gérais) sont les deux plus gros viviers.

Il faut rajouter les clubs de Sao Paulo, de Rio de Janeiro et quelques membres de petits clubs de divers états. Il ne faut pas oublier quelques individuels.

Pour les stagiaires non spéléos, ils sont surtout originaires des pompiers militaires des états ou de la police fédérale ou se déroule les stages.

Il y a également les guides et directeurs des parcs d'état.

Jean François Perret »

### De 2013 à 2017

#### 26 stages ont été organisés au profit de 616 stagiaires.

Le thème secours se décline avec les techniques d'évacuation, de gestion, d'assistance victime, transmission radio, plongée, désobstruction.

La France est l'un des organisateurs principaux ainsi que la Bulgarie pour les pays des Balkans.

#### 35 pays bénéficiaires:

Allemagne, Arabie Saoudite, Bahreïn, Belgique, Brésil, Bulgarie, Canada, Chili, Chine, Corée, Croatie, Egypte, Espagne, France, Géorgie, Grèce, Hollande, Hongrie, Irlande, Israël, Liban, Mexique, Nouvelle Zélande, Pérou, Pologne, Portugal, Roumanie, Royaume Uni, République Tchèque, Russie, Slovénie, Suisse, Tunisie, Ukraine, USA.

Les recherches et production de RADIOS SOUTERRAINES (transmission par le sol) menées par la Suisse, la France et le Royaume Uni profitent à tous les pays.



## ACTIVITY REPORT

# KARST HYDROGEOLOGY AND SPELEOGENESIS COMMISSION

5 July 2017

By Alexander Klimchouk (Ukraine), *President*

[klim@speleogenesis.info](mailto:klim@speleogenesis.info)

<http://speleogenesis.info/>

## BACKGROUND AND GOALS

The UIS Commission on Karst Hydrogeology and Speleogenesis (KHS Commission) started in 1994 as a Working Group with the same name. In 1997 it had been upgraded to the Commission by the UIS General Assembly (ICS-12, Switzerland). The Commission had been re-approved for the periods of 2002-2005, 2005-2009, 2010-2013, and 2013-2017 by the UIS General Assemblies at the ICS-13 held in Brazil (2001), ICS-14 held in Greece and ICS-15 held in USA (2009), and ICS-16 held in Czech (2013).

*The principal goal of the Commission is to disseminate information and promote scientific co-operation and research in the field of karst hydrogeology, with special emphasis to speleogenesis as the core problem of the permeability development in soluble rocks and of the evolution of karst aquifers.*

## THE COMMISSION PROMOTES RESEARCHES IN THE FIELD IN THREE PRINCIPAL WAYS:

1) By sponsoring and organizing a framework for communication and information exchange between interested workers through different means, including web site, electronic and printed circulars, journals, etc.

2) By identifying specific priority topics (specific objectives) and running respective time-defined projects aimed to promote researches in specific areas and result in fundamental publications on these topics.

3) By sponsoring and assisting in organization of scientific meetings, as well as thematic symposia and sessions at large scientific conferences and congresses.

## MEMBERSHIP

The membership in the KHS Commis-

sion is open to any researcher interested in its activity, sharing its goals and registered to the Speleogenesis website. Currently (as for July 5<sup>th</sup> 2017), 1111 researchers from 90 nations have registered at the website and are considered as affiliate members of the Commission (this number was 865 before the previous Congress in 2013). The members regularly receive e-mail notifications and circulars on various aspects of the Commission activity and have an access to a number of services and tools of the Speleogenesis website.

## THE COMMISSION BUREAU AND OFFICERS

The Executive Bureau of the KHS Commission was formed in 2002 and consisted of 21 members from 10 nations. In 2013, the Commission had adopted some changes in its structure and management, and the Bureau had been expanded to consist of 40 members from 15 nations:

<b>Alexander, Calvin;</b> USA	<b>Hauselmann, Philipp;</b> Switzerland
<b>Audra, Philippe;</b> France	<b>Jeannin, Pierre-Yves;</b> Switzerland
<b>Auler, Augusto;</b> Brazil	<b>Kempe, Stephen;</b> Germany
<b>Blackeagle, Cory;</b> USA	<b>Klimchouk, Alexander;</b> Ukraine
<b>Boston, Penny;</b> USA	<b>Kranjc, Andrej;</b> Slovenia
<b>Covington, Matthew;</b> USA	<b>Lauritzen, Stein-Erik;</b> Norway
<b>De Waele, Jo;</b> Italy	<b>Lowe, David;</b> UK
<b>Doctor, Daniel;</b> USA	<b>Mihevc, Andrej;</b> Slovenia
<b>Dreybrodt, Wolfgang;</b> Germany	<b>Mylroie, John;</b> USA
<b>Dublyansky, Yuri;</b> Austria	<b>Osborne, Armstrong;</b> Australia
<b>Eröss, Anita;</b> Hungary	<b>Palmer, Arthur;</b> USA
<b>Faulkner, Trevor;</b> UK	<b>Plan, Lukas;</b> Austria
<b>Ford, Derek;</b> Canada	<b>Sasowsky, Ira;</b> USA
<b>Forti, Paolo;</b> Italy	<b>Schindel, Geary;</b> USA
<b>Frumkin, Amos;</b> Israel	<b>Schwartz, Benjamin;</b> USA
<b>Gabrovsek, Franci;</b> Slovenia	<b>Sustersic, France;</b> Slovenia
<b>Gines, Joaquin;</b> Spain	<b>Veni, George;</b> USA
<b>Goldscheider, Nico;</b> Germany	<b>White, Susan;</b> Australia
<b>Groves, Chris;</b> USA	<b>White, William;</b> USA
<b>Gunn, John;</b> UK	<b>Worthington, Stephen;</b> Canada

The members of the Executive Bureau ("core members" of the Commission) supervise the Commission activity and vote on all related questions. Also in 2013, an electronic voting has been conducted to elect the Commission officers

for the period of 2013-2017. Alexander Klimchouk (Ukraine) was re-elected as the President, and Philippe Audra (France) and Jo De Waele (Italy) were elected as Vice-Presidents. These voting results have been approved by the UIS General Assembly at the ICS-16 in Brno.

## SPELEOGENESIS.INFO A SCIENTIFIC NETWORK

The major role of the KHS Commission is to facilitate an exchange of information and communication between researchers and teams and to maintain a favorable environment for the emergence of various collaboration initiatives and research projects.

The Commission efficiently performs this role by developing and maintaining a web-based portal Speleogenesis.info (scientific network) (<http://speleogenesis.info/>). The site has become a major hub of activity and information not only for the KHS Commission but for much wider circles of scholars and institutions involved into karst and geospeleology studies. In 2012, the IAH Commission on Karst Hydrogeology has officially joined the UIS KHS Commission in supporting the Speleogenesis.info website, which is now maintained as a joint project of the two commissions.

During the last year, work is underway to prepare the translation of the website for a new, technologically advanced platform. This work is still ongoing and the launch of a new website is expected this fall.

On behalf of the Commission, I'd like to extend our thanks to the Speleogenesis webmaster Alexey Kopchinskiy (Austria) for his outstanding continued work on the development and technical maintenance of the Speleogenesis website.

## HYPOKARST PROJECT

During the period of 2013-2017, the Commission continued its HypoKarst Project (started in 2007), aimed to coordinate and promote hypogene karst and speleogenesis research. The main objective of this project is to advance our understanding of solution conduit and void development in those parts of the sedimentary cover that lie below the domain of shallow unconfined groundwater flow systems. The HypoKarst Project also aims to raise an awareness of researchers and practitioners about the importance, specific nature, and characteristics of hypogene karst, and to coordinate research efforts in the field. The project progressed through several major events and publications, conducted during the reporting period (see below).

## SCIENTIFIC MEETINGS

During the reporting period the KHS Commission has sponsored / co-organized several important scientific meetings:

**International Symposium on Hierarchical Flow Systems in Karst Regions**, held at the Eotvos Lorand University Budapest, Hungary, in 4-7 September 2013 (co-sponsored by the IAH Karst Commission and the UIS KHS Commission). The Symposium was attended by 140 participants. The abstract & field guidebook can be downloaded via this link: [http://speleogenesis.info/directory/karstbase/pdf/seka\\_pdf13525.pdf](http://speleogenesis.info/directory/karstbase/pdf/seka_pdf13525.pdf);

**International Conference on Hypogene Cave Morphologies**, held at the Gerace Research Centre (GRC) on San Salvador Island, The Bahamas, 2-7 February 2014 (co-sponsored by the US Karst Water Institute and the UIS KHS Commission). The paper and abstract book can be downloaded via this link: [http://karstwaters.org/wp-content/uploads/2015/04/SP18\\_Hypogene1.pdf](http://karstwaters.org/wp-content/uploads/2015/04/SP18_Hypogene1.pdf);

**International Conference on Groundwater in Karst**, held at the University of Birmingham, UK, 20-26 June 2015 (co-sponsored by the IAH Karst Commission, IGCP-598 and the UIS KHS Commission). Details on this conference can be found via this link: <http://www.birmingham.ac.uk/generic/kgatb/index.aspx>;

**International Conference Deep Karst 2016: Origins, Resources, and Management of Hypogene Karst**, held at Carlsbad, New Mexico USA, 11-14 April 2016, (organized by the National Cave and Karst Research Institute on behalf of the UIS KHS Commission). The 203-page proceedings volume containing 31 peer-reviewed papers by scientists from 10 countries can be downloaded via this link: [http://scholarcommons.usf.edu/deepkarst\\_2016/2016proceedings.pdf](http://scholarcommons.usf.edu/deepkarst_2016/2016proceedings.pdf).

The KHS Commission members also participated and presented papers at a number of other scientific meetings on karst hydrogeology and general speleology.

## PUBLICATIONS

During the last four years, the Commission members have produced several hundred papers in various international journals, books and conference proceedings. Many of these publications are included in KarstBase bibliography system (<http://speleogenesis.info/directory/karstbase/>). Major volumes prepared by the Commission members are as follows:

Klimchouk, A., Sasowsky, I., Mylroie, J., Engel, S.A., Engel A.S. (Eds.), 2014. **Hypogene Cave Morphologies**. Karst Water Institute, USA, 103 pp. ([http://karstwaters.org/wp-content/uploads/2015/04/SP18\\_Hypogene1.pdf](http://karstwaters.org/wp-content/uploads/2015/04/SP18_Hypogene1.pdf)).

Chavez, Todd, and Reehling, Pete (Eds.), 2016. **Proceedings of DeepKarst 2016: Origins, Resources, and Management of Hypogene Karst**. NCKRI, Carlsbad, NM, 203 pp. ([http://scholarcommons.usf.edu/deepkarst\\_2016/2016proceedings.pdf](http://scholarcommons.usf.edu/deepkarst_2016/2016proceedings.pdf)).

Klimchouk, A., N. Palmer, A., De Waele, J., S. Auler, A., Audra, P. (Eds.), 2017. **Hypogene Karst Regions and Caves of the World**. Springer, 970 pp. (<http://www.springer.com/cn/book/9783319533476>).

The latter book, consisting of 61 chapters and presenting a global overview of hypogene karst regions and caves, is a major effort and achievement of the Commission during the last years.

In 2017, arrangements were made, and the Call for Papers was released, for a Special Issue of *Geofluids* (Wiley-Hindawi) titled **“Focused Reactive Fluid Flow in the Upper Crust: Processes and Manifestations of Hypogene Karstification”**, to be edited by the Commission members Alexander Klimchouk, Yuri Dublyansky, Serdar Bayari, and Bogdan Onac. The deadline for paper submission for this volume was October 27, 2017, and the expected publication date is February 2018.

### COOPERATION WITH OTHER KARST ORGANIZATIONS

The UIS KHS Commission enjoys an excellent collaboration with the IAH Karst Commission (co-chairs Dr. Nico Goldscheider and Dr. Neven Kresic). Several Commission members were involved in the IAH-supported WOKAM (World World Karst Aquifer Mapping) Project.

In 2013-2014 the KHS Commission strongly supported the effort to create the Karst Division of the Geological Society of America, culminating in its formal establishment in 2014. Several Commission members (Cory Blackeagle, George Veni, Calvin Alexander, and Penny Boston) were instrumental in this effort.

### SPONSORS

During the reporting period, the UIS KHS Commission had no external sponsorship. UIS has provided USD 150 a year in support of the Speleogenesis website hosting.

### ACTIVITY REPORT

# PHYSICAL CHEMISTRY, AND HYDROGEOLOGY OF KARST COMMISSION

By Yavor Shopov (Bulgaria), *President*  
[yshopov@yahoo.com](mailto:yshopov@yahoo.com)

The UIS Commission on Physical Chemistry and Hydrogeology of Karst has 134 members from 40 countries. Recently the main activity of the commission is related to its International Programs:

### CLOSING REMARKS

The UIS KHS Commission continued to be very active during the reporting period. It has successfully performed its role in advancing studies in the field of karst hydrogeology and speleogenesis and in fostering scientific cooperation in the field. Intense publication and organizational activity of many Commission members have successfully promoted the roles of speleogenetic studies in karst hydrogeology, reservoir characterization, and geological engineering. The importance of speleogenetic studies is getting increasingly recognized in the broad geoscience community.

Many initiatives and projects of the KHS Commission are ongoing and are projected into future. The topic remains fresh and intensely evolving. Therefore, the Commission should continue its work for the next period.

After serving as a Commission President since its establishment in 1997, I am resigning and will not run for this position for the next period. My attempt to organize an electronic election of Commission officers prior the Congress in Sydney was not successful as no nominations for a President and Vice-Presidents have been received after the call released on 12 June, 2017. It remains, therefore, the task of a Commission meeting during the upcoming Congress to appoint the officers and give a new impulse to the Commission activity.

### ACKNOWLEDGEMENTS

I am deeply indebted to many colleagues, especially to the Commission Bureau members, for their strong support, encouragement, and cooperation in pursuing the Commission goals and tasks.



**1 - “Techniques for Remote Location of Caves” (RLC)** using thermal vision and UV-imaging techniques with project leaders Prof. Yavor Shopov from Sofia University, Bulgaria, and Dr. Ivo Baroň from Museum of Natural History in Vienna, Austria.

**2 - International Programme for Cave Research (IPCR).** Leaders of the programme were Prof. Yavor Shopov from Sofia University, Bulgaria, and Prof. Giovanni Badino, from University of Torino, Italy. Unfortunately after the 17<sup>th</sup> International Congress of Speleology (ICS), held in Australia on August this year the co-leader of this programme, Prof. Giovanni Badino, passed away ([see his obituary on page 116](#)).

This is very significant loss for the entire speleological community, because Giovanni was the best expert in cave climate. This will produce significant delay in development of this International Programme, but I will do my best to find a proper substitute of him.

The first programme is very interesting, because it has the potential to create much better links between scientific and caving activities of UIS. It aims to detect and locate new unknown caves and will be extremely helpful to expand cave exploration in new regions. This way science will help for development of the cave explorations. It will be very helpful to find new caves in hardly accessible regions and even on other planets. Remote finding of new caves is very important for future manned exploration of Mars and the Moon.

Mars has much weaker magnetic field and lower density of atmosphere regarding the Earth. These results in very high cosmic radiation dose rate on the surface of Mars. Radiation measurements on the surface of Mars demonstrated that dose rate which will receive an astronaut there is around 15 times higher than Dose Limits for Radiation Workers and 750 times higher than Dose Limits for general public. Therefore manned exploration of Mars requires using of immediate shelters of astronauts during the initial stages of the planet exploration. Only natural shelters, which can be found there are caves. Daily variations of the surface temperature on Mars reach 110-120 degrees of Celcium. Temperature inside caves does not vary during day-and-night. It is constant (in the frames of one degree) even during the year. So location of caves on Mars can be of vital importance for future manned exploration of the planet, because such caves are appropriate for storage chambers and shelters of astronauts (Shopov, 2017).

We develop a new technique for remote location of cave entrances using thermal vision technique. It aims to locate new unknown caves using thermal vision camera, which visualize temperature difference on the air coming from the cave and that of the surrounding areas. During Martian

nights temperature on the surface of the planet is tens of degrees of Celcium colder than that in the caves below. Therefore cave entrances can be easily located by a thermal vision camera located on space probes or ROVs. We successfully performed preliminary remote locations of cave entrances on Earth to optimize this technique for work on Mars. So far there are no any cave known on Mars, but there are sure indirect indicators of their existence

Search for caves on Mars involves studies of volcanic caves. Commission president started collaboration on such specific studies with the United States-based company 4<sup>th</sup> Planet Logistics, LLC. (<https://4thplanetlogistics.com/>) which was founded for the purpose of designing, building and evaluating human habitat structures and related support components for utilization on the Moon, Mars and beyond. Its overarching goal is to create and test various habitats from naturally occurring terrestrial lava tubes analogous to the Moon and Mars. We intend to do such test in a special base in a volcanic cave in Island.

Such studies are at the frontier of the human exploration of other planets and have the potential to attract the attention of the international scientific community and the general public to UIS activities and achievements.

Operation of RLC program needs some highly specific, rare and expensive equipment, which is not available within UIS or any of its members or any of the programme members. So efforts of the commission were focused on obtaining of funding to purchase and build proper equipment for the operation of RLC programme. We wrote four research projects to get such funding. The third of them is under consideration. It is a part of a European project for a Center for Supreme Achievements.

The forthcoming research project to support the RLC programme was approved for funding by a research grant of Bulgarian Science Foundation after very tough competition. Under this grant the Commission will be able to buy the thermal vision camera and a special drone necessary to perform the field research of the RLC programme. So latter this winter we will have all necessary equipment to start the field work of this programme. This project involves a strong team of professional cartographers from the Department of Cartography and GIS of Sofia University and all cave cartographers from Bulgarian Federation of Speleology to be able to produce quality integrated underground and surface maps of the new caves, which we intend

to find by this innovative technique. Although it is funded by national funds it can involve speleologists from any country.

Operation of IPCR program also needs some specific equipment. So efforts of the commission were focused on obtaining of funding to get proper equipment for the operation of IPCR programme. We have an European research project just approved for such funding. It will allow to start field measurements in the frames of IPCR programme.

In order to reduce the amount of unnecessary sampling of speleothems Commission also started collaboration with Speleothem Isotopes Synthesis and AnaLysis (SISAL) working group of the largest paleoclimatic community PAGES Past Global Change to build a database of all speleothem records (and samples) available worldwide for further research. It will generate a global-scale database available to the paleoclimate community. The SISAL brings together speleothem scientists, speleothem-process modelers, statisticians and climate modelers to develop a global data synthesis that can be used both to explore past climate changes and in model evaluation. We are planning to

release the first version of this database towards the end of this year.

Commission calls for volunteers to help to achieve this goal. Everybody is welcome to contribute with their speleothem data and descriptions of their old published speleothem samples. EVERY SAMPLE DESCRIBED IN THIS DATABASE MIGHT SAVE MANY SPELEOTHEMS IN CAVES! HELP US TO SAVE MORE SPELEOTHEMS!

**Prof. Yavor Shopov**

*President of the Commission on Physical Chemistry and Hydrogeology of Karst*

#### REFERENCE

Shopov Y. (2017), Using thermal vision cameras for remote location of caves on Mars for immediate shelters for astronauts and storage chambers Journal of Aeronautics & Aerospace Engineering, May 2017, Volume 6, Issue 2, 64.



## ACTIVITY REPORT

# ARCHAEOLOGY AND PALAEOLOGY COMMISSION

30<sup>th</sup> September 2017

By Donald A. McFarlane (USA), *Co-President*  
[dmcfarlane@kecksci.claremont.edu](mailto:dmcfarlane@kecksci.claremont.edu)

The Commission on Archaeology and Palaeontology was reorganized at the 16<sup>th</sup> ICS (Brno; 2013) after a period of senescence. The Commission currently consists of 13 members representing 10 countries, and is chaired by co-Presidents Donald McFarlane (*paleontology*) and Natalie Uomini (*archaeology*). The principle activity of the Commission has been to establish a website <http://faculty.jsd.claremont.edu/dmcfarlane/UIS/> and to serve as a medium for the exchange of information on matters of mutual interest.

#### Specific actions include:

- A petition on access to a Petralona Cave hominid skull was submitted to the UIS General Assem-

bly with a recommendation for action.

- Letter of support to the Torquay Museum, England (a nationally important repository of cave archaeological and palaeontological materials) with respect to local Government funding decisions.

- Distribution of "important new papers" via the Commission email list.

Discussions at the 17<sup>th</sup> ICS focused on strategies for improving Commission visibility on the internet, and developing a relationship with the International Show Caves Association. This has resulted in the establishment of a dedicated List Server, which has already proved quite active.



## ACTIVITY REPORT 2015-2017

# PSEUDOKARST COMMISSION

By

Jan Urban (Poland), *President* - [urban@iop.krakow.pl](mailto:urban@iop.krakow.pl)

Rudolf Pavuza (Austria), *Vice-President* - [rudolf.pavuza@nhm-wien.ac.at](mailto:rudolf.pavuza@nhm-wien.ac.at)

Hartmut Simmert (Germany), *Secretary* - [hartmut.simmert@tu-dresden.de](mailto:hartmut.simmert@tu-dresden.de)

#### Functionaries of the Commission:

Jiří Kopecký (*Honorary President*)

István Eszterhás (*Honorary President*)

Jan Urban (*President*)

Rudolf Pavuza (*Vice-President*)

Hartmut Simmert (*Secretary*)

**Members:** Jiří Adamovič, Ahmad Afrasibian, Ivo Baroň, Pavel Bella, John Dunkley, Ludovít Gaál, William R. Halliday, Erich Knust, Jan Lenart, Włodzimierz Margielewski, Jan Paul van der Pas, Juan Ramón Vidal Romani, Hartmut Simmert, Rabbe Sjöberg, Herman de Swart, George Szentes, Maurizio Tavagnutti, Marcos Vaqueiro Rodriguez, Marina Vdovets, Josef Wagner, Karel Žák.

During the reported period three new members were adopted into the Commission, while three not active (for many years) persons were removed.

#### ASSEMBLY OF THE COMMISSION

The last Assembly took place during the 13<sup>th</sup> International Symposium on Pseudokarst in Kunčice pod Ondřejníkem, 17<sup>th</sup> September 2015; in this meeting the report of the Commission activity in 2013-2015 was presented.

#### EVENTS (MEETINGS)

- The assembly, taking place during the 13<sup>th</sup> International Symposium on Pseudokarst in Kunčice pod Ondřejníkem, Czech Rep., 17<sup>th</sup> September 2015, gathered 11 members of the Commission from 9 countries.

- The 13<sup>th</sup> International Symposium on Pseudokarst was held in 16-19<sup>th</sup> September 2015, in Kunčice pod Ondřejníkem, Czech Rep.. During the scientific sessions of this Symposium 16 lectures and 5 posters were given. The field sessions (lasting one and half days) included visits of two caves and several sites of a morphology shaped by gravitational slope movements.

#### PUBLICATIONS

- The booklet of abstracts (50 pp.) and field-session guidebook (12 pp.) were published by the organizers of the 13<sup>th</sup> International Symposium on Pseudokarst and distributed among its participants.

- Pseudokarst Commission Newsletter has been issued once a year in two languages: English and German. Editors of the issues were: Jan Urban, Rudolf Pavuza and Christa Pfarr. During the reported period two issues were published: N° 26 (2016) and N° 27 (2017). The Newsletter is still distributed both in digital version by internet and in printed copies by mail. Both issues include 7 scientific or popular-scientific papers as well as several short notices, event announcements and reports.

- The reports on the 13<sup>th</sup> International Symposium on Pseudokarst, were published in the UIS Bulletin 58, 1/2016 (pp. 13-17), Pseudokarst Newsletter no. 26/2016 (pp 27-34), Przegląd Geologiczny (Geological Review) no. 64, 2/2016 (pp. 84-85) and Zacisk 29/2017 (in press).

- The report on the Pseudokarst Commission activity in 2013-2015 was published in the UIS Bulletin 58-1/2016 (pp. 10-12). See <http://www.uis-speleo.org/downloads/uis-bulletins/uisb581.pdf>.

#### WEBPAGE

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



## CURRENT AND PLANNED ACTIVITIES, PROBLEMS

• The most important aim of the Pseudokarst Commission activity is the organization of international pseudokarst symposia. Although during the 17<sup>th</sup> International Congress of Speleology in Sydney the adequate session on non-karst caves and landforms was organized, this Congress could not be assumed as a meeting of the Commission, since only two its members attended the Congress. Therefore, the crucial problem, which should be solved as soon as possible, is the location of the 14<sup>th</sup> International Symposium on Pseudokarst. So far, the Commission Executive explored some possibilities (Romania, Russia, Sweden) without success, therefore all proposals are welcome. The ultimate term of this meeting is 2019.

• The difficulty with the organization of the pseudokarst symposium seems to be a part of much greater problem of the Commission members' activity and, generally, membership. Although the number of the Commission members has not decreased and their "quality" and professional output are very high and are still getting greater, the average age of

the Commission members is increasing along with the time, which does not contribute to the activeness of the Commission as a whole. Therefore, the executive group of the Commission call on all members and friends of the Commission to find young people working on "pseudokarst" and ask them to involve in the Commission activity. We need such people within the Commission and its executive group. The newsletter – by the way – represents an already renowned international platform for the presentation of results and ideas.

• The Commission executive proposes to prolong the activity of the Working Group on the Classification of Non-Karst Caves under the leadership of P. Bella and L. Gaál. We hope that the conclusions of this group work will be presented during the 14<sup>th</sup> International Symposium on Pseudokarst.

• Due to good work of the UIS Vice-President, George Veni, the information on events related to cave and karst exploration, study and management (meeting announcements, publications etc.) has been efficiently distributed to the Commission executive and then redistributed to its members and friends.

## ACTIVITY REPORT 2013-2017

# CAVE DIVING COMMISSION

By Maxime de GIANPIETRO (Switzerland), *President*  
[uiscdc@yahoo.com](mailto:uiscdc@yahoo.com)

The Cave Diving Commission activities have already been presented in the previous UIS Bulletin of June 2017 (<http://www.uis-speleo.org/downloads/uis-bulletins/uisb591.pdf>).

These activities can be summarized as follows:

**1.** In autumn 2013 we successfully launched a website, fully dedicated to the activities of the Cave Diving Commission of the UIS with the aim to make it easier for people all around the world to access crucial information about the commission's resources and activities as well as to get in touch with its key people easily.

**2.** We attended as a guest, the 2014 annual meeting of the French Cave Diving Commission which was held during the annual congress of the French Speleological Society (FFS).

• During this meeting the two commissions agreed on how France would in the future run its cave diving seminars and workshops, this decision was important since the commission has to respond to requests from countries which do not have suitable knowledge to offer cave diving seminars and courses to their members.

**3.** At the request of the local speleologists, our Vice-President, Mr Philippe Brunet, organised in 2013- 2014-2015 and 2016 Cave Diving Workshops abroad in the Pacific Area.

**4.** We were invited to attend the 13<sup>th</sup> International Cave Rescue Conference, RISS 2015, as speaking guests, held in Switzerland from April 16<sup>th</sup>-19<sup>th</sup>.

• At this occasion we showed the movie "Rescue in the Bouclans' Spring", a documentary produced by our commission. The aim was to show to the conference participants how a multisumps cave diving rescue operation works. We highlighted the challenges that such an intervention means to traditional rescue teams, letting them better understand the needs and the severe constraints that cave diving rescue specialists encounter when planning a joint rescue multisumps operation.

• This event, which gathered more than one hundred participants from around the world, was a unique opportunity to meet and to talk to Rescue

Speleologists and to Rescue Divers coming from a dozen of countries and to present them the peculiarities, constraints and procedures of Cave Diving Rescue in a multisump environment.

• In return we could gather and exchange informations about the organisation of Cave Diving Rescue in some countries and the lack of such organisations in others.

**5.** Our commission was able to present another documentary on a multisump exploration in several Speleological conventions in Europe with the aim to demonstrate to classical speleologists the wherabouts of joined operations with Cave Divers when exploring new caves. These documentaries can be viewed online on the website of the commission.

**6.** The Cave Diving Commission gave its patronage to the Cave Diving Conference in Dorgali, Sardinia organised in May 2015. The organizing Committee was made of the Sardinian Speleological Federation (FSS) and the Cave Diving Commission (CNS) of the Italian Speleological Society (SSI). This congress highlighted the main outcomes in the exploration of the karst underwater system along the Orosei gulf during the last 50 years. Several explorers were invited and presented the outcomes of exploration dives and new perspectives. Part of the session was devoted to reports on other exploration areas and new cave diving equipment.

**7.** Another patronage was granted to the International Namibia expedition led by Dr. Alessio Fileccia.

**8.** The Commission was also asked to give its expertise on Cave Diving Exploration matters to local territorial authorities of a country that had to grant special permits for a major cave exploration, involving speleologists, cave divers and heavy surface support.

**9.** We also assisted a National Cave Diving Commission in the setup of its new Chart and the definition of the new terms of reference and specifications of the Cave Diving Commission within its national Speleological Organisation.

**10.** Several countries approached us regarding the procedures for issuance of Cave Diving Accreditations for their members and we responded to their requests in issuing new Cave Diving Accreditations as

## Dear Members and Friends of the UIS-Pseudokarst Commission



We are pleased to inform you that, according to the decision of the majority of the Commission members (meaning all members expressing their opinion in this matter), **Dr. WILLIAM R. HALLIDAY**, is designated an **HONORARY MEMBER** of the UIS Pseudokarst Commission.

Dr. Halliday (born 1926), the oldest member of this Commission, is the famous American speleologist (NSS member since 1947) and caver, who explored many karst, non-karst and volcanic (lava tube) caves. He is also an author and co-author of many publications: cave documentations and maps, cave studies, syntheses and encyclopedic descriptions, among which are also the analyses of Martian pseudokarst. He summarized his view of the pseudokarst phenomena thoroughly in his paper "**Pseudokarst in the 21<sup>st</sup> Century**" (<https://caves.org/pub/journal/PDF/v69/cave-69-01-103.pdf>). His papers have been published in some issues of Pseudokarst Commission Newsletter, too. Despite the progress in a disease, he is still active member of the Commission.

Being very grateful for his contributions to the activities of the Pseudokarst Commission, we wish all the best to Bill Halliday!

**Jan Urban**, *President of the UIS Pseudokarst Commission*

**Rudolf Pavuza**, *Vice-President of the UIS Pseudokarst Commission*

**Hartmut Simmert**, *Secretary of the UIS Pseudokarst Commission*



Underwater Speleologists.

**11.** We were also involved in the successful testing of a new subterranean positioning device that could be defined as something like an underground GPS. We do hope that this device will help the future explorers to map new galleries discovered with a greater accuracy.

**12.** Mr. German Yanez from Mexico was appointed as a new Acting Secretary of the Commission. Furthermore, and in view of his deep knowledge of the region, Mr Yanez was put in charge to promote the activities of the Commission in Central and South

America, as he already did in Central America. Plans are that he will organise new events in South America. Thanks go to Mr Yanez for his initiatives.

**13.** I take the opportunity of this report to thank the two Vice-Presidents of the commission, Mr Manuel Pinto-Soares (Portugal) and Mr. Philippe Brunet (France), for their most appreciated contributions to it as well as for their overall constructive collaboration and their strong dedication towards the UIS Cave Diving Commission.



## ACTIVITY REPORT/RAPPORT 2014-2017

# BIBLIOGRAPHY COMMISSION COMMISSION DE BIBLIOGRAPHIE

Granges, 17 July 2017 / 17 juillet 2017

By Patrick Deriaz (Switzerland), *President*

*Président de la Commission de Bibliographie de l'UIS*

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Since the 16<sup>th</sup> UIS International Congress in Brno, thanks to the work of the national collaborators, the commission has continued to gather and document bibliographic analyses from around the world.

In June 2015 appeared the double volume 51-52 (2012-2013), which is also the last BBS printed issue.

In March 2017, the volume 53 (2014) was published on the internet in the form of a database. The first reactions are positive. Some few bugs, such as printing and exporting analyses that do not work properly for the moment, will be soon corrected.

The Scientific Speleology Commission of the Swiss Academy of Natural Sciences, which has provided financial support for the Speleological Bibliographic Bulletin since its beginnings, decided on their 12<sup>th</sup> of July 2017 meeting to provide free access to all BBS analyses (approximately 110 000 references). A single url will be available for each analysis, allowing BBS summaries to be linked with other applications. This will be done in the coming weeks and general information will be disseminated via the UIS website.

The work of collecting and writing analyses only was possible thanks to the enthusiasm of many people around the world, especially for the volume 53:

Depuis le congrès de Brno, la commission a continué à rassembler des analyses en provenance du monde entier, grâce au travail des collaborateurs nationaux.

En juin 2015 a paru un numéro double 51-52 (2012-2013) qui est le dernier numéro imprimé.

En mars 2017, le numéro 53 (2014) est publié sur internet sous forme de base de données. Les premiers échos sont positifs. Des bugs seront corrigés ces prochaines semaines, tel que l'impression et exportation des analyses qui ne fonctionnent pas correctement.

La commission de spéléologie de l'Académie Suisse des Sciences Naturelles, qui soutient financièrement le Bulletin bibliographique spéléologique depuis ses débuts, s'est réunie le 12 juillet et a décidé de mettre en accès libre l'ensemble des analyses du BBS (soit environ 110'000 références). Un url unique sera disponible pour chaque analyse, permettant de lier les résumés du BBS avec d'autres applications.

Cela sera réalisé ces prochaines semaines et une information générale sera diffusée via le site de l'UIS.

La collecte et la rédaction des analyses fonctionnent grâce à l'enthousiasme de nombreuses personnes dans le monde entier, à savoir pour le numéro 53:

- International coordinator / *Coordination mondiale*: **Agnès Darnoux**
- Australia: **Greg Middleton**
- Argentina: **Carlos Benedetto**
- Austria: **Christa Pfarr**
- Belgium: **Nathalie Goffioul**
- France: **Marcel Meyssonier, Christophe Bès, René Carlin, Bernard Chirol, Philippe Drouin, Xavier Foucrier, Christophe Prévot, Christophe Lavorel, Jean Taisne, Eric de Valicourt**
- Germany: **Gehard Stein, Michael Laumanns, Thomas Ratgeber**
- Italy: **Michele Sivelli, Pino Guidi, Alessandro Pastorelli**
- Malaysia: **Liz Price**
- Norway/Norvegen: **Torstein Finnesand**
- Switzerland: **Patrick Deriaz, Cécile Vuilleumier, Philipp Hauselmann**
- Sweden: **Johannes Lundberg**
- USA: **Yvonne Droms**
- United Kingdom: **Gina Moseley, Natalie T. Uomini, Joanne Dornie**
- Biospeleology: **Bernard Lebreton**

Special thanks to everyone who helped and contributed to BBS.

Join us: we always look for collaborators all over the world, people who read caving magazines and books, and who are willing to summarize their content in a database.

For further information, please contact:

[bbs\\_coordination@ssslib.ch](mailto:bbs_coordination@ssslib.ch)

The BBS website is available at:

[www.ssslub.ch/bbs](http://www.ssslub.ch/bbs)

Merci à toutes ces personnes qui contribuent au BBS. Rejoignez-nous : nous cherchons toujours des collaborateurs dans le monde entier : des personnes qui lisent les revues et livres consacrés à la spéléo, et qui ont la volonté faire un résumé dans une base de données.

Pour plus d'informations, prenez contact à:

[bbs\\_coordination@ssslub.ch](mailto:bbs_coordination@ssslub.ch)

Le site internet du BBS est disponible à l'adresse:

[www.ssslub.ch/bbs](http://www.ssslub.ch/bbs)



## ACTIVITY REPORT 2013-2017

# INFORMATICS COMMISSION

## Cave and karst documentation, mapping and data

September 2017

By Peter Matthews (Australia), *President*

[matthews@melbpc.org.au](mailto:matthews@melbpc.org.au)

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

This report covers our work in the four years since the 2013 Congress in Brno, Czech Republic, together with results from the recent 2017 Congress in Sydney, Australia. Please note that although the term "working group" has been used during the four years of this report, the UIS Bureau has decided to discontinue this term, and so the Commission and its sub-groups will need to decide on a new terminology for the future.

Our groups have made good progress as below, but other projects are waiting for volunteers to help.

If you would like to contribute to the progress of cave and karst documentation techniques, particularly that related to data fields, data exchange and the semantic web, please contact the president at the email address above. And if you would like to contribute to any of the groups below you are very welcome - please email their leader directly. We are also still looking for a Vice-President to help run the Commission and its work, and we could really use some cave documentation oriented people who are adept at developing web-based applications.

An old but important issue which has arisen during the work of the UIS-WikiCaves Working Group is that of balancing the need for ready access to cave and karst information against the need to protect the caves and cave owner relations. One size does not fit all, and so some serious discussion is needed to reach a consensus and strategy to accommodate the requirements of each country.

## SURVEY AND MAPPING

**Leader: Philipp Häuselmann** (Switzerland)

[praezis@speleo.ch](mailto:praezis@speleo.ch)

**Web:** <http://www.uisic.uis-speleo.org/wgsurmap.html>

The Survey and Mapping Working Group focussed on two new topics during the period - Symbols for artificial cavities, and T-LiDAR cave scanning. See also 'Survey Archive' further below.

## MAPPING SYMBOLS FOR ARTIFICIAL CAVITIES

**Leader: Philipp Häuselmann** (Switzerland)

[praezis@speleo.ch](mailto:praezis@speleo.ch)

**Web:** <http://www.uisic.uis-speleo.org/wgsurmap.html#artificial>

At the request of the UIS Artificial Cavities Commission in 2013 and after discussion at the International Congress of Speleology in Artificial Cavities, HYPOGEA, in March 2015 in Rome, a draft symbol set was prepared and sent to the Artificial Cavities Commission for their consideration. Their responses were considered by the working group at the Sydney Congress and a final set for voting will be issued in 2017-18.

## T-LIDAR CAVE SCANNING

**Leader: Donald McFarlane** (USA)

[DMcFarlane@kecksci.claremont.edu](mailto:DMcFarlane@kecksci.claremont.edu)

**Web:** <http://www.uisic.uis-speleo.org/wgsurmap-lidar.html>

This survey working group was formed in 2015 to establish recommended guidelines and standards for LiDAR (Light Detection and Ranging) laser scanning and mapping of cave chambers and passages. An initial meeting was held in Belgium in 2015 where provisional agreement was reached on open standards for file formats. Many examples of LiDAR scanning were displayed by a range of people at the Sydney Congress. Further discussion was held at the Congress by the group and the details will be available shortly on their web page.

## PUBLICATIONS EXCHANGE

**Leader: Trevor Faulkner** (UK)

[trevor@marblecaves.org.uk](mailto:trevor@marblecaves.org.uk)

**Web:** <http://www.uisic.uis-speleo.org/publexch>

At its initial meeting at the Brno Congress in 2013, this working group was established to assist with the exchange, accessing and archiving of speleological publications into the future. Further meetings were held in the UK in 2016 and in Australia at the recent UIS Congress. At these meetings and from email exchanges two editions of a series of draft guidelines were established and updated, together with spreadsheets to record the current publications and their exchange status. At the Sydney Congress Edition 3 was reviewed and will be finalised for distribution and publication on the group's web page shortly.

After the final release of the guidelines and status, Trevor will be resigning as Leader of the group, and Michele Sivelli of the Centro Italiano di Documentazione Speleologica Biblioteca "F. Anelli" (Società Speleologica Italiana) will be taking over the leadership for the ongoing maintenance of the Guidelines and the periodic updating of the exchange status documents (contacts, publications and exchanges).

Please see the web page for more information, and Trevor's detailed progress reports can be found in UIS Bulletins. See also [page 86](#) of the current issue.

## UIS-WIKICAVES

**Leader: Didier Borg** (France)

[dcborg@aol.com](mailto:dcborg@aol.com)

**Web:** <http://www.uisic.uis-speleo.org/wikicaves>

The UIS-WikiCaves Working Group was set up at the Brno Congress in 2013 to foster liaison between WikiCaves and UIS and to encourage the use of GrottoCenter's existing web database (established in 2008) to improve open and standards-based access to basic cave and karst data on a global basis, while accommodating the various protocols needed by each country for the protection of their caves and landowner relations.

Accordingly, the working group sent out a letter in April 2016 under the signature of the UIS Secretary General and the WikiCaves President to all national organisations and delegates to ascertain what level of locational precision for caves their country can accept on the GrottoCenter cave data website, and whether they would help the project by supplying information about their caves. Some countries have indicated

their interest in cooperating, or have even signed a partnership agreement, others have indicated difficulties with sharing information, but a large number of federations have not yet responded. We encourage the remaining countries to respond, otherwise we have to assume that there is no restriction on the location precision presented for any data which could be supplied by anyone in the world for caves in their country.

There is still a lot of concern about cave protection, which is good news, but the question remains: In the 21<sup>st</sup> century, how can we enable easy access to information for exploration, research and management while still protecting the caves? This will be a topic for discussion in the coming period.

Meanwhile Version 3 of the GrottoCenter website is now in Beta, and includes mechanisms for specifying restrictions and managing graded access to the cave data.

## CAVER'S MULTI-LINGUAL DICTIONARY

**Leader: Mladen Garašić** (Croatia)

[mgarasic@grad.hr](mailto:mgarasic@grad.hr)

**Web:** <http://www.uisic.uis-speleo.org/lexintro.html>

First displayed on the web in 1998 with over 300 speleo concepts in four languages, the Dictionary over the last four-year period has seen the addition of Polish, Ukrainian, Russian, Turkish and Arabic in that order, thanks to our hard-working contributors, taking us now to 26 languages and with more in the pipeline.

New languages or improvements to existing languages are always welcome. Important technical information on how to supply a new language is available on the Working Group's web pages. We have also had an offer to add Italian dialect terms and to add artificial cavity terms.

Although already comprehensive in terms of languages, the Dictionary certainly has scope for further development. For example, more flexibility in its presentation, links to actual definitions in the various languages, and conversion of its offline database to a web database. We welcome anyone who is interested in helping with these developments, or who can provide information about access to actual definitions in any of our languages.

## FROM THE SYDNEY CONGRESS

Apart from the further developments in our groups as mentioned above, the following new issues arose during the Sydney Congress:

## Data transfer

The Fort Stanton Cave Study Project (New Mexico, USA) needs to transfer their significant data holdings to the managing agencies, and enquired about the existence of cave photo data standards. As well as data for over 50,000 photos, their holdings include the usual survey, inventory and scientific measurement data. In subsequent discussions it was agreed that the project and the Commission's existing Data Exchange Working Group would collaborate to assist with this transfer, and in the process continue the current development of UIS' cave data transfer and archiving standards. We would also be interested to hear from anyone who has already established a cave photo catalogue.

## Survey archive

The Commission was approached by a caver who was holding over 40 years of survey data for a major cave system and was enquiring about the possibility of archiving this data for open access in a secure location over the long term, in particular, after he had passed on. This idea certainly has merit, however there are many questions to be answered, decisions to be made, and online development to be done before such an archive could be set up effectively. Preliminary enquiries have been made about possible international sites. The Commission will create a new group to look into the issues, and so our Survey and Mapping Working Group is considering whether to make this their next project.

## Mailing lists

Several emailing lists are being set up via the UIS Internet Facilities to assist with the discussions on the various topics mentioned in this report. Details will be available via our website in due course. Everyone is encouraged to join and contribute to any of the groups and discussions above which interest them. More details about each group can be found on their web page.

## Commission leadership

No volunteers came forward to take over leadership of the Commission, so Peter Matthews will continue as President. A Vice-president is still being sought.

## REPORT OF ACTIVITIES

# PUBLICATIONS EXCHANGE WORKING GROUP OF THE UIS INFORMATICS COMMISSION

19 October 2017 - WFW729

By Trevor FAULKNER (United Kingdom), *Chairman*

[trevor@marblecaves.org.uk](mailto:trevor@marblecaves.org.uk)

<http://www.uisic.uis-speleo.org/publexch>

This is the third report of the Publications Exchange Working Group (PEWG) to the UIS Informatics Commission. It builds on the first and second reports, which were published in UIS Bulletins 58 (1) 5–7, May 2016, and 59 (1) 42–43, June 2017, to which readers are referred. The PEWG has been established to tackle the challenges and opportunities for the exchange, accessing, organisation, safe storage and archiving of world-wide published speleological and karstic information into the distant future. The Working Group was formally established within the UIS Informatics Commission, with close liaison with the UIS Bibliography Commission, at the 16<sup>th</sup> International Congress of Speleology (ICS) held in Brno, Czech Republic, from 21–28 July 2013.

### THE MAIN AIMS OF THE PEWG ARE TO:

- 1- Promote the exchanges of previous and new paper journals and books that will be housed in physical libraries internationally;
- 2- Publicise the extent of this international cooperation to help safeguard the preservation of important speleological information into the distant future, as a widely distributed 'archive';
- 3- Examine the opportunities and problems related to the production, dissemination and long-term storage of information electronically, primarily to improve its international, searchable, 'access', and to produce a distributed digital archive.

*The vision is that the Working Group will assist in the networking of those existing speleological libraries internationally that each hold and catalogue a good selection of published cave and karst literature.*

### WORKING GROUP PARTICIPANTS AND COMMUNICATION

Editors and Librarians of international speleological organisations and other interested people are asked to regard themselves as part of this Working Group. Please forward the PEWG Speleological Publications Exchange Guidelines to your Exchange Partners and invite them to join, by sending a short email to the next Chairman, Michele Sivelli ([biblioteca\[at\]socissi.it](mailto:biblioteca[at]socissi.it)). These Guidelines are placed on the PEWG web page at <http://www.uisic.uis-speleo.org/publexch/> at each new issue. Meeting workshops for the Working Group are arranged at international speleological events, to discuss progress and to facilitate the actual exchange of back issues of speleological journals and books. Since the first report, workshops were held at the EuroSpeleo 2016 event in Yorkshire, UK, on 16 August 2016 and at the 17<sup>th</sup> ICS in Sydney on 28 July 2017. Minutes of these meetings are, or will be, available on the website.

### ACHIEVEMENT OF THE AIMS OF THE WORKING GROUP

The aims have now been mainly achieved by the preparation of the Guidelines at Issue 3, which have the following contents:

**Chapter 1:** Introduction

**Chapter 2:** Terms of Reference of the PEWG

**Chapter 3:** The record of the PEWG

### Observations and Recommendations

**Chapter 4:** Speleological libraries

**Chapter 5:** Paper publications and digital warnings

**Chapter 6:** Postal exchanges.

**Chapter 7:** Scanning documents for digital archiving

**Chapter 8:** The creation, exchange and storage of digital publications

**Chapter 9:** Review of previous actions

### Supporting spreadsheets

**Chapter 10:** PEWG Contacts

**Chapter 11:** PEWG Journal Titles

**Chapter 12:** PEWG Paper Exchanges received, excluding from Europe

**Chapter 13:** PEWG Paper Exchanges received, from Europe (Austria to Italy)

**Chapter 14:** PEWG Paper Exchanges received, from Europe (Netherlands to UK)

### PROGRESS TO DATE

The PEWG Terms of Reference and several Appendices were re-issued at Issue 2 on 9 November 2016, following discussion at the Workshop held on 16 August 2016. The documentation has since been reformatted into the existing Guidelines at Issue 3. Chapters 1 to 8 are now complete and stable, so that it is hoped that Editors and Librarians will follow the recommendations. However, revisions and maintenance will be needed in the future, as new techniques evolve. Chapters 7 and 8 have been written by an expert team to address the issues regarding the electronic exchange of published information. Significant new information at Issue 3 includes: UIS Documentation Centres in Chapter 4, OCR in Chapter 7 and Open Access in the Chapter 8 preamble. Everyone is asked to continue to provide new information and updates for all the spreadsheets. Peter Matthews, the Chairman of the UIS Informatics Commission, is thanked for continuing support in placing PEWG information on to the UISIC web page.

### MEETING IN SYDNEY

The Chairman presented a report of PEWG progress at Issue 2 of its documentation to attendees of the 17<sup>th</sup> ICS on 27 July 2017. His paper is in the Congress Proceedings Volume 1, 430–431. A PEWG workshop was convened the following day on 28 July 2017, with an agenda to:

1. To review the PEWG Guidelines at draft issue 3, following a restructuring
2. To review progress in achieving the aims of the Working Group
3. To provide an opportunity for further discussion, networking and the physical exchange of publications amongst the attendees.

The workshop agreed the Guidelines, which have now been published at Issue 3. The Contacts and Journal Titles spreadsheets are well populated,

but the three Paper Exchanges Received spreadsheets remain quite sparse. Discussion revealed that the PEWG might need to change its name and status, as the UIS statutes no longer recognise "Working Groups". Another discussion concerned UIS Documentation Centres.

### UIS DOCUMENTATION CENTRES

The primary UIS Documentation Centre is housed at the library of the Swiss Speleological Society in La Chaux-de-Fonds. A UIS Bureau meeting in 1978 published a list of 'National Documentation Centers of Speleology', to overcome the problems of personal access to one physical library. By 2015, 18 such libraries were assumed to participate in exchanging publications and providing access to their collections, as reported in the new book by Labegalini (2015, 109–113), which became available at the Congress. These are now listed in Chapter 4 of the Guidelines. The BBS-SA website [sslib.ch/bbs/public/anglais/index.htm](http://sslib.ch/bbs/public/anglais/index.htm) lists 15 of these registered UIS Documentation Centres that should enable people to study international caving literature and to order copies of articles that have been cited in Speleological Abstracts, Current Titles in Speleology and BBS-SA, perhaps electronically. However, it is not clear which person or group should decide which libraries fulfil the requirements to be new (national) Documentation Centers, and by which process. A proposal has been made from Brazil that this should be coordinated through the PEWG, and this will be considered further.

### NEW CHAIRMAN FOR THE PEWG

At the end of the Workshop, the Chairman reported that he will retire from the post of BCRA Foreign Secretary at the end of 2017, and it will not be appropriate to continue as Chairman of PEWG after that. The meeting unanimously agreed to nominate Michele Sivelli, the Librarian for the Societa Speleologica Italiana, as the new Chairman and we wish Michele every success in taking the PEWG forward from the start of 2018.

### REFERENCE

Labegalini, JA. 2015. Fifty Years of the UIS: 1965–2015, Ljubljana, Slovenia. 522 pp.



ACTIVITY REPORT 2013-2017

# COMMISSION ON GLACIER, FIRN, AND ICE CAVES

30<sup>th</sup> September 2017

By Valter Maggi (Italy), *President*

<http://geomatic.disat.unimib.it/home/valter/icecave/index.html>

[valter.maggi@unimib.it](mailto:valter.maggi@unimib.it)

The **Commission on Glacier, Firn and Ice Caves** (*Glaciocaves* - <http://bit.ly/2yIBWh6>) is composed by:

**President**

**Prof. Valter Maggi** (Italy)

[valter.maggi@unimib.it](mailto:valter.maggi@unimib.it)

**Vice-Presidents**

**Prof. Bulat Mavlyudov** (Russia)

[bulatrm@bk.ru](mailto:bulatrm@bk.ru)

**Dr. Aurel Persoiu** (Romania)

[aurel.persoiu@gmail.com](mailto:aurel.persoiu@gmail.com)

**Secretary**

**Christiane Meyer** (Germany)

[christianemeyer@gmx.ch](mailto:christianemeyer@gmx.ch)

The Commission has the goal to explore and understand the evolution of ice deposits in caves, and the caves formed in the glaciers. Caves and the cryosphere are very sensitive to the climate change. Ice caves and Glacier Caves are strictly related to hypogean physical properties and micrometeorology and glacier dynamics, and external forcing as precipitation, temperatures, wind, etc.... Due to the climate change, mid-to-polar latitude ice caves and glacier caves are now in danger, at different rates, for the reduction in term of volumes and areas. Melting

of ice bodies will eventually change the caves dynamics, and most of the past information archived is vanishing from melting and ice reducing.

The aim of the Commission is improving the collaborations between UIS and non-UIS communities, working in ice and glacier caves, to define the guideline for the ice body exploration and ice coring and to explore the possibility of project design and funding (national and international agencies).

This small community meets every 2 years during the International Workshop on Ice Caves (IWIC). In 2014 met in Idaho Falls (USA) and in 2016 in Postumia (Slovenia).

The next IWIC will take place in Spain at the Picos de Europa National Park from 11<sup>th</sup> to 18<sup>th</sup> June 2018 (<http://eventos.uva.es/15714/detail/international-workshop-on-ice-caves.html>).

In the meantime, the commission produces a yearly newsletter (1<sup>st</sup> issue 2017) that is published on the Glaciocaves website (<http://geomatic.disat.unimib.it/home/valter/icecave/img/newsletter-2017.pdf>)

Here we also ask the UIS National Delegates to send us information about activities, research, and, if exist, database of the ice caves in your country. Especially important are for us is the contact with colleagues, speleo groups or research institutes that work on ice caves in your country. We are an open community, and all the contributions are welcome.

**Scarisoara Ice Cave drilling (Romania)**

Among the activities of the Commission, we can mention the continued drilling efforts in Scarisoara and Focul Viu Ice Caves, recovering ice cores that span the last 10,000 years. Analysis of the ice led to the first reconstruction of the Holocene history of winter temperature and moisture in Eastern Europe.

Present activities are focusing on analyzing the life preserved in the ice, preliminary results indicating that microbes and fungi survived for more than 2,000 years frozen in the ice.



Scarisoara Ice Cave, Apuseni Mountains, Romania.

Font: © <http://bit.ly/2yIBWh6>

# MEXICO, MAKING CHANGES TO IMPROVE NATIONAL SPELEOLOGY

By Luis Omar Calva Pérez (Mexico), *Second Officer of UMAE*  
[vocalB@umae.org](mailto:vocalB@umae.org)

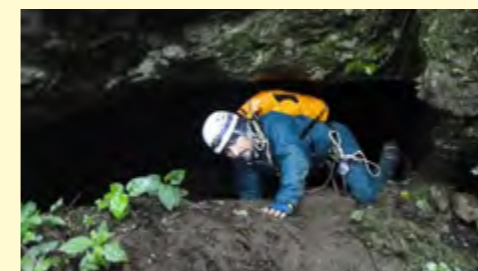
Rogelio Hernández Vergara (Mexico), *First Officer of UMAE*  
[vocalA@umae.org](mailto:vocalA@umae.org)

Photos of this page  
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## 1 - NEW EXECUTIVE COMMITTEE 2017-2019

The **Mexican Union of Speleological Associations (UMAE, in Spanish)** announces its new board of directors. The selection took place in the month of July, 2017, when leaders of each association and honorary members who are affiliated to UMAE, voted to select the new Executive Committee. The structure of this union is presided by the following members: a president, a vice-president, one general secretary, one treasurer and two assistants.

### THE ELECTED EXECUTIVE COMMITTEE 2017-2019 IS:



**Oscar Alvarado Machorro**  
**President of UMAE**



**Fátima del Rosario Tec Pool**  
**Vice-President of UMAE**



**Adrián Miguel Nieto**  
**Secretary of UMAE**



**Alicia M. Dávila García**  
**Treasurer of UMAE**



**Rogelio Hernández Vergara**  
**First Officer of UMAE**



**Luis Omar Calva Pérez**  
**Second Officer of UMAE**

The new Committee is ready and willing of initiate activities, starting with the agreements and proposals that will help in the progress of our national speleology. Our objectives are to re-activate work groups focused on different disciplines, to create courses, workshops and talks to encourage a better understanding and knowledge of this science, to continue coordinating the National Speleology Congress and to guide any foreign caver about the way to explore and research in Mexico.

## 2 - HISTORY OF UMAE

Mexico is well-known around the world in the field of speleology because of its high diversity of caves. Our country has several of the most outstanding caves in the world. Sistema Huautla (the deepest cave of Western Hemisphere), Sistema Ox Bel Ha (the world longest underwater cave), Sótano de las Golondrinas, Cueva de los Cristales de Naica and Sistema Cheve, just to mention a few.

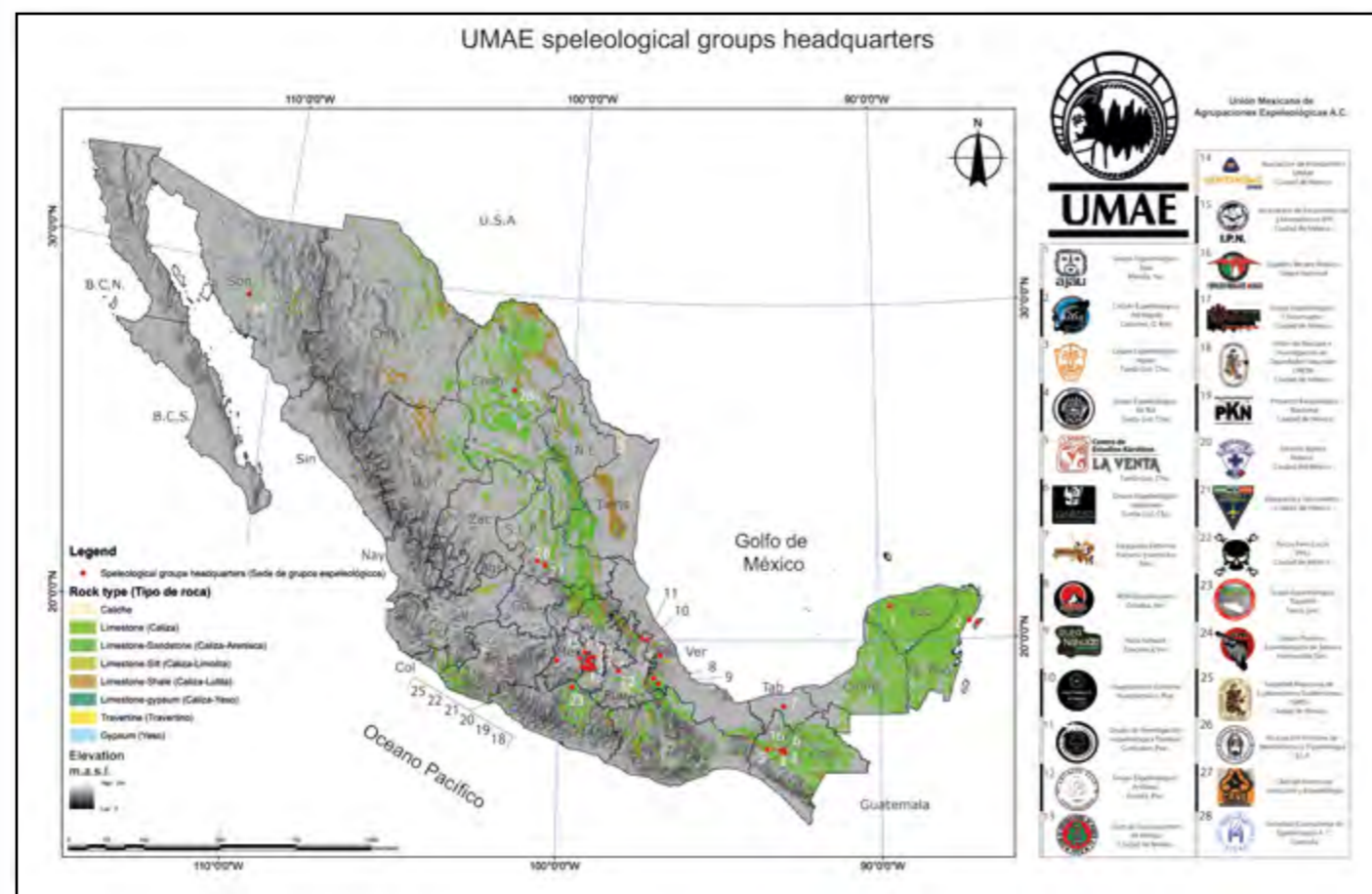
This natural variety was the reason to establish an organization to represent all cavers of Mexico, here and around the world and in 1990, the UMAE was born. The main objective of this union is to encourage and spread speleology in Mexico through the

exploration and documentation of the subterranean environments on different aspects: scientific, technical, touristic and as a sport.

UMAe supports the National Mexican Congress of Speleology. This event comes every two years and is managed by affiliate groups. The first congress was held in Mérida, Yucatán on December 16-20, 1991 and operated by Espeleo-Grupo Yucatán, with the support of the Universidad Autónoma de Yucatán and the Government of Yucatán. Since then, National Congresses have been held in different states such as Guerrero (1993), Campeche (1995), Puebla (1998), Querétaro (2000), Chiapas (2003), Nuevo León (2005), Puebla (2007), Tabasco (2009), Puebla (2011), Yucatán (2013), Veracruz (2015) and Puebla (2017). As part of these congresses, we hold the General Assembly where the Executive Committee and all the groups and honorary members discuss the situation and problems to be solved in relation to our speleology.

### 2.1 - UMAE PAST-PRESIDENTS

1. **José G. Palacios Vargas** (1990-1993)
2. **Alejandro Carrillo Bañuelos** (1993-1994)
3. **José A. Gamboa Vargas** (1994-1996)
4. **Sergio Santana Muñoz** (1996-1999)



**Figure 1** - Mexico and all the affiliated groups of the Mexican Union of Speleological Associations (UMAe) (based on INEGI geology data base).

5. **José G. Palacios Vargas** (1999-2002)
6. **Juan Antonio Montaña Hirose** (2002-2003)
7. **Rodolfo González Luna** (2003-2006)
8. **Javier Vargas Guerrero** (2006-2008)
9. **Reyes Orozco Villa** (2008-2017)

### 3 - UMAE TODAY

Almost 30 years have passed since its creation and great progress was made, however there is more to be done. At this moment, the Union is constituted by 28 groups or associations and more than 220 members (Figure 1). Also, UMAe is affiliate to Union Internationale de Spéléologie (UIS) and Federación Espeleológica de América Latina y del Caribe (FEALC). All members are working through different areas and making great progress in this science.

The UMAe also publishes *Mundos Subterráneos*, the official newsletter that talks about the activities of cavers from Mexico and any caver around the world. This publication has already published 27 issues and is distributed to Zoological Records and UIS and FEALC libraries. UMAe is still coordinating the National Mexican Congress of Speleology, with a total of 13 congresses so far, and is searching for the next host.

### 4 - NATIONAL MEXICAN CONGRESS OF SPELEOLOGY Hueytamalco, Puebla, 2017

The National Mexican Congress of Speleology was held in Puebla, Mexico, in the town of Hueytamalco and was hosted by the Asociación de Espeleología del Estado de Puebla from February 3<sup>rd</sup> to the

6<sup>th</sup> of 2017 (Figure 2).

Lead by Alondra Fernández, president of National Mexican Congress of Speleology Executive Committee 2017 and Alfredo Bravo Bonilla, president of Asociación de Espeleología del Estado de Puebla, more of 200 cavers, students, teachers, researchers from different states of Mexico and local people reunited. Not only cavers from Chiapas, Guerrero, Jalisco, Mexico City, Michoacán, Puebla, Quintana Roo, Sonora, Veracruz and Yucatán gathered for came this important event, but we also have the presence of cavers from different countries such as Brazil, Cuba, Japan, Puerto Rico and United States. During the four days of the event, all participants shared their experiences about cave exploration and research. Over 45 conferences and talks, workshops, art and videos exhibits were held during this event with topics of cave exploration, cave rescue and new discoveries as well as about biology, karstology, geology, conservation and archaeological research (Figure 3).

On the another hand, the event also had excursions to the local caves. In this occasion, two caves of Atepetaco Karst System, with different levels and structures, were selected depending on the experience of the crew. Cueva Las Cruces (show cave) and Cueva El Viento were the two caves where cavers spend a full day underground using different entrances and paths, sharing each other's knowledge and practicing their techniques. Last, but not less important, it commemorated our General Assembly by UMAe, where new changes were decided on the future of the Mexican caves.



**Figure 2** - Mexican cavers in the XIII National Mexican Congress of Speleology 2017 in Hueytamalco, Puebla, Mexico.



**Figure 3** - Cavers exploring Cueva El Viento in Puebla, Mexico, one of the trips during the National Mexican Congress of Speleology 2017 (left), and workshop by Fátima Tec Pool about archaeology (right).

**5 - COMING TO MEXICO**

Based on the UIS Code of Ethics for Cave Exploration and Science in Foreign Countries, the new Executive Committee invites any international caver (explorers or scientists) to follow the recommendations of UIS and to contact UMAE for any support and help with international activities in Mexico.

UIS CODE OF ETHICS FOR CAVE EXPLORATION AND SCIENCE IN FOREIGN COUNTRIES	UMAЕ UPCOMING INTERNATIONAL EXPEDITIONS
<p><b>1 - Before leaving the country</b></p> <p>In many cases it will be necessary to obtain official permission from the authorities in the country being visited. In additions, inform the national speleological organization of the country to be visited.</p> <p>The national speleological organization will be familiar with the official requirements for visiting expeditions and the regulations pertaining to the removal of materials.</p> <p>If possible, organize joint expeditions with cavers from the country to be visited.</p>	<p>We recommend before coming here, to send information about the purpose of the expedition (main objective, area of interest, date and number of participants) to UMAE by e-mail: <a href="mailto:presidencia@umae.org">presidencia@umae.org</a> or <a href="mailto:info@umae.org">info@umae.org</a>.</p> <p>If your purpose is scientific and include sampling, please check the regulations and laws for each type of sample (biological, geological, etc.). Remember, all states of Mexico manage different regulations or laws.</p> <p>Mexico has a cave rescue team (ERM) in case of any accident. You can contact directly to them anytime.</p> <ul style="list-style-type: none"> <li>• <b>Raquel Aguilar Romero</b> Mobile: +521 55 5467 9017 E-mail: <a href="mailto:raquel_ipn@yahoo.com">raquel_ipn@yahoo.com</a></li> <li>• <b>David Belmonte</b> Mobile: +521 55 2522 3322 E-mail: <a href="mailto:tumdante@gmail.com">tumdante@gmail.com</a></li> </ul>
<p><b>2 - During expedition</b></p> <p>The expedition members should respect the laws of the country and local traditions, and understand that some caves may be sacred sites and be of religion and cultural significance; exploration and research studies in these caves may be restricted.</p> <p>The expedition members should not damage either the karst or its caves and should, wherever possible, educate and advise local communities in the protection and preservation of their karst or caves.</p>	<p>Please be respectful of the beliefs and decision of the local people.</p> <p>In case of any incident, please notify to the local authorities or UMAE, who will provide the pertinent help.</p> <p>We encourage you to invite national cavers to join your expedition in order to cooperate and provide help.</p>

UIS CODE OF ETHICS FOR CAVE EXPLORATION AND SCIENCE IN FOREIGN COUNTRIES	UMAЕ UPCOMING INTERNATIONAL EXPEDITIONS
<p><b>3 - After the expedition</b></p> <p>Samples from the caves and karst collected by the expeditions should only be taken out the cave and country if the correct export procedures are followed and their export is permitted.</p> <p>Copies of all printed material produced by the expedition, together with the location and maps of the caves should be sent to the participation caving clubs and the national speleological organization. Assistance received from the organizations within the country visited should be acknowledged in all the expedition publications.</p>	<p>Before leaving, please send a small report of the expedition to UMAE via e-mail.</p>
<p><b>4 - The respect for the work of other groups</b></p> <p>Before undertaking and expedition to a region, a group should do research on previous work or current explorations by local or foreign cavers. Credit for previous explorations should be given in expedition reports.</p>	<p>We can help you to contact the local cavers in the area of interest to provide information about previous work in the area.</p>

UMAЕ is welcomes to any cavers to Mexico. We are here to help any expedition that follows the UIS Code of Ethics for Cave Exploration and Science in Foreign Countries and our statements. We desire a collaborative participation between cavers from Mexico and any country, to learn from each other and to make your stay easy. We also request sharing the information not only with us and the local cavers who accompanied you, but with the local authorities; and remember to add the acknowledgments in all related publications. For more information, visit our website [www.umae.org](http://www.umae.org).

**6 - ACKNOWLEDGMENTS**

Thanks to Adrián Miguel-Nieto, Alicia M. Dávila García, Fátima del Rosario Tec Pool and Ana Aguilera García for the comments and suggestions. Also, special thanks to Dr. José G. Palacios Vargas for the complementary information about the sections History of UMAE, UMAE Past-Presidents and UMAE today.





Union Internationale  
de Spéléologie  
www.uis-speleo.org

# MINUTES UIS BUREAU MEETINGS AT THE 17<sup>th</sup> ICS

July 22-29, 2017 - Penrith (Panthers Event Centre) – Sydney (Australia)

By Fadi H. NADER (Secretary General) - [fadi.nader@gmail.com](mailto:fadi.nader@gmail.com)

## SESSION 1 - Saturday July 22, 2017; at 8h30 (local time)

### ATTENDANCE

**President:** *Kyung Sik WOO*

**Vice-President of Administration:** *George VENI*

**Vice-President of Operations:** *Efrain MERCADO*

**Secretary General:** *Fadi H. NADER*

#### Adjunct Secretaries:

*Jean-Pierre BARTHOLEYNS*

*Nivaldo COLZATO*

*John CUGLEY*

*Mladen GARAŠIĆ*

*Zdeněk MOTYČKA*

*Nadja ZUPAN HAJNA*

#### Honorary Members/Past-Presidents:

*Pavel BOSAK*

*Andrew James EAVIS*

*José Ayrton LABEGALINI*

#### Bureau members not in attendance:

*Giovanni BADINO*

*Christian DODELIN*

### 1) Opening speech of the UIS President / Approval of Agenda

Kyung Sik Woo thanked all participants for coming to Penrith (Australia). He presented the apologies of Giovanni Badino and Christian Dodelin for not attending this annual UIS Bureau meeting. Kyung Sik Woo also asked John Cugley to forward the Bureau's satisfaction and congratulations to the organizers of the 17th ICS and for their efforts leading to a successful congress.

The Agenda of the Meetings during the Congress were then approved by the present Bureau members.

### 2) Approval of Minutes from Regular Bureau Meeting of 2016 (Dalesbridge, UK)

A few minor comments were made on the minutes of the last UIS Bureau Meeting (Dalesbridge – UK; 2016), which were noted by Fadi Nader.

Fadi Nader, then, proposed a motion to accept the minutes, and it was passed by the Bureau.

Together with the minutes, the list of decisions/actions was published on the UIS Bureau Forum and sent by emails to Bureau members.

### 3) Review of General Assembly Documents

First, the General Assembly agenda was revised and slightly modified. A first version had already been sent to all delegates ahead of the Congress (published in UIS Bulletin No. 58-2, November 2016).

Then the UIS Statutes with all modifications pre- and post- review by National Delegates have been reviewed for the last time and two versions were printed and distributed to all National Delegates attending the General Assembly. A first version was the older approved UIS Statutes and the second version represents the modified version (proposed to National delegates in November 2016, and published in UIS Bulletin No. 58-2) with the most recent modifications – after review of National Delegates – highlighted (replied received by Secretary General by June 2017).

For the modifications related to the Internal Regulations (which have also been published in the UIS Bulletin 58-2), the Bureau agreed that while the consent of the General Assembly is appreciated, only the those items that deal with the mode of payments and amounts by category for the annual dues of Member Countries, necessitates formal voting at the General Assembly. This relates to Article 2 (Clause 3), which re-organizes Member Countries in four (4) categories (A, B, C, D) based on the minimum number of speleologists in a given country. The yearly fees per category have been proposed and approved by General Assembly (A: 480 €; B: 360 €; C: 240 €; D: 60 €). For more information, refer to the UIS website ([www.uis-speleo.org](http://www.uis-speleo.org)) and published UIS Bulletins.

All supporting documents for Bureau Members and National Delegates were prepared (printed and packaged in envelopes). These included the UIS Statutes versions, the Internal Regulation proposed changes on payments, the finance tables, and the voting cards.

### 4) Review of Finances (Nadja ZUPAN HAJNA)

#### a. Report of Treasurer

Nadja Zupan Hajna ran through the detailed budget and expenses since 2013, which she also presented (later on) to the General Assembly.

## UIS FINANCIAL REPORT, Sydney 2017

Prepared by Nadja Zupan Hajna, UIS Adjunct Secretary – Treasurer (since Kerrville 2009);  
authorized representative of UIS in Slovenia since 2011

**Bank account in Slovenia:** at Intesa Sanpaolo Bank (changed name from Banka Koper)

Poslovna enota Postojna, Tržaška cesta 1, 6230 - Postojna, Slovenia

**Account name:** Mednarodna speleološka zveza (International Union of Speleology) UIS, Titov trg 2, Postojna

**Aczcount N°:** 10100-0037861520

**IBAN:** SI56 1010 0003 7861 520

**BIC:** BAKOSI2X

**Financial situation on UIS account: 01/07/2017**

• 14.972,76 USD (14,972.76 USD)

• 11.040,95 EUR (11,040.95 EUR)

**Instructions to Bank (deposits):** No decision was taken at this stage, since this matter involves the new UIS Bureau (after elections at General Assembly).

## FINANCE REPORT TO UIS GENERAL ASSEMBLY - Postojna, July 15<sup>th</sup>, 2017

UIS MEMBER COUNTRIES: 54 (since 2013)

		EUR	USD	Comments
<b>SUM 2012</b>		<b>12.964,39</b>	<b>10.964,94</b>	Deposit!
		EUR	USD	Comments
<b>2013</b>				16 ICS Brno, CZ
<b>Income</b>		10.719,43	36449,66	
	Member fees	10417,5	1238,00	
	Bank interest	7,93	211,66	
	Other income	294,00	0	
	Deposit back	0	35000	
<b>Expenditure</b>		-11635,92	-30560,00	Deposits!
	Bank Fees/Payments	179,75	0	
	Administration	320	0	
	Commissions	350	0	
	Speleo Related	1456,17	560	
	Deposit	10000	30000	Separate part of account!
<b>Balance 2013</b>		<b>-916,49</b>	<b>5894,45</b>	
<b>SUM 2013</b>		<b>12047,90</b>	<b>16854,6</b>	
		EUR	USD	Comments
<b>2014</b>				
<b>Income</b>		9374,81	30225,26	
	Member fees	4300,00	0	
	Bank interest	95,16	225,26	
	Other income	16745,31	0	
	Deposit back	10000	30000	
<b>Expenditure</b>		-23813,56	-30467,81	Deposits!
	Bank Fees/Payments	142,81	17,81	
	Administration	320	0	
	Commissions	1825	300	
	Speleo Related	1525,75	150	
	Deposit	20000	30000	Separate part of account!
<b>Balance 2014</b>		<b>-2673,09</b>	<b>-242,55</b>	
<b>SUM 2014</b>		<b>9374,81</b>	<b>16612,05</b>	
		EUR	USD	Comments
<b>2015</b>				
<b>Income</b>		26797,19	30671,51	
	Member fees	5965,00	500	
	Bank interest	382,19	171,51	
	Other income	450	0	
	Deposit back	20000	30000	
<b>Expenditure</b>		-30024,61	-35724,11	Deposits!



		EUR	USD	Comments
	Bank Fees/Payments	185,83	11,11	
	Administration	320	0	
	Commissions	1500	0	
	50 <sup>th</sup> Anniversary	2750,96	0	
	Speleo Related	7267,82	713,00	
	Deposit	18000	35000	Separate part of account!
<b>Balance 2015</b>		<b>-3208,62</b>	<b>-5052,60</b>	
<b>SUM 2015</b>		<b>6147,41</b>	<b>11559,43</b>	
		EUR	USD	Comments
<b>2016</b>				
<b>Income</b>		23136,80	38664,73	
	Member fees	4861,5	0	
	Bank Interest	73,80	18,73	
	Other income	201,5	3506	
	Deposit back	18000		
<b>Expenditure</b>		-20030,45	-35013,29	Deposits!
	Bank Fees/Payments	78,07	13,29	
	Administration	320	0	
	Commissions	250	0	
	Speleo Related	1382,38	0	
	Deposit	18000	35000	Separate part of account!
<b>Balance 2016</b>		<b>3106,35</b>	<b>3651,44</b>	
<b>SUM 2016</b>		<b>9253,76</b>	<b>15210,87</b>	
		EUR	USD	Comments
<b>2017</b>				
<b>July 1</b>				
<b>Income</b>		2962,97	0,84	
	Member fees	2962,76	0	
	Bank Interest	0,22	0,84	
	Other income	0	0	
<b>Expenditure</b>		-1175,68	-238,11	
	Bank Fees/Payments	55,68	0	
	Administration	320	238,95	
	Commissions	800	0	
	Speleo Related	0	0	
	Deposit	18000	35000	Separate part of account! Back on July 27!
<b>Balance 2017</b>		<b>1787,29</b>	<b>-238,11</b>	
<b>SUM 2017/1</b>		<b>11040,95</b>	<b>1497,76</b>	

- **Tax Audit Payment:** Nadja Zupan Hajna also informed the Bureau about the payment for the Tax Audit in Slovenia (obligatory).

#### b. Funding Commissions

- **Upcoming payments (Internet, Commissions):** No new payments requested.
- **Request from three commissions already honored:**
  - Department of Protection:** € 250 (Habe Prize);
  - Speleogenesis:** USD 150;
  - Speleotherapy:** € 250
- **Other expenses:**
  - ICSU** (€ 500/ year) + Mobility (up to € 3000)
  - Accountant** (€ 320/year) for Tax Audit

#### c. Fund-raising news (Z. Motyčka)

Zdenek Motyčka reported on the progress regarding the Fund-Raising initiative. An electronic form was made available online (final version still needs to be worked out; most of which was done during the 17<sup>th</sup> ICS in Sydney by Zdenek and Efrain).

#### d. Expedition Fund (Z. Motyčka)

This point was postponed to the next Bureau Meeting, since some issues still need to be finalized and need the approval of the elected Members after the second session of the General Assembly.

**DECISION 1: Pending the approval of the proposed modifications on the UIS Statutes and Internal Regulations, the official Treasurer will take care of financial issues of the UIS and there will be no need for the Secretary General to make payment orders as was done before.**

#### 5) UIS Commissions (George VENI)

George VENI summarized the status of each Department, Commission, and Working Group (from Vice-President Administration Report, 2017).

#### Archaeology and Paleontology Commission

This commission was reestablished in 2013. During the past four years it has been active, but mostly in building its foundation and membership. Specific activities include:

- Comment on a petition on access to a Petralona Cave hominid skull that was submitted to the UIS Bureau with a recommendation for action.
- Letter of support to the Torquay Museum, England (a nationally important repository of cave archaeological and paleontological materials) with respect to local government funding decisions.
- Distribution of "important new papers" via the Commission email list.

#### Artificial Cavities Commission

This commission is active with a website and has organized two excellent symposia in 2015 (Italy) and 2017 (Turkey). Extensive proceedings volumes have been published for each symposium.

#### Arts and Letters Commission

Commission members have been involved with the following conferences with respect to their art salons and/or associated activities:

- August 2014, Speleology Federation of Romania
- November 2014, Casola Caving Symposium, Italy
- June 2015, Italian cave science symposium
- August 2016, EuroSpeleo, UK
- July 2017, International Congress of Speleology,

Australia. The commission is planning activities at the Eurospeleo Forum in Ebensee, Austria, in August 2018.

#### Atlas of Karst Regions Commission

This commission closed in November 2013.

#### Bibliography Commission

No report has been received from the commission since it was given 500 euros in 2015 for the BBS. In 2016 the commission worked with Adjunct Secretary Nivaldo Colzato on the scanning of all issues of the BBS.

#### Biology Commission

This commission has been inactive over the past four years and not very active before that. The commission officers have reported that they can no longer participate but George VENI has contacted other biologists who are interested in re-energizing the commission and will meet to discuss it during the week of the congress.

#### Cave Diving Commission

This commission has been active, with most of its activities reported in the UIS Bulletin. The commission officers had to cancel attendance at the International Congress due to a recent injury. The commission's major activities were:

- Launched a website in 2013.
- Organized Cave Diving Workshops in 2013, 2014, 2015, and 2016.
- Exchanged information about cave diving rescue in various countries, especially those which lack such organizations.
- Collaborated in the successful testing of a new subterranean positioning device that is something like an underground GPS.

German Yanez, of Mexico, was appointed as the new Acting Secretary of the Commission and was put in charge of promoting the activities of the Commission in Central and South America.

#### Cavers' Dictionary Working Group

This commission remains active and since 2013 has added Arabic, Russian, Turkish, and Ukrainian to the dictionary, for a current total of 28 languages.

#### Department of Education

From 2009-2013 there was almost no communication from this commission. In Brno the commission met and there was discussion of making the commission more active but no news of any activities have been sent to the UIS or UIS Bulletin.

#### Department of Karst and Cave Protection

This department is active with projects and activities in several countries. A detailed report has been sent

to the Bureau by Adjunct Secretary and Department President Jean-Pierre Bartholeyns.

#### Glacier, Firn, and Ice Caves Commission

This commission has been active and organized two symposia: 2014 (USA) and 2016 (Slovenia).

#### History of Speleology Commission

This commission has been active and published reports in the UIS Bulletin. It will meet at the congress. Here are some of its major activities:

- Assisted with the publication of the first book on the caves of Cyprus.
- Meeting with the author of the video Casteret Chasseur D'abîmes.
- Several history books were published by commission members: Johannes Mattes (Austria), Vlado Bozic (Croatia), Trevor Shaw (UK) and Alenka Cuk (Slovenia), and Bernard Chirol and Theo Savoi (France).
- New project about the history of caving and women, which included a course in the Jura Mountains in 2016.

• Announced the forum "Caves as objects of history and culture" in April 2016 at the international scientific forum at Divnogorye Voronezh, Russia.

- Discovery of old speleological documents.

The commission may ask to be reclassified from the Department of Documentation to the Department of Research.

#### Informatics Commission

This commission has been active and reported its activities in the UIS Bulletin. Most of its work has been through its working groups, which are reported separately in this report.

#### Karst Hydrogeology and Speleogenesis Commission

This commission is active and will meet at the congress. It continues to promote research through its Speleogenesis website, four conferences it has sponsored or co-organized, and several publications it has produced since 2013. Long-time president of the commission, Alexander Klimchouk, will be stepping down and a new president elected at the congress.

#### Long, Deep, and Large Caves Commission

No reports have been received from this commission since 2013, although its project to laser-survey the world's largest rooms has been widely publicized and will be presented at the congress, where the commission will meet.

#### Microbiology and Geobiology Commission

This commission has not been active during the

past four years, except discussion in 2014 to possibly organize a symposium. That remains a possibility.

#### Paleokarst and Speleochronology Commission

No activity has been reported by this commission for the past four years.

#### Physical Chemistry and Hydrogeology Commission

The commission applied for, but did not receive, an ICSU grant in 2014. No other activities have been reported.

#### Pseudokarst Commission

This commission is active and has reported its activities in the UIS Bulletin and its own newsletter, with #24, 25, 26, and the most recent issue, #27, published this month. The commission has published many reports and conducted one symposium, the 13<sup>th</sup> in the Czech Republic in 2013. Efforts are underway to organize the 14<sup>th</sup> symposium, although the location has yet to be selected.

#### Publications Exchange Working Group

This working group is active and making good progress in documenting speleological information around the world. Over 70 speleological libraries have joined the group's library network and more are expected to join.

#### Speleotherapy Commission

This commission has been active with a major meeting in 2013, a symposium in 2015, planning for another symposium underway, and several publications. An extensive report was published in the most recent UIS Bulletin.

#### Survey, Mapping, and Surface Map Symbols Working Group

This working group has been active in creating a proposed list of map symbols for artificial cavities.

#### Techniques and Materials Development Commission

In 2013 and 2014 there was interest by the commission in developing a publication on this topic, but nothing has happened recently

#### Volcanic Caves Commission

The commission is active and held a symposium in 2014 in the Galapagos Islands, and in 2016 in Hawaii. Another symposium is planned for New Mexico, USA, tentatively for 2018.

The reports of the commissions are published in the UIS Bulletin. Here is a summary of the activity of Commissions as reported since 2013 (from Nivaldo Colzato Adjunct Secretary Report, 2017).

### Participation of the UIS Departments, Commissions, and Working Groups in the UIS Bulletin in the period from July 2013 to June 2017 (Seven Issues):

NAMES / ISSUES	56-1	56-2	57-1	57-2	58-1	58-2	59-1
Atlas of Karst Phenomena	x	-	-	-	-	-	-
Commission on Archaeology and Palaeontology in Caves	x	-	-	-	-	-	-
Commission on Artificial Cavities	x	-	-	-	-	-	x
Commission on Arts and Letters	x	-	x	-	-	-	-
Commission on Bibliography	-	x	-	-	-	-	-
Commission on Cave Diving	x	-	x	-	-	-	x
Commission on Cave Mineralogy	x	-	-	-	-	-	-
Commission on Cave Rescue	x	-	x	x	x	-	x
Commission on Glacier, Firn, and Ice Caves	x	-	-	-	-	-	-
Commission on History of Speleology	x	-	x	x	-	-	x
Commission on Informatics	x	-	x	-	x	-	-
Commission on Informatics - Publications Exchange Working Group	-	-	-	-	x	-	x
Commission on Informatics - WikiCaves Working Group	-	-	-	-	x	-	-
Commission on Karst Hydrogeology and Speleogenesis	x	-	-	-	-	-	-
Commission on Long, Deep and Large Caves	x	-	-	-	-	-	-
Commission on Materials and Techniques	x	-	-	-	-	-	-
Commission on Physical Chemistry and Hydrogeology of Karst	x	-	-	-	-	-	-
Commission on Pseudokarst	x	-	-	-	x	-	-
Commission on Speleochronology and Paleokarst	x	-	-	-	-	-	-
Commission on Speleotherapy	x	x	x	-	-	-	x
Commission on Volcanic Caves	x	-	-	-	-	-	-
Department of Protection of Karst and Caves	x	-	-	-	x	-	x

**DECISION 2: Pending the approval of the proposed modifications on the UIS Statutes and Internal Regulations, all Departments, Commissions, Working Groups will be called "COMMISSIONS".**

#### 6) UIS Prizes (N. COLZATO, J-P. BARTHOLEYNS, J.A. LABEGALLINI)

##### a. Standard UIS Prizes for the 17<sup>th</sup> ICS

Nivaldo COLZATO presented the status of the UIS Prizes for the 17<sup>th</sup> ICS. He described the various nominations (16 books and 2 major exploration projects). He also showed the UIS Bureau Members the procedure he has planned for judging, including the organization of Jury Members and the fill-out Judging Forms.

##### Five UIS Prizes are proposed:

- 1- "The most significant discovery/exploration" with a certificate and a prize of 200 €.
- 2- "The most significant publication (book) about caves or a karst-related topic" (scientific and/or technical publications are considered for this prize), two prizes, each of which with a certificate and € 100.
- 3- "Poster Prize" - The best poster displayed at the ICS,

divided in two categories (each with a certificate and € 100):

- Best Scientific Poster, judged by a Scientific Committee composed of international experts;
- Caver's Prize, i.e. the best poster in the opinion of the visitors to the poster display.

**ACTION 1: UIS Bureau allows the payment of 600 € for the UIS Prizes to be granted at the 17<sup>th</sup> ICS in Penrith, Sydney (Australia). Nadja ZUPAN HAJNA will process the payment during the 17<sup>th</sup> ICS.**

##### b. HABE Prize (Jean-Pierre BARTHOLEYNS)

Jean-Pierre BARTHOLEYNS presented to the UIS Bureau the status of the Habe Prize for 2017.

The Habe Prize consists of a certificate by the Department of Karst and Cave Protection and a check of € 250. This was approved at a previous Bureau meeting.

Five interested submissions were received on time from Brazil, Indonesia, Myanmar, Russia and Slovenia. They concern the recovery of a degraded area, the comprehensive and durable management of a karst area, a cave documentation project, a new international protection system agreement, and a film about diving in the service of cave protection.

The jury of the France Habe Prize 2016 was composed of two members of the Scientific Committee of the UIS Department of Karst and Cave Protection and its President. They noted each submission following an evaluation framework about presentation, compilation, photography, scientific content, legibility and original point of view. They decided unanimously to present the 2017 France Habe Prize, an amount of € 250, to the best and more original contribution.

The winner is this year Ir. JUNIAT Irawati from Indonesia for the Protection and management of karst regions in Indonesia.

The jury congratulates the four others participants for their investment in karst and cave protection.

Nominations for the 2018 France Habe Prize must be received by May 20, 2018.

#### c. Sami Karkabi Prize proposal (Fadi NADER)

With Sami KARKABI (founder of the Speleo-Club du Liban, which has been at the origin of developed speleology in the Middle East) passing away in March 2017, the Speleo-Club du Liban decided to organize a Prize in his memory. They asked the UIS to be associated to this Prize.

Fadi NADER communicated the Lebanese request to the UIS Bureau and showed a short movie that was made as a tribute for Sami KARKABI.

The decision on this request was postponed for the next UIS Bureau meeting with the new Bureau Members after the elections in the second session of the General Assembly.

#### 7) Requests for UIS Membership /Relationships with International/Regional Organizations & Countries

##### a. ISCA (MOU)

George VENI informed the UIS Bureau that the document was finally ready for signature and he suggest that Kyung Sik WOO sign it in Penrith (Sydney) during the congress so that he can bring the signed copy with him and send it to the President of ISCA.

##### b. AUS/FSE (Associated Organization of UIS)

Fadi NADER informed the UIS Bureau that the AUS sent an official request to be an Associated Organization of the UIS. Though, this has been done before as reported by Kyng Sik WOO, now we now have the official request.

#### c. EU Projects (Cyprus / MED-FFS)

Fadi NADER informed the UIS Bureau of the progress with respect to the Cyprus Cave Project (EU funded) and the proposal made by the FFS (French), on Mediterranean show cave monitoring, which has been supported by UIS.

#### d. UNESCO International Year for Caves and Karst

Fadi NADER, Kyung SIK WOO, Nadja HAJNA ZUPAN and George VENI informed the UIS Bureau about the various initiatives and activities with regard to the IYCK proposal for 2021.

#### e. New Member-Country Proposals: Philippines, Kyrgyzstan, Sri Lanka

Fadi NADER informed the UIS Bureau about three official requests for New Member Countries to be presented to the UIS General Assembly. These are the Philippines, Kyrgyzstan, and Sri Lanka. For the latter country, it was still unclear whether the request was for regular membership, association, affiliation or cooperation. Fadi NADER proposed to find out during the 17th ICS following discussion with Armstrong OSBORNE, as he is involved in the application.

#### f. Returning Countries: Pakistan

Only one returning Member Country request was received and that is Pakistan. Nevertheless, nobody from Pakistan managed to attend the 17th ICS (Penrith, Australia).

#### 8) Communication & Data

General discussions followed among UIS Bureau members concerning operational issues and the following matters:

- a. UIS website (updated regularly, now with the Fund-Raising link)
- b. Facebook (more than 1400 members) and social networks
- c. Electronic Voting (operational since 2014)
- d. Data storage, electronic archive in Postojna (ongoing)
- e. Bulletin (N. Colzato)
- f. UIS Documentation Centers

#### 9) Attendance on past speleology events (listing events and attendees)

- a. EuroKarst 2016, 5-7 September 2016 (Neuchâtel, Switzerland), <http://www.eurokarst.org/>: Mladen Garasic.

b. 40<sup>th</sup> Anniversary of Speleo Nederland, 16-18 September 2016 (Belgium): Jean-Pierre Bartholeyns.

c. 43<sup>rd</sup> International Association of Hydrogeologists, 25-29 September 2016 (Montpellier, France), <http://www.60iah2016.org/en/>.

d. Geological Society of America Convention, 25-28 September 2016 (Denver, Colorado, USA), <http://community.geosociety.org/gsa2016/home>: George Veni.

e. Espeleo Turismo Caripe, 23 to 25 November 2016 (Monagas, Venezuela): Efrain Mercado.

f. 1<sup>st</sup> Asian Speleological Conference – 2<sup>nd</sup> Asian Tanskarst Conference (Lichan, China): J-P Bartholeyns, A Eavis, Z Motycka, and Kyung S. Woo.

g. 20<sup>th</sup> Journées de Spéléologie Scientifique (Hans-sur-Lesse – Belgium): J-P Bartholeyns.

h. American Geophysical Union, 12-16 December 2016, (San Francisco, California, USA), 3 August abstract deadline, <http://fallmeeting.agu.org/2016/>: Kyung Sik Woo.

i. Hypogea 2017: International Congress of Speleology in Artificial Cavities, 6-10 March 2017 (Cappadocia, Turkey), [www.hypogea2017.com](http://www.hypogea2017.com).

j. 3<sup>rd</sup> International Symposium of Speleology, 28 April-1<sup>st</sup> May 2017 (Varenna – Italy): J-P Bartholeyns, A. Cigna, K. S. Woo, and Nadja Zupan.

k. US Geological Survey Karst Interest Group Meeting, 16-18 May 2017 (San Antonio, Texas, USA): George Veni.

l. Climate Record: The Karst Record VIII, 21-24 May 2017, (Austin, Texas, USA), <http://sites.uci.edu/kr-8conference/>: George Veni.

m. 25<sup>th</sup> International Karstological School, mid-June 2017 (Postojna, Slovenia): Nadja Zupan, Mladen Garasic, and Zdenek Motycka.

n. 34<sup>th</sup> Brazilian Congress of Speleology, 13-18 June, 2017 (Ouro Preto, Brasil): Nivaldo Colzato, Jose-Ayrton Labegalini, and Jean-Pierre Bartholeyns.

o. NSS Convention, 19-23 June 2017 (Rio Rancho, NM USA); <http://nss2017.caves.org/>: George Veni.

p. National Association of Mining History Organisations Conference 2017, 23-26 June 2017 (Godstone, Surrey, UK), <http://namho2017.info/>

q. 17<sup>th</sup> International Congress of Speleology, 23-30 July 2017 (Sydney, New South Wales, Australia), <http://speleo2017.com/>

#### 10) Finalizing UIS General Assembly Agenda

The Agenda of both sessions of the General Assembly was reviewed and amended to fit with the current situation (the minutes of the General Assembly is subject of a separate report). The accompanying PowerPoint files were finalized as well and made ready for projection.

#### 11) Closing

The first session of the annual UIS Bureau Meeting for the year 2017 ended at 18h00 (local time).



#### Participants of the first session of the annual UIS Bureau Meeting 2017

**Left to right:** John CUGLEY (Adjunct Secretary/Australia); Zdeněk MOTYČKA (Adjunct Secretary/Czech Republic); Fadi NADER (Secretary General/Lebanon); George VENI (Vice-President of Administration/USA); Jean-Pierre Bartholeyns (Adjunct Secretary/Belgium); Mladen GARASIC (Adjunct Secretary/Croatia); Pavel BOSAK (Honorary Member/Czech Republic); Kyung Sik WOO (President/Republic of Korea); Arrigo CIGNA (Past President/Italy); Efrain MERCADO (Vice-President for Operations/Puerto Rico); José Ayrton Labegalini (Past-President/Brazil); Nivaldo COLZATO (Adjunct Secretary/Brazil) and Nadja ZUPAN HAJNA (Adjunct Secretary/Slovenia).



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# MINUTES UIS GENERAL ASSEMBLY AT THE 17<sup>th</sup> ICS

By Fadi H. NADER (Secretary General) - [fadi.nader@gmail.com](mailto:fadi.nader@gmail.com)

## FIRST SESSION

July 23, 2017

Penrith (Panthers Event Centre)  
Sydney – AUSTRALIA

The First Session of the General Assembly of the 17<sup>th</sup> International Congress of Speleology started at 10:36 on Sunday July 23<sup>rd</sup>, 2017. It took place in the Panthers Event Centre in Penrith (Sydney, AUSTRALIA).

Prof. Kyung Sik Woo welcomed the participants to the General Assembly of the 17<sup>th</sup> International Congress of Speleology. Soon after, he declared the General Assembly open and asked the participants to observe a moment of silence for all cavers and scientists who contributed to the UIS and left the international community in between congresses (Alfredo Bini [I], Rajko Bracic [Si], Yaroslav Chonka [Ua], Gyorgy Denes [H], Trevor Ford [Aus], Ivan Gams [Si], Ken Grimes [Aus], Elery Hamilton-Smith [Aus], Steve Hudson [US], Sami Karkabi [Lb], Ted Lane [Aus], Michel Letrone [F], Osvaldo Martinez [Ar], Charlie Self [Uk], Nicholas Sullivan [US], Hubert Trimmel [A], and Norman Veve [Pr]).

Twenty-eight (28) member-countries (from 54) were registered at the first session of the General Assembly: Australia, Austria, Belgium, Brazil, Bulgaria, China, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Japan, Korea, Lebanon, Luxembourg, The Netherlands, Poland, Puerto Rico, Romania, Serbia, Slovenia, South Africa, Spain, Switzerland, United Kingdom, United States of America.

Prof. Woo, thanked the organizers of the 17<sup>th</sup> ICS and the Australian Speleological Federation (ASF) for all the difficulties surmounted during the four previous years. He invited Mr. Denis Marsh President of the 17<sup>th</sup> ICS to welcome the audience. Mr. Denis Marsh thanked the delegates for coming to Sydney and made a few introductory statements.

The convened General Assembly unanimously approved the minutes of the last sessions of the General

Assembly that took place at the 16<sup>th</sup> ICS in Brno, Czech Republic in July 2017. The General Assembly also approved the proposed agenda for the 2017 sessions.

Mr. Arjan Van Waardenburg (voting delegate of The Netherlands) proposed to add in the minutes of the 16<sup>th</sup> ICS General Assembly: *“The assembly accepted the three proposals and asked the board to report on them”*, in reference to the requests made by the French Federation of Speleology and Speleo Nederland in 2013.

In the above mentioned minutes, the following sentence was written: *“The Advisory Committee also studied the requests made by the FFS and Speleo Nederland and suggested that the new UIS Bureau considers them seriously and proceed with convenient actions.”* Yet, the General Assembly did not accept the proposals. The Bureau had investigated them seriously and replied to Mr. Van Waardenburg, then reported about that after the annual Bureau Meeting in 2014 (as published in the meeting minutes in UIS Bulletin Volume 57- 1 - see on <http://www.uis-speleo.org/downloads/uis-bulletins/uisb571.pdf>).

This matter was explained to Mr. Van Waardenburg and the Delegate of The Netherlands. Mr. Van Waardenburg agreed to withdraw his proposal in the second session of the General Assembly 2017.

The President of the UIS, Prof. Woo presented the major updates regarding the UIS and the UN, especially the International Year of the Cave and Karst project proposed for 2021. The Secretary General of the UIS, Dr. Fadi Nader, presented his report illustrating the major achievements of the Union and its Bureau since the 16<sup>th</sup> ICS. He also briefly introduced the major achievements recorded by the international speleological community. Dr. Nadja Zupan Hajna, Acting Treasurer and Adjunct Secretary of the UIS, presented the financial status of the Union, which can be summarized by a healthy input/output and healthy financial status (UIS accounts on the 1<sup>st</sup> of July, 2017 consisted of about 49,900 USD and 29,000 Euros). Both reports of Dr. Fadi Nader and Dr. Nadja Zupan Hajna are published in the 2017 UIS Bulletin (Vol. 59-2).

Afterward, representatives of following Departments, Commissions, and Working Groups presented verbal reports and information about their activities for the period of 2013-2017: Departments of Education and Karst and Cave Protection, Commissions of Archaeology and Paleontology, Artificial Cavities, Arts and Letters, Bibliography, Biology, Cave Diving, Cave Rescue, Glacier, Firn and Ice Caves, History of Speleology, Informatics, Karst Hydrogeology and Speleogenesis, Long, Deep and Large Caves, Microbiology, Paleokarst and Speleochronology, Physical Chemistry and Hydrogeology, Pseudokarst, Speleotherapy, Techniques and Materials, and Volcanic Caves, and the Cavers' Dictionary, Publications Exchange, and Survey and Mapping Working Groups. Some submitted their reports and arranged for UIS Vice President of Administration Dr. George Veni to read them.

The General Assembly elected two auditors unanimously: Andreas Wolf (Germany) and Gheorghe Ponta (Romania).

The General Assembly unanimously elected three adjudicators for the elections of the new UIS Bureau: Mr. Andy Eavis (UK), Mr. Arjan Van Waardenburg (The Netherlands), and Mr. Nicholas White (Australia), pending that none of them will have a candidate from their country.

A short but comprehensive presentation of the only candidate for the 18<sup>th</sup> Congress of Speleology (2021) was delivered by the representatives of the French Federation of Speleology (Laurence Tanguille and Gael Kaneko).

A Lunch break was requested by the President, Prof. Woo, at around 12:10 and the General Assembly reconvened at around 14:30.

The Secretary General Dr. Fadi Nader introduced official requests from Kyrgyzstan and the Philippines. Representatives of both countries were invited to introduce their requests.

- The Kyrgyzstan representative (Mr. Andrei Markov) addressed the General Assembly at 14:45, and his request was unanimously voted and accepted.

- Philippines representatives (Mr. Eric Bontuyan and Mr. Marc Mentens) addressed the General Assembly at 15:35, and their request was also unanimously voted and accepted.

Proposals from the floor were heard. Only Mr. Arjan Van Waardenburg had a question related to the Report of the Secretary General, asking to add a sentence on the matter pertaining to the request to have UIS listed in an international sports organization.

The proposed version of the modified UIS Statutes

were published in the UIS Bulletin Volume 58-2 in 2016 (see on <http://www.uis-speleo.org/downloads/uis-bulletins/uisb582.pdf> and sent to all national delegates. Following suggestions submitted by the delegates for further modifications, a final version was printed and distributed to the Delegates at the beginning of this Session. Dr. Fadi Nader reminded the Delegates that they were informed about the proposed changes more than 6 months before the 17<sup>th</sup> ICS General Assembly. He invited the Delegates to check again this document and cast their final comments, if any, before voting. Mr. Friedhart Knolle (Delegate of Germany) proposed to make a modification to Article 3 (Purpose) by adding “lobby and promote” after “to develop” in the third line. A discussion followed and Mr. Knolle agreed to change his proposal by dropping the word “lobby” but keeping “and to promote” instead. Prof. Dr. Pavel Bosak, on the behalf of the Advisory Committee declared that the modified UIS statutes and Internal Regulations documents together with this last change proposed by Mr. Knolle are constitutional and can be voted on.

The 28 Delegates present at the General Assembly voted “yes” to the new UIS Statutes (unanimous vote).

Dr. Fadi Nader, explained to the General Assembly the background of the modifications on the Internal Regulations and pointed out that this document is the working document of the UIS structure, especially for the UIS Bureau, that has only to be approved by the Assembly General without going into details of each article. Still, Article 7 pertains to membership fees which had considerable proposed modifications and needed specific consideration. So he asked for a vote on this Article specifically and generally on approving the new document as a whole. Of the present delegates at the time of vote, 24 voted “yes” and only one delegate voted no (Arjan Van Waardenburg, The Netherlands). The remaining three delegates were not present.

Nivaldo Colzato introduced the UIS Prizes for this ICS.

Prof. Woo thanked again all the participants and closed the first session of the General Assembly of the 17<sup>th</sup> ICS, at around 16:30 on Sunday July 23<sup>rd</sup>, 2017.

## SECOND SESSION

July 29, 2017

Penrith (Panthers Event Centre)  
Sydney – AUSTRALIA

At the opening, a total of 37 member countries were registered: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Czech Republic, France, Germany, Greece, Hungary, Indonesia, Israel,

Italy, Japan, Korea, Lebanon, Luxembourg, Mexico, The Netherlands, Norway, Philippines, Poland, Puerto Rico, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States of America. Therefore, 37 delegates or their representative proxies could cast their votes.

The UIS President declared the second session of the General Assembly open, at around 09:20. Prof. Kyung Sik Woo invited the French delegates to present their proposal for organizing the 18<sup>th</sup> International Congress of Speleology in 2021 in Lyon (France) before asking the General Assembly to vote on their proposal. Voting followed and it was unanimous (37 votes) in favor of the French proposal.

The General Assembly then had to elect one Election Committee member to replace Nicholas White (Australia) because a candidate for the Bureau was nominated from his own country. Mr. Trevor Faulkner was elected with 35 votes (Pavel Bosak – Czech Republic abstained).

Prof. Woo, then, invited the representatives of the UIS Commissions to present their planned future activities for the period 2017-2021.

Following the approval of the new Statutes during the first session of the General Assembly, the Bureau reminded everyone that Departments and Working Groups no longer existed. Departments became Commissions and Working Groups needed to decide if they wished to become Commissions or stay within their Commissions as committees or some other title. All of the now-Commissions that reported during first session reported on their meetings during the previous week and plans for the next four years. The only significant change was the deactivation of the Microbiology Commission and include its activities within the Biology Commission. The reports and proposed actions were approved (by 34 votes; two delegates voted “No”). All Commissions will send their meeting reports to the Vice President of Administration in due time to be published in the UIS Bulletin.

Followed the report on proposals, motions and decisions. The ISCA-UIS MOU (document shared with delegates in the first session) was approved by the General Assembly (33 voted “YES”, 3 abstained). LICAS (Sri Lanka NGO) proposal to be UIS Cooperative Member was then approved by 36 votes (1 abstained). Support for the World Heritage Nomination of the Peruacu Valley in Brazil, proposed by Mr. Labegalini (Brazil) was approved by 36 votes (1 abstention). Finally, Mr Arjan Van Waardenburg withdrew his proposal for modifying the minutes of the previous 2013 General Assembly (see above), pledging to continue working for the benefits of cavers and UIS.

Two budget auditors, Andreas Wolf (Germany) and

Gheorghe Ponta (Romania) after examining the books and relevant documents provided by the Acting Treasurer, presented the audit report and recommendations:

**Audit Report on the accounts of the Union Internationale de Spéléologie for the period of August 2013 to July 1<sup>st</sup> 2017**

*“The treasury was reviewed point by point for the last period (2013-2017) by Mr. Andreas Wolf (Germany) and Mr. Gheorghe Ponta (Romania) in Sydney. The treasurer provides us to all questions full information. We thank for excellent work from treasurer, Dr. Nadja Zupan, and recommend her discharge.”*

**Recommendations**

- The position of Treasurer of the UIS should be established and should not be given a set period of office – stability in this position is essential.

**At this time the balance of the funds held by the UIS are 49,972.76 USD and 29,040.95 Euros.**

Andreas Wolf (Germany) and Gheorghe Ponta (Romania) – the latter, Mr. Ponta could not sign the report due to health problems (he was in the hospital).

The auditors’ report was accepted with 35 votes (2 delegates voted “No”).

The major speleological events which will take place between 2017 and 2021, were listed and presented. The comprehensive list will also appear in the next UIS Bulletin and on the UIS website.

**1) International Clean-up of Gouffre Berger**, 1-15 August 2017 (Vercors, France), <http://cds39.fr/BFC/index>.

**2) 11<sup>th</sup> Balkan Caving Camp**, 28 August – 3 September 2017 (Leonidio, Greece), <https://archive.org/details/11thBalkanCaversCamp2017> or <https://www.facebook.com/11th-Balkan-Caving-Camp-2017-in-Leonidio-301383733616075/>

**3) 11<sup>th</sup> EuroSpeleo Forum**, 15-17 September 2017 (Ferrières, Belgium), <https://www.speleovvs.be/index.php/en/caving-days>

**4) Biospeleology Conference**, 21-23 September 2017 (Seville, Spain), <https://5encuentrossevilla.wixsite.com/veibs>

**5) 44<sup>th</sup> International Association of Hydrogeologists Congress**, 25-29 September 2017 (Dubrovnik, Croatia), <http://iah2017.org/>

**6) National Cave and Karst Management Symposium**, 16-20 October 2017 (Eureka Springs, Arkansas, USA), <http://www.nckms2017.com/>

**7) British Cave Research Association 28<sup>th</sup> Cave Science Symposium**, 20-21 October 2017 (Leeds, UK), website to be announced.

**8) Geological Society of America Convention**, 22-25 October (Seattle, -Washington, USA), [http://www.geosociety.org/GSA/Events/Annual\\_Meeting/GSA/Events/gsa2017.aspx](http://www.geosociety.org/GSA/Events/Annual_Meeting/GSA/Events/gsa2017.aspx)

**9) International Conference on Geomorphology**, 6-11 November 2017 (New Delhi, India), karst session, <http://www.icg2017.com/session.php>

**10) Workshop: Grotte de Han, New Dramatic Effect of Lighting**, 16-18 November 2017 (Han-sur-Lesse, Belgium), [at@cavelighting.de](mailto:at@cavelighting.de).

**11) To Know and Share Caves and Karsts: Understanding, Conservation, and Geotourism**, 6-9 March 2018 (Ardèche, France), <https://dhuguet.wixsite.com/cavesymposium2018>

**12) The Sinkhole Conference**, joint with the **3<sup>rd</sup> Appalachian Karst Symposium**, 2-6 April 2018 (Shepherdstown, West Virginia, USA), <http://www.sinkholeconference.com/>

**13) EuroKarst 2018**, 2-6 July 2018 (Besançon, France), <http://www.eurokarst.org/>

**14) 18<sup>th</sup> International Vulcanospeleology Symposium**, 21-27 July 2018 (Lava Beds National Monument, California, USA), <http://www.vulcanospeleology.org/sym18/ISV18.html>

**15) EuroSpeleo Forum 2018**, 23-26 August 2018 (Ebensee, Austria), <http://europspeleo.at/expo.html>.

**16) 24<sup>th</sup> International Conference on Subterranean Biology**, 20-24 August 2018 (University of Aveiro, Portugal), <http://24icsb.web.ua.pt/>.

The elections of the New UIS Bureau were introduced by Mr. Andy Eavis who explained the procedure following the UIS Constitution (17 votes minimum for election in the first round). The two other adjudicators were: Mr. Arjan Van Waardenburg (The Netherlands) and Mr. Trevor Faulkner (UK).

Mr. Andy Eavis introduced the candidates:

**UIS President**

*Mr. Zdeněk Motyčka (Czech Republic)  
Dr. George Veni (USA)*

**UIS Vice President of Administration**

*Mr. Jean-Pierre Bartholeyns (Belgium)*

**UIS Vice President of Operations**

*Mr. Efrain Mercado (Puerto Rico)*

**UIS Secretary General**

*Dr. Fadi Nader (Lebanon)*

**UIS Treasurer**

*Prof. Nadja Zupan Hajna (Slovenia)*

**UIS Adjunct Secretaries**

*Nivaldo Colzato (Brazil)  
Prof. Dr. Mladen Garašić (Croatia)  
Bernard Chirol (France)  
Satoshi Goto (Japan)  
Gyula Hegedus (Hungary)  
Dr. Tim Moulds (Australia)  
Dr. Daniela Pani (Italy)  
Prof. Mario Parise (Italy)  
Bärbel Vogel (Germany).*

The candidates were then individually invited by the head of the Election Committee – except Jean-Pierre Bartholeyns ahead of the election of the Vice President of Administration – to introduce themselves in front of the General Assembly before the election took place. Jean-Pierre Bartholeyns, having already completed two consecutive terms of Adjunct Secretary, had his last chance to be elected as VP-Administration to remain in the UIS Bureau.

The new UIS President, **Dr. George Veni**, was elected in the first round obtaining 19 votes (**Mr. Motyčka** obtained 18 votes). **Mr. Motyčka** proposed himself candidate for the position of the UIS Vice President of Administration. He was elected with 20 votes while **Mr. Jean-Pierre Bartholeyns** received 16 votes. **Mr. Bartholeyns** proposed himself as a candidate to the following position, UIS Vice President of Operations, where **Mr. Efrain Mercado** was elected with 29 votes (**Mr. Bartholeyns** received 8 votes). The UIS Secretary General, **Dr. Fadi Nader**, was re-elected with 35 votes (2 delegates left their ballots blank). The new UIS Treasurer, **Dr. Nadja Hajna Zupan**, was elected with 36 votes (and 1 blank ballot).

The UIS Adjunct Secretaries were elected in one round. Since there were two candidates from one country (Italy), Dr. Fadi Nader had asked the delegates to vote only for one candidate from Italy (since the Bureau cannot have two members from the same country according to UIS Statutes). The Election Committee later found that this is not correct and that the voting should be for all candidates and the Italian candidate with the higher votes would be elected, if the candidate received at least 50% of the votes. The first vote was not counted and the first round repeated with following members were elected:

**Mr. Nivaldo Colzato** of Brazil (33 votes);  
**Prof. Dr. Mladen Garašić** of Croatia (32 votes);  
**Mr. Bernard Chirol** of France (27 votes);  
**Mr. Satoshi Goto** of Japan (29 votes);  
**Mr. Gyula Hegedus** of Hungary (25 votes);  
**Dr. Tim Moulds** of Australia (28 votes); and  
**Mrs. Bärbel Vogel** of Germany (29 votes).

The unsuccessful candidates from the first round were the two Italian candidates (**Dr. Daniela Pani**, 16 votes; **Prof. Mario Parise**, 23 votes).

The Statement of the newly elected UIS President was presented by Dr. George Veni, following the elections. He thanked the audience and expressed his will to move forward with the new UIS Bureau and work hard for the Union. He thanked the members of the past Bureau.

Mrs. Kempe proposed that the Bureau to write a letter to thank the children who drew all the flags of the

UIS Member countries which were displayed at the General Assembly and the Opening Ceremony of the ICS. This proposal was approved unanimously, and Nicholas White suggested himself to deliver the letter of the UIS. Mr. Efrain Mercado then proposed to the General Assembly to recognize the long-life achievements and work toward international speleology of Mr. Ángel Eusebio Graña González of the Cuban Speleological Society. 35 delegates voted yes to this proposal (one abstained).

Former UIS President, Prof. Kyung Sik Woo, addressed the Assembly and thanked the members of his Bu-

reau. He distributed President's Certificates of acknowledgements and his own presents to all of them and to other Commissions leaders and individuals who helped tremendously the UIS. This was followed by a surprise to Kyung Sik Woo consisting of a certificate prepared for him and signed by the previous presidents.

Finally, the UIS Past-President in a short conclusive speech declared the Assembly General of the 17<sup>th</sup> ICS, as closed at 13:08. He invited everybody to join around the UIS Flag to complete the closing ceremony with giving the UIS Flag to the 18<sup>th</sup> ICS organizers.

## Photos of the UIS General Assembly 2017 (Sydney, Australia)



Pavel Bosak, Fadi Nader and Nadja Zupan Hajna coordinating the registration of the Delegates.



General view of the room.



Delegates voting at the first session.



Mladen Garasic (Croatia), presenting his candidacy for the next UIS Bureau.



THE ELECTION COMMITTEE - From left to right: Trevor Faulkner (UK), Andy Eavis (UK), and Arjan Van Waardenburg (The Netherlands).



Denis Marsh, President of the 17<sup>th</sup> International Congress, presents the UIS flag to Gael Kaneko, President of the next congress in Lyon, France in 2021.

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# MINUTES UIS BUREAU MEETINGS AT THE 17<sup>th</sup> ICS

July 22-29, 2017 - Penrith (Panthers Event Centre) – Sydney (Australia)

By Fadi H. NADER (Secretary General) - [fadi.nader@gmail.com](mailto:fadi.nader@gmail.com)

## SESSION 2 - Sunday July 29, 2017; at 14h37 (local time) (after second session of General Assembly and election of new Bureau)

### ATTENDANCE

**President:** *George VENI*  
**Vice-President of Administration:** *Zdeněk MOTYČKA*  
**Vice-President of Operations:** *Efrain MERCADO*  
**Secretary General:** *Fadi H. NADER*  
**Treasurer:** *Nadja ZUPAN HAJNA*  
**Adjunct Secretaries:**

*Bernard CHIROL*  
*Nivaldo COLZATO*  
*Mladen GARAŠIĆ*  
*Satoshi GOTO*  
*Gyula HEGEDUS*  
*Bärbel VOGEL*

### Honorary Members/Past-Presidents:

*Pavel BOSAK*  
*Andy EAVIS*  
*José Ayrton LABEGALINI*  
*Kyung Sik WOO*

### Past Bureau Members

*Jean-Pierre Bartholeyns*  
*John CUGLEY*

### Bureau members not in attendance:

*Tim MOULDS*

### 12) Welcoming New Bureau Members

George VENI (elected President of the UIS) opened the second session of the Bureau meeting (and the first meeting with the newly elected Bureau) in Penrith (Australia) by welcoming all new Bureau members and thanking all previous members for their work and dedication to the UIS.

After the election at the second session of the General Assembly at the 17<sup>th</sup> ICS, Bernard CHIROL (France), Nivaldo COLZATO (Brazil), Mladen GARASIC (Croatia), Satoshi GOTO (Japan), Gyula HEGEDUS (Hungary), Tim MOULDS (Australia), and Bärbel VOGEL (Germany) were (re-)elected as Adjunct Secretaries. Nadja ZUPAN HAJNA (Slovenia) was elected as the first Treasurer of the UIS. Fadi NADER (Lebanon) was re-elected as Secretary General. Then Efrain MERCADO (Puerto Rico) was re-elected as VP-Operations and Zdenek MOTYČKA (Czech Republic) was elected as VP-Administration. Bernard CHIROL, Satoshi GOTO, Gyula

HEGEDUS, Tim MOULDS and Bärbel VOGEL joined the UIS Bureau.

Kyung Sik WOO expressed how difficult it would be for him to leave the UIS Bureau as a President and congratulated George VENI.

### 13) Operations and responsibilities of the members of the UIS Bureau

#### a. Review job responsibilities following the Internal Regulations

George VENI informed the Bureau Members about the way the Bureau will function and the responsibilities of each member in his/her capacity based on the UIS Statutes and Internal Regulations. He also expressed his intention to have frequent communications with Executive Officers and Bureau Members by email and skype.

#### b. Follow-up of Commissions

Since Zdenek MOTYČKA was elected Vice-President for Administration, he will follow up on commissions instead of George VENI. The reports of Commissions should be included in the next UIS Bulletin (cf. Nivaldo COLZATO).

**ACTION 2: George VENI will write an email to presidents of Commissions asking them to send their reports to Nivaldo COLZATO for publishing in the next UIS Bulletin, and informing them that Zdenek MOTYČKA, elected VP-Administration will do the follow-up until the upcoming 18<sup>th</sup> ICS (Lyon, France, 2021).**

**DECISION 3: UIS Bureau decided to keep the annual global budget cap for Commissions financial support at 2000 Euros, as was before.**

#### c. National Delegates, Organizations and Regional bodies

In order to achieve pertinent communications with Member Countries and those countries aspiring to be members or to resume membership with the UIS, a decision was made to appoint specific Bureau Members as focal contacts for certain countries in order to establish contact.

Satoshi GOTO will take care of communications with Asian countries (also through his functions at AUS). Efrain MERCADO will also establish contact with Venezuela and Costa Rica (and FEALC).

MINUTES - UIS BUREAU MEETINGS AT THE 17<sup>th</sup> ICS - SESSION 2 - Page 01/04

**ACTION 3: Satoshi GOTO will contact Vietnam and Mongolia and establish communication with those Member Countries. He will report to the UIS Bureau with further information and country focal contacts.**

**ACTION 4: Efrain MERCADO will resume contact with Venezuela and Costa Rica and report to the UIS Bureau with updates.**

**d. Identifying projects/responsibilities for Adjunct Secretaries**

- **Fund raising:** The website is ready for fund-raising. Zdenek MOTYCKA and Nadja ZUPAN HAJNA will follow up on this matter in 2017 (especially concerning receiving donation through PayPal, clarification with the bank is needed).

**ACTION 5: Zdenek MOTYCKA and Nadja ZUPAN HAJNA will ask the bank in Slovenia about any drawbacks in receiving donations through PayPal and viable solutions.**

- **Funding Expeditions:** The UIS Bureau agreed to launch the Funding Expeditions Project (proposed by Z. MOTYCKA) in December 2017 for the year of 2018. Up to three funds will be granted with a global funding cap of 3000 Euros.

**DECISION 4: UIS Bureau decided to launch Funding Expedition Project for 2018. Up to three funds will be given with a global budget (for the three of them) of 3000 Euros. Advertisement will be made on UIS website as of December 2017.**

- **UN / UNESCO NGOs:** Bärbel VOGEL suggested to inscribe the UIS as a UN NGO. Fadi NADER also informed the Bureau that during the previous meeting at UNESCO, the Country Delegations strongly recommended the inscription of the UIS on the UNESCO NGO list (relatively easy through Internet).

**ACTION 6: Bärbel VOGEL will investigate about the UN and UNESCO lists of NGOs and the possibilities for the UIS to be registered in such lists.**

- **IYCK 2021:** The UIS Bureau discussed the situation regarding the UIS proposal for an International Year of Caves and Karst for 2021. It was clear that the group's learning curve about how to deal with such initiative has improved considerably for the UIS in the last year. The communications with ICSU, UNESCO and even the UN should be even more engaged in order to have at least one country making the proposal at UNESCO then UN councils by October/November 2017. Otherwise, the next opportunity will be in 2019. The UIS Bureau asked Fadi NADER to be the coordinator of this initiative and proposal.

**DECISION 5: The UIS Bureau members are asked to maintain pressure and make sure that their countries support the 2021 IYCK UNESCO project. Fadi Nader will liaise between UNESCO delegations in Paris, ICSU and UIS.**

**14) UIS Advisory Committee**

The UIS Bureau agreed to ask Paul Williams and Friedrich Oedl to serve on the UIS Advisory Committee. If they agree, the committee will include: Andy Eavis, Pavel Bosak, Jose Ayrton Labegalini, Kyung Sik Woo, Friedrich Oedl, and Paul Williams.

**ACTION 7: George VENI will contact Friedrich Oedl and Paul Williams and invite them to serve on the UIS Advisory Committee.**

**DECISION 6: The UIS Advisory Committee (2017) includes: Mr Andy Eavis (UK); Dr. Pavel Bosak (CZ); Mr. Jose-Ayrton Labegalini (BR); Kyung Sik Woo (KO), Dr. Friedrich Oedl, jr. (A); Dr. Paul Williams (NZ).**

**15) Future Meetings and Events of Interest**

a. **International Clean-up of Gouffre Berger**, 1-15 August 2017 (Vercors, France), <http://cde39.fr/BFC/index>.

b. **11<sup>th</sup> Balkan Caving Camp**, 28 August – 3 September 2017 (Leonidio, Greece), <https://archive.org/details/11thBalkanCaversCamp2017> or <https://www.facebook.com/11th-Balkan-Caving-Camp-2017-in-Leonidio-301383733616075/>

c. **11<sup>th</sup> EuroSpeleo Forum**, 15-17 September 2017 (Ferrières, Belgium), <https://www.speleovvs.be/index.php/en/caving-days>

d. **Biospeleology Conference**, 21-23 September 2017 (Seville, Spain), <https://5encuentrobsssevilla.wixsite.com/veibs>

e. **44<sup>th</sup> International Association of Hydrogeologists Congress**, 25-29 September 2017 (Dubrovnik, Croatia), <http://iah2017.org/>

f. **National Cave and Karst Management Symposium**, 16-20 October 2017 (Eureka Springs, Arkansas, USA), <http://www.nckms2017.com/>

g. **British Cave Research Association 28<sup>th</sup> Cave Science Symposium**, 20-21 October 2017 (Leeds, UK), website to be announced.

h. **Geological Society of America Convention**, 22-25 October (Seattle, -Washington, USA), [http://www.gsa.org/GSA/Events/Annual\\_Meeting/GSA/Events/gsa2017.aspx](http://www.gsa.org/GSA/Events/Annual_Meeting/GSA/Events/gsa2017.aspx)

i. **International Conference on Geomorphology**, 6-11 November 2017 (New Delhi, India), karst session, <http://www.icg2017.com/session.php>

j. **Workshop: Grotte de Han, New Dramatic Effect of Lighting**, 16-18 November 2017 (Han-sur-Lesse, Belgium), [at@cavelighting.de](mailto:at@cavelighting.de).

k. **To Know and Share Caves and Karsts: Understanding, Conservation, and Geotourism**, 6-9 March 2018 (Ardèche, France), <https://dhuguet.wixsite.com/cavesymposium2018>

l. **The Sinkhole Conference, joint with the 3<sup>rd</sup> Appalachian Karst Symposium**, 2-6 April 2018 (Shepherdstown, West Virginia, USA), <http://www.sinkholeconference.com/>

m. **EuroKarst 2018**, 2-6 July 2018 (Besançon, France), <http://www.eurokarst.org/>

n. **18<sup>th</sup> International Vulcanospeleology Symposium**, 21-27 July 2018 (Lava Beds National Monument, California, USA), <http://www.vulcanospeleology.org/sym18/ISV18.html>

o. **EuroSpeleo Forum 2018**, 23-26 August 2018 (Ebensee, Austria), <http://eurospeleo.at/expo.html>.

p. **24<sup>th</sup> International Conference on Subterranean Biology**, 20-24 August 2018 (University of Aveiro, Portugal), <http://24icsb.web.ua.pt/>.

**16) UIS Bureau 2018 meeting**

The proposal by Efrain MERCADO on the behalf of FEALC, to have the UIS Bureau meeting at the upcoming FEALC Congress in Colombia (second week of August 2018; 13/08/2018) was well received by the UIS Bureau Members who thought that it would be a good opportunity for the UIS to meet with FEALC, though some concerns about security were also expressed.

Another significant event for 2018 is the Euro-Speleo Forum which will take place in Austria. The UIS Bureau agreed that at least some members of the Bureau should be there as well to represent the UIS.

**DECISION 7: The UIS Bureau meeting for the year 2018 will be at the FEALC Congress in Colombia, if security permits. Representation of the UIS will also be organized for the Euro-Speleo Forum in Austria.**

**17) Any other business**

**a. ICSU Congress (2017)**

The attendance of Kyung Sik WOO at ICSU Congress (25-26 October 2017) in Taipei (TAIWAN) to represent UIS was decided during the 2016 UIS Bureau meeting. If Kyung Sik WOO cannot attend, the Bureau will appoint somebody else to represent the UIS at the ICSU Congress.

**ACTION 8: George VENI will find out who can represent the UIS at the ICSU Congress in October 2017 if Kyung Sik WOO is unable to attend.**

**b. MOU Karst Institute Slovenia**

Having noticed that no official documents exist between the Karst Institute of Slovenia and the UIS, a decision has been made to prepare an MOU between the two organizations.

**ACTION 9: Pavel BOSAK and Nadja ZUPAN HAJNA will prepare a draft MOU document to be discussed by UIS Bureau.**

**c. Sami Karkabi Prize Proposal (follow up from Point 6d., above)**

The proposal of associating the UIS to the Lebanese "Sami Karkabi Prize" was discussed with the newly elected Bureau. Briefly, the Lebanese cavers have set an international prize (worth of at least 500 US Dollars) and they request to associate the UIS with this prize by having it awarded at the ICS. The Prize shall be funded entirely by the Lebanese Speleo-Club (not by the UIS). The jury will be made up of members of the UIS (or selected by UIS Bureau) and Lebanese speleologists. It shall involve cave photography.

After long discussion the UIS Bureau voted in favor of the Lebanese request and made some recommendations.

1 - The number of the jury Members should be odd, in order to facilitate the decision making;

2 - The theme of the photo competition should be different than those at the UIS/ICS Photo-Salon Competitions;

3 - Collaboration is recommended with the organizers of the ISC/UIS Prizes (e.g. the FFS for the 18<sup>th</sup> ICS, in 2021); and

4 - Proposal to include Albert ANAVY to the prize, since he was the first Secretary General of the UIS and a very close friend to Sami KARKABI with whom they founded the Speleo-Club du Liban and played important roles on the national and international levels.

**DECISION 8: The UIS Bureau agreed on being associated to the "Sami Karkabi Prize", the first to be awarded at the 18<sup>th</sup> ICS in Lyon (France) in 2021. The UIS Bureau also made some suggestions with respect to the mechanism of award and nature of the Prize.**

**ACTION 10: Fadi NADER will write a letter to the Lebanese Speleo-Club, replying positively on their request to associate the UIS to their international, "Sami Karkabi Prize," on the behalf of the Bureau, and forwarding them with the suggestions of the UIS Bureau.**

**d. Committee for Prizes**

**DECISION 9: The UIS Bureau agrees on having a committee for UIS Prizes composed of Nivaldo COLZATO, Jose-Ayrton LABEGALINI, Mladen GARASIC, and Jean-Pierre BARTHOLEYNS.**

**e. Internal Regulations**

The modified Internal Regulations have also been reviewed by the National Delegates in 2017. They need to be re-adapted to the latter's requested modifications.

**ACTION 11: Fadi NADER and George VENI will revise the Internal Regulations based on the National Delegates comments and propose a new version to be discussed at the next UIS Bureau meeting.**

**f. Documentation Centers**

The first established UIS Documentation Center (or library) was done by the Swiss Speleological Society. It is located in La Chaux de Fonds (Switzerland). Though it is called as such, this library does not belong to the UIS. The case applies to the Bologna Speleo Library and many other libraries around the world.

The UIS Working Group led by Trevor Faulkner established contact with 72 libraries around the world. This is an impressive network for the visibility of the UIS and the Bureau expressed interest in having more communication with such entities.

**ACTION 12: Zdenek MOTYCKA will communicate with Trevor FAULKNER about international documentation centers and means of having a related viable network with UIS. He will prepare a motion for actions to be proposed at the next UIS Bureau meeting.**

**g. Finances**

The UIS General Assembly approved the amended of fee categories of member countries. The approved

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categories and fees will be published on the UIS website and in the UIS Bulletin. The minimum yearly fees of Affiliated Organizations of the UIS will coincide with Category C (proposed 240 €), and this will also be published in the UIS Bulletin and on the UIS website.

**ACTION 13: Nivaldo COLZATO and Efrain MERCADO will publish in the upcoming UIS Bulletin and on the UIS website the new categories and fees for Member Countries and Affiliated Organizations.**

Nadja ZUPAN HAJNA explained the financial situation of the UIS Bank accounts and informed the UIS Bureau that on the deposited (blocked) accounts will be freed on the 27<sup>th</sup> of July, 2017. So a decision has to be made on how much to block for next year.

**ACTION 14: The UIS Bureau asked Nadja ZUPAN HAJNA (Treasurer of the UIS) to block for the coming 12 months 20000 Euros and 35000 US Dollars.**

Nadja ZUPAN HAJNA also informed the Bureau that she will wait for the 17<sup>th</sup> ICS organizers to declare the final income of the 17<sup>th</sup> ICS. Since according to the UIS regulations, 5% of the income would be paid to the UIS. The calculated amount will be less nine registrations that were sponsored by UIS, and less the mailing expenses for sending the UIS books back to Slovenia.

**ACTION 15: Nadja ZUPAN HAJNA (Treasurer of the UIS) will inform the UIS Bureau about the exact amount of income returned to the UIS after the 17<sup>th</sup> ICS.**

**18) Closing Session (President) + Setting the Action List for 2018**

At 17h30, George VENI closed the second session of the Penrith (Sydney), 2017 UIS Bureau meeting and thanked everybody for their presence and their contribution.

**ACTION 16: Fadi NADER will prepare the minutes of the meetings and the Action List for 2018.**



© UIS



Mladen Garasic



Mladen Garasic

Second meeting of the UIS Bureau 2017-2021 at the 17<sup>th</sup> ICS (Penrith - Sydney, Australia)

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Union Internationale de Spéléologie  
www.uis-speleo.org

# STATUTES OF THE INTERNATIONAL UNION OF SPELEOLOGY (UIS)

Adopted by vote of the UIS General Assembly at the 4<sup>th</sup> International Congress of Speleology (Ljubljana, 1965), and modified at the:

- 5<sup>th</sup> International Congress of Speleology (Stuttgart, 1969),
- 7<sup>th</sup> International Congress of Speleology (Sheffield, 1977),
- 12<sup>th</sup> International Congress of Speleology (La Chaux-de-Fonds, 1997),
- 14<sup>th</sup> International Congress of Speleology (Kalamos, 2005)
- 17<sup>th</sup> International Congress of Speleology (Sydney, Australia, 2017)

## Preamble

According to the Union Internationale de Spéléologie's Act of Societies Article 11 (official paper of the Republic of Slovenia N° 60/5) created during the 4<sup>th</sup> International Congress of Speleology in Ljubljana, Yugoslavia, on September 16, 1965, and amended during the session of the General Assembly held on July 23, 2001 in Brasilia DF, Brazil during the 13<sup>th</sup> International Congress of Speleology, the Union's General Assembly set the Union's stable address in Slovenia in accordance with the Slovenian law about Associations (Zakon o društvih, Official Journal of the Republic of Slovenia 64/11).

## Article 1: Scope

These **Statutes** are the basic act of the International Union of Speleology (UIS).

## Article 2: Name and general function

1. The name of this organization is: Mednarodna speleološka zveza UIS, Union Internationale de Spéléologie (hereafter referred to in English as "International Union of Speleology," "Union," or "UIS").
2. The UIS office and address is 6230 Postojna, Titov trg 2, Slovenia.
3. The UIS is a legal subject of Slovene law.
4. The UIS has a logo and other symbolic emblems defined in the **UIS Visual Identity Guide**.
5. The UIS is governed by its General Assembly.
6. The UIS General Assembly elects the UIS Bureau to conduct the business of the UIS.
7. The UIS Representative to Slovenia is appointed by the UIS Bureau.
8. The UIS can be associated with caving and other organizations in Slovenia and abroad.
9. The UIS works on a volunteer basis and is open to the public.
10. The UIS publicizes its activities directly by publishing reports and/or through public media.
11. The UIS can have real or other property, which must be listed as property of the UIS in its inventory. Property of

the UIS can be bought or sold through the decision of the UIS Bureau.

12. The UIS is a non-profit organization that may sell goods and services and accept donations that are not contrary to its non-profit status.

13. The UIS can be dissolved by a vote of more than two-thirds of the members of its General Assembly. In the case of UIS dissolution, the General Assembly of the UIS will decide to whom the assets, property, and authority of the UIS will belong.

## Article 3: Purpose

The purpose of the UIS is to promote fellowship between people in all countries who are interested in caves, karst, and related features and terrains (called "speleologists" in UIS documents), to develop and promote all aspects of speleology (scientific, technical, cultural, sporting, social, and economic), and the protection and management of the world's speleological and karst heritage in ways conducive to sustainable development in all locations where caves or speleological activities occur. The administration of the UIS is described in detail in the **Internal Regulations** and associated documents described therein.

## Article 4: Members of the UIS

(a) The UIS is an association of countries (called "Member Countries"). The Member Countries are not represented by the actual national governments but by speleologists in those countries by whatever means they decide, typically by national speleological organizations.

(b) Speleologists of each Member Country nominate, by their choice of means, two Delegates: a Delegate and a Substitute Delegate. These Delegates are persons authorized to represent their countries and ensure the link between the UIS Bureau and the speleologists of their country, particularly on matters regarding the information, documentation, and financing of the UIS. Use of "Delegate" in these **Statutes** implies the Substitute Delegate if the Delegate is not available.



(c) The term of office for each Delegate is the period between two Regular meetings of the UIS's General Assembly. Each Member Country can re-nominate the same Delegates at the end of their term or nominate different people as the Delegates. Countries wishing to change their Delegates must inform the UIS Bureau of their nomination in writing before the opening of the General Assembly.

(d) Organizations interested in the development of speleology and in the activities of the UIS may apply in writing to become an Associated, Affiliated, or Cooperative Organization of the UIS.

(e) Associated, Affiliated, and Cooperative organizations may appoint a representative to the UIS, who may participate in the UIS's open meetings but does not have the right to vote in the UIS's decisions. This representative ensures the contacts and the exchange of information between the organization and the UIS Bureau.

(f) Member Countries that have not paid their annual fees for more than four consecutive years, without an accepted reason, lose their membership to the UIS. If someone from that country is serving on the UIS's Bureau at that time, that person loses his or her Bureau position. Affiliated Organizations which have not paid for their annual fees for more than two consecutive years, without an accepted reason, lose their affiliation to the UIS.

### Article 5: Bureau of the UIS

(a) During each Regular General Assembly meeting, the Delegates elect by secret ballot a Bureau comprised of a President, Vice President of Administration, Vice President of Operations, Secretary General, and Treasurer, collectively known as the "officers" or "Executive Committee" of the Bureau, and Adjunct Secretaries. The number of Adjunct Secretaries is described in the *Internal Regulations*.

(b) Bureau Members must be proposed by any UIS Delegate, Commission President, or Bureau Member (including Invited and Honorary Members). Each elected Bureau Member must be a citizen of a different Member Country, including Invited Members but not Honorary Members.

(c) Bureau members are elected by absolute majority on a first ballot or by relative majority on a second ballot. In case of tied votes on the second ballot, the candidate with the greater number of votes on the first ballot is elected. If this first ballot was also tied, a third vote will be held between only the tied candidates.

(d) Candidates for the Bureau should be nominated and announced at least two days prior to the election. Individuals can be nominated for no more than one position at one time. Elections will occur in the following order: President, Vice President of Administration, Vice President of Operations, Secretary General, Treasurer, and Adjunct Secretaries.

Candidates who lose election for one position may run for a lower position. If there are an insufficient number of candidates for a position, then nominations will be open to the floor of the General Assembly.

(e) The President, Vice Presidents, and Adjunct Secretaries can hold their positions for no more than two consecutive terms. The Secretary General and Treasurer may be re-elected without any time limitation.

(f) Between Congresses, the Bureau represents the UIS and makes all decisions concerning the administration of the UIS. Bureau members should bring information and perspectives from their countries but do not represent their countries; their first duty is to the good of the UIS and all of its Member Countries. Decisions are made by a simple majority vote of all Bureau members present.

### Article 6: Representative to Slovenia

(a) The UIS Representative to Slovenia is appointed by a majority vote of the UIS Bureau, either in person or electronically if conditions for authentication and non-repudiation are met.

(b) The UIS Representative to Slovenia shall be responsible for the following as they relate to Slovenian law and obligations in Slovenia:

1. ensures the implementation policy and management priorities of the UIS;
2. facilitates official visits of members of the UIS General Assembly and Bureau and their meetings;
3. communicates for and represents the UIS in official matters concerning legal registration, activities, operations, and organization;
4. manages UIS financial affairs as directed by the UIS Bureau;
5. assures logistical and administrative support to the UIS General Assembly and Bureau.

### Article 7: General Assembly

(a) The General Assembly of the UIS is the collected Member Countries as represented by their Delegates. It serves as the highest rule-making and administrative authority in the UIS. Its function is to provide oversight and approval for major activities of the UIS as conducted by the Bureau.

(b) The General Assembly meets during each International Congress of Speleology, where the President and Secretary General deliver their reports. For any decisions by the Assembly, each country has only one vote. The General Assembly meeting is presided over by the UIS President or other designated Bureau Member.

(c) At the initiative of the Bureau or at the request of not less than one third of the Member Countries of the UIS, an Extraordinary General Assembly meeting can be called; the UIS's *Internal Regulations* define this process.

(d) Member Countries that have not paid their fees for more than three years at the date of a General Assembly meeting have no right to vote.

(e) During its meeting, the General Assembly elects, by the majority of the attending Delegates, one of the candidate countries proposing to organize the next International Congress. If there is no candidate country or no country selected during a Congress, the UIS Bureau will propose new candidates within 6 months and may organize an Extraordinary General Assembly to select the country that will host the Congress. In case of renunciation by the elected country, the UIS Bureau will select a new country to host the Congress.

(f) The General Assembly approves the activities of the Commissions.

### Article 8: Functioning of the UIS

(a) The Bureau is accountable to the General Assembly. The activities of the Bureau are defined by the *Internal Regulations* and are in accordance with these *Statutes*. The *Internal Regulations* describe the prerogatives, roles and responsibilities of each member of the Bureau, the protocols for the UIS's activities, and the UIS's relationships with other organizations. Where these *Statutes* do not provide information or guidance, the *Internal Regulations* will be followed.

(b) The General Assembly is responsible for the establishment of Commissions. Membership of Commissions is open to all speleologists who wish to participate. Commissions usually meet during the UIS's Congresses or at other International Meetings. The members elect their own President, who is responsible for the Commission and who reports to the Bureau. Commissions are required to keep the Bureau informed of their activities. The Bureau can take necessary actions to develop Commissions, or to suspend them if they are insufficiently active or no longer deemed necessary.

(c) The Bureau may establish Committees as needed for specific issues or assistance. The tasks, duration, and membership of a Committee depend on its purpose. The Bureau will define each Committee's purpose, and may define its tasks, duration, and membership or assign some or all of those duties to the Committee.

(d) The official languages of the UIS are also those of the International Congress of Speleology: English, French, German, Italian, Russian, and Spanish.

(e) The UIS obtains its finances from:

1. annual fees paid by the speleological associations of Member Countries of the UIS as defined in the *Internal Regulations* as approved by the General Assembly;
2. annual fees paid by Affiliated Organizations of the UIS;

3. contributions from private and public individuals, institutions, organizations, corporations, and other sources, provided these contributions do not conflict with the UIS's *Code of Ethics* or other regulations, guidelines, and standards;

4. the sale of any goods or services either offered to the UIS or prepared under its supervision, which include (with Slovene current commercial activity codes, which may be amended in the future without modifying these *Statutes*):

- i. Retail sale of newspapers and stationery in specialized outlets (G47.6.2);
- ii. Retail sale of sporting equipment in specialized outlets (G47.6.4);
- iii. Publishing of all printed and digitally developed materials (books, journals, periodicals, etc.) (J58.1.4);
- iv. Educational materials (P85.5.9);
- v. Botanical and zoological gardens and nature reserve activities (R91.0.4);
- vi. Other sports activities (R93.1.9);
- vii. Activities of professional membership organizations (S94.1.2);
- viii. Advertising activities (M.73.110);
- ix. Other professional, scientific and technical activities n.e.c. (M.74.900);
- x. Photographic activities (M.74.200);
- xi. Organization of conventions and trade shows (N.82.300).

(f) The Treasurer receives and manages all financial resources of the UIS, following the guidelines established by the Bureau, and arranges and is responsible for proper accounting procedures which will be examined annually by an independent auditor hired by the UIS and checked by two auditors during the Regular General Assembly meeting. These latter two auditors are elected by the General Assembly and must belong to countries other than that of the Treasurer.

### Article 9: Commissions

The Commissions are internal organizations within the UIS that are directed by the Bureau. They are organized to study, collaborate, or work on some specific aspect of speleology with experts and interested parties from around the world.

### Article 10: Modification of Statutes

(a) Any proposal for modification of the *Statutes* of the UIS must be submitted by written notification to the UIS Bureau at least six months before the meeting of the General Assembly. The proposal shall be studied by a committee established by the Bureau, and it shall be subject to the judgment of the General Assembly. Decisions are made by a simple majority of the General Assembly.

(b) In the case of disagreement on the interpretation of these *Statutes*, the original text in the English language shall be definitive.

## IN MEMORIAM

# ALAIN MANGIN

France, 1942-2017

By Bernard Chirol (France)  
President of the UIS History of Speleology Commission  
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Avec la collaboration de C. Juberthie, R. Maire, L. Mangel, P. Sorriaux, Michel Bakalowicz et Nicole Ravaïau (septembre 2017).

## NECROLOGY

### A TRIBUTE TO ALAIN MANGIN

Alain Mangin was a main French hydrogeologist who led the underground Laboratory of Moulis (Ariège, Pyrénées) between 1995 and 2006.

After his thesis in 1975, he took part in many surveys to define the features of the circulations in karstic aquifers (epikarst concept). In 1969 he proposed an explanation for the intermittent spring of Fontestorbes (Ariège) which was an enigma since several centuries. He studied the groundwater basin of the Baget river (142 km<sup>2</sup>) to the spring of Las Hountas. He permitted to evaluate the volume of the groundwater storages. He worked in China too (Guizou).

Alain Mangin began as speleologist in his Pyrenean region. He coached and welcomed many cavers and students. Since his retirement, he was involved in humanitarian projects and in the management of the Regional Natural Park of the Pyrénées in Ariège. His sudden death makes us very sad and we are thinking of his family.

### HOMMAGE À ALAIN MANGIN

Alain Mangin nous a quittés prématurément à la suite d'un AVC. Ce chercheur est bien connu dans les milieux de la karstologie française et internationale pour avoir vraiment renouvelé les conceptions du fonctionnement des circulations souterraines dans le karst. Sa thèse d'Etat, soutenue à Dijon remonte à 1975 et porte sur l'hydrogéologie (Mangin, 1975). On lui doit la définition de l'épikarst dans l'étude hydrodynamique du karst pour laquelle il dut confronter ses idées systémiques à celles de C. Drogue qui faisait autorité à Montpellier.



Alain Mangin, un grand scientifique proche de la nature./ Photo DDM

D'abord Sous-Directeur puis Directeur jusqu'en 2006 du Laboratoire souterrain de Moulis après le départ de C. Juberthie, A. Mangin était entré au CNRS en 1968 sous la Direction de Bernard Gèze. Il a fait sa carrière à Moulis (Ariège) où se trouve aujourd'hui une station d'écologie expérimentale mixte depuis 1998, tout en donnant des cours à l'Université d'Orsay pour former des hydrogéologues. Il a défendu la collaboration entre sciences de la Terre et biologie. Il a contribué au calcul des réserves hydrodynamiques du karst, a mené l'étude du Bassin-versant du Baget (142 km<sup>2</sup>) et de sa résurgence à las Hountas (Ariège).

En 1969, il a cerné le fonctionnement si particulier de la Source de Fontestorbes (Ariège), permettant sa modélisation, intriguant les chercheurs depuis des siècles. A. Mangin a eu du mal à caler ses vues sur celles de P. Renault, dont il finit par admettre l'apport sur les remplissages sédimentaires.

Il a collaboré avec les karstologues chinois pour la connaissance de la région de Guizou.

Il participa à certains congrès internationaux dès le 4ème qui vit la création de l'UIS à Postojna.

Il oeuvra pour la tentative de création d'une Réserve Naturelle Souterraine dans l'Ariège, aux côtés de la FFS, ce qui ne fut pas toujours simple. Ce projet des années 1980-90 est toujours en attente. Il présidait le Conseil Scientifique du Parc Naturel Régional des Pyrénées ariégeoises et était membre de celui de la Revue Karstologia dès ses débuts. Si Alain Mangin n'était plus investi ni membre de la FFS depuis 1993, on doit rappeler, si besoin était, sa qualité de spéléologue : moniteur en 1968, instructeur en 1970 après l'encadrement d'un stage initiateur en 1969, un stage scientifique en 1970 puis finalement un stage Découverte en 1983-84. Florence Guillot rappelle l'accueil d'au moins 6 de ses

stages au laboratoire de Moulis, alors sous l'autorité d'A. Mangin.

Né vers Paris en 1942, il avait fait ses études secondaires au lycée de Pamiers (Ariège), il était membre du Groupe Spéléo de Foix et a topographié la grotte de Pesquié en Ariège.

Il a exploré le sud du Massif Central et plus tard, il fut amené de par ses fonctions à œuvrer pour les dossiers de classement UNESCO et la conservation des grottes dont celle de la Cigalère. Il faisait partie du Comité Français d'Hydrogéologie et ses diagnostics colleraient bien aujourd'hui avec la fantômisatation jouant dans la vidange des aquifères poreux fantômés, selon R. Maire. Ceci dit, Mangin n'adhérait pas au concept de fantômisatation selon Michel Bakalowicz.

Grand amoureux de ses montagnes pyrénéennes, A. Mangin souhaitait les faire découvrir encore récemment à des personnes à mobilité réduite par un handicap. Nous avons donc perdu avec sa disparition, un spéléologue, un karstologue, un scientifique de renom dont les travaux ont renouvelé nos conceptions à partir des années 1970, mais aussi un homme de cœur, droit, discret, chaleureux. Nous adressons toutes nos condoléances à sa famille et à ses proches.



Alain Mangin in the Sanctuary Of The Blind Cave Salamander in Moulis, France, on January 16, 2001.

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## A reminder of an old friend - (1942-2017)

By Arrigo Cigna (Italy) - Past President of the UIS  
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On August 15<sup>th</sup> we lost another good friend and a distinguished scientist. I met him so many years ago that I do not remember the date. It was surely during a speleological meeting somewhere in the world. We became good friend also because we could share French as a common language in a community where English dominates.

His competence in karst phenomena was outstanding and his contribution to the advancement of knowledge in this field was really great. But together with such a quality he displayed an excellent nature.

The last time we met was in 2008 at an ISCA (International Show Cave Association) meeting in France. During an excursion to the Cave of Niaux he was our guide providing much information on the environment and the cave itself. Just approaching

the cave along a narrow mountain road, Alain warned us about a "modern art object" in the cave.

We thought it could be a sculpture or something like. But at the arrival to the cave a giant iron structure many tens of meters long, with large concrete platforms in the prehistoric soil of the huge entrance hall appeared to us!

The author of such an awful object is M. Fuksas, an architect not new to criticized results of his activity. Obviously the municipality of Tarragona is the first responsible of the incredible affront to an important prehistoric site.

But I will never forget the very calm information delivered by Alain about what we found in the cave: it was much more impressive than a vigorous statement. Just in his personal style.

IN MEMORIAM

# GIOVANNI BADINO

Italy, 1953-2017

by Daniela Pani & Arrigo A. Cigna (Italy)

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The effort to write some words to remember our beloved friend Giovanni Badino is tough. Giovanni, professor of Physics at the University of Turin, after a long illness breathed his last time the 8<sup>th</sup> of August 2017, in his mountain chalet in Monmartino, near his hometown Savona (Italy). He started his caving activity when he was still a young student; while in college, he began exploring the Antro del Corchia cave (Tuscany) and Marguareis karst systems (Piedmont), ever since developing a great interest for "unusual cave environments". It was around 1972: the very beginning of an entire life devoted to studying all aspects of the Physics of caves.

Giovanni became a high level scientist of cave Physics as well as a very strong and talented caver. He explored the most important karst areas all over the world, and caves often occurring in remote regions of the planet. One among many, the Kruber cave (Abkhazia, Georgia) which later became the deepest cave known in the world.

An extraordinary bright brain and a strong working attitude naturally coupled in Giovanni. He could jump from relatively simple (but unclear to the most!) thermodynamical issues to Physics of high energy to the Divine Comedy, the music of Bach and Monteverdi, or to the rime of the Ancient Mariner by Coleridge.

Giovanni and his laptop were a kind of symbiosis; he could actively sit in meeting for ages, and yet interactively



Badino exploring ice caves during a National Geographic expedition in the Patagonia region, Argentina.



Font: <http://www.fsfvg.it/?p=6370>

carrying on with working on his computer not to waste precious time for his scientific production. Computer time-sharing was indeed Giovanni life style, however, he was a very social hilarious and enjoyable guy, a wine and tea devotee!

He brought cave Physics as well as Thermodynamics knowledge to a very high level. In particular, teaching an apparently "old fashioned" topic as Thermodynamics not only represented his bargain to gain more free time for his speleological explorations, but also became the excellent opportunity for Giovanni to achieve high expertises on this discipline and develop complex modelling procedures in the domain of cave Physics. When he joined the ENEA Antarctica project, during a routinely recognition from the helicopter, he noticed some holes on the glacier ice rock: this "simple" observation was the beginning of another special scientific subject Giovanni developed in the domain of glacial speleology. Ice melting is usually reached with temperatures above zero, whereas such observed caves were formed in a below zero temperature environment. Relying on his sounded physical and speleological background, Giovanni discovered that air circulation due to extremely small difference of temperature triggers off the ice sublimation process, allowing a cave to developing a at temperatures always below the freezing point.

His scientific and explorative activities have spanned many branches of Speleology. His deep knowledge of Physics principles inspired Giovanni in designing several devices and gears for both standard cave exploration and cave rescue, specifically for security and protection when operating in hot atmosphere. In the Stufe di San Calogero caves in the Sicilian Mt. Kronio (Italy) in addition to refrigerated tents, Giovanni assembled isolated suits, which later on led to create a special caving suit (named Tolomea), which could properly supply fresh air allowing cavers to operate - for about one hour- in Naica cave, Mexico, at a temperature of 50°C.

In Sardinia (Italy), Giovanni gave an instrumental aid for the exploration and study of the underground climate of the St. Barbara Cave, and incredible mine cave hosting an

extraordinary overlapping of geological formations. In Palawan (Philippines) Giovanni was a key leader for several explorations and climate study of the Puerto Princesa Subterranean River, an extraordinary and unique karst ecosystem and habitat for biodiversity conservation. Giovanni studies of this UNESCO World Heritage site has strongly contributed to the selection of the Puerto Princesa Underground River as one of the New 7 Wonders of Nature.

Caves may behave as Helmholtz resonators and Giovanni studied many of them. By transforming the infrasound into an audible sound he identified the "music" or breath of caves, a specific timber for each cave system, which is supposed to supply information on the physical and morphological characteristics for the system itself.

The 3<sup>rd</sup> International Symposium of Speleology organised in Varenna (Italy) at the end of April 2017 represents last scientific meeting Giovanni attended. He presented two projects and up to few days before his death, Giovanni actively contributed to the final editing of his papers. In the last part of his life, Giovanni devoted himself to a fast-paced work to the final drafting of a quite big amount of papers, articles and books encompassing his vast and precious scientific production.

Giovanni Badino had a unique personality; the two of us writing had the priceless opportunity to work with him and share many moments of our lives. What we learned from him is immeasurable. Friends, colleagues and cavers will never forget Giovanni: might you rest in peace.



Font: <http://new.up-climbing.com/it/ghiaccio-misto/news/addio-speleologo-giovanni-badino>



Font: <http://new.up-climbing.com/it/ghiaccio-misto/news/addio-speleologo-giovanni-badino>

G. Badino preparing to enter in the Cueva de los Cristales (Naica, Mexico) and among its giants crystals, in 2007: refrigerated clothes to withstand the temperature of 50°C.



José Ayrton Labegallini

UIS Bureau meeting, Dalesbridge, United Kingdom, August 19, 2016. Giovanni BADINO (the third, from left to right) in his last photo as Adjunct Secretary of the UIS, position he held from 2009 to 2017.



# Calendar of Events 2018

**To Know and Share Caves and Karsts: Understanding, Conservation, and Geotourism**

6-9 March 2018 (Ardèche, France)

<https://dhuquet.wixsite.com/cavesymposium2018>

**15<sup>th</sup> Sinkhole Conference**, joint with the **3<sup>rd</sup> Appalachian Karst Symposium**

2-6 April 2018 (Shepherdstown, West Virginia, USA)

<http://www.sinkholeconference.com/>

**California Cave Life Symposium**

28 April 2018 (California Academy of Sciences, San Francisco, California, USA)

<http://speodesmus@gmail.com>

**3<sup>rd</sup> Malaysia Cavers Symposium 2018**

1-6 May 2018 (Senyum Karst Complex, Pahang, Malaysia)

<http://www.awanadventure.com/caverssymposium/>

**VIII International Workshop on Ice Caves (IWIC)**

11<sup>th</sup> to 18<sup>th</sup> June 2018 (Picos de Europa National Park, Spain)

<http://eventos.uva.es/15714/detail/international-workshop-on-ice-caves.html>

**KARST2018 - Colloque international de Karstologie**

40 ans de l'Association Française de Karstologie - Hommage à Richard Maire

27 juin - 1 juillet 2018 (Chambéry, France)

<http://edytem.univ-smb.fr/agenda/karst2018>

**EuroKarst 2018**

2-6 July 2018 (Besançon, France)

<http://www.eurokarst.org/>

**18<sup>th</sup> International Vulcanospeleology Symposium**

21-27 July 2018 (Lava Beds National Monument, California, USA)

<http://www.vulcanospeleology.org/sym18/ISV18.html>

**2018 US National Speleological Society Convention**

30 July - 3 August 2018 (Helena, Montana, USA)

<http://nss2018.caves.org/>

**24<sup>th</sup> International Conference on Subterranean Biology**

20-24 August 2018 (University of Aveiro, Portugal)

<http://24icsb.web.ua.pt/>

**EuroSpeleo Forum 2018**

23-26 August 2018 (Ebensee, Austria)

<http://eurospeleo.at/expo.html>

**24<sup>th</sup> International Cave Bear Symposium**

27-30 September 2018 (Chepelare, Bulgaria)

[circular and website to be announced soon.](#)

**16<sup>th</sup> International Symposium of Speleotherapy**

24-28 October 2018 (Zlate Hory, Czech Republic)

<http://www.speleotherapycommission.webgarden.com/menu/news/the-xvi-th-international>

# 18<sup>th</sup> INTERNATIONAL CONGRESS OF SPELEOLOGY

<http://uis2021.speleos.fr/>



Fédération Française de Spéléologie



## Lyon, France, 23-29 July 2021

Welcome to Lyon, city of heritage and gastronomy,  
in the heart of a famous caving area

Exceptional pictures of Lyon taken from a drone

<https://youtu.be/53q2WOeUW9U>

Video "Welcome to Lion"

<https://www.dailymotion.com/video/x5s5itf>

## ACCOMODATION & CONVIVIALITY

Opening July 2020

**HOTEL ACCOMMODATION**

**HOTEL CAPACITY OF GREATER LYON IN 2016**

More than 18.000 rooms:

Hotel 5*	343 rooms
Hotel 4*	4.319 rooms
Hotel 3*	4.308 rooms
Hotel 2*	3.507 rooms
Hotel 1*	969 rooms
Hotel NC	898 rooms

Apartment hotels (all categories):  
3.467 apartments

## ON-SITE STUDENT ACCOMMODATION

500 double or single rooms available on campus



# UIS BUREAU 2017/2021

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**Vice-President for Operations:**

Efraín Mercado (Puerto Rico)

**Vice-President for Administration:**

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- Gyula HEGEDUS (Hungary)
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- Paolo FORTI (Italy) - 1993-1997
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- José Ayrton LABEGALINI (Brazil) - 2001-2005
- Andrew EAVIS (United Kingdom) - 2005-2013
- Kyung Sik WOO (Republic of Korea) - 2013-2017



**UIS BUREAU 2017/2021 in Sydney, Australia, August 2017.**

*Left to right (behind):* Gyula HEGEDUS (Adjunct Secretary/Hungary); Mladen GARAŠIĆ (Adjunct Secretary/Croatia); Zdeněk MOTYČKA (Vice-President of Administration/Czech Republic); George VENI (President/USA); Baerbel VOGEL (Adjunct Secretary/Germany); Bernard CHIROL (Adjunct Secretary/France) and Nivaldo COLZATO (Adjunct Secretary/Brazil). *Left to right (in front):* Satoshi GOTO (Adjunct Secretary/Japan); Nadja ZUPAN HAJNA (Treasurer/Slovenia) and Fadi NADER (Secretary General/Lebanon). *Inset photos above, from left to right:* Efraín MERCADO (Vice-President for Operations/Puerto Rico) and Tim MOULDS (Adjunct Secretary/Australia).



Union Internationale  
de Spéléologie  
www.uis-speleo.org

## LIST OF MEMBER NATIONS

as reported by the UIS Treasurer

**54 Member Nations in August 2017**

(with debts for than 2-3 years marked with \*  
and for 4 years marked with \*\*)

- |                      |             |                 |
|----------------------|-------------|-----------------|
| Algeria **           | Hungary     | Puerto Rico     |
| Argentina            | Indonesia   | Romania         |
| Australia            | Iran IR     | Russia          |
| Austria              | Israel      | Serbia          |
| Belgium              | Italy       | Slovakia        |
| Bosnia & Hercegovina | Japan       | Slovenia        |
| Brazil               | Kyrgyzstan  | South Africa    |
| Bulgaria             | Lebanon     | South Korea     |
| Canada               | Lithuania   | Spain           |
| China                | Luxembourg  | Sweden          |
| Colombia *           | Mexico      | Switzerland     |
| Costa Rica *         | Mongolia ** | The Netherlands |
| Croatia              | Norway      | Turkey *        |
| Cuba                 | New Zealand | Ukraine         |
| Czech Republic       | Paraguay ** | United Kingdom  |
| France               | Philippines | USA             |
| Germany              | Poland      | Venezuela       |
| Greece               | Portugal    | Vietnam         |

*Some countries have paid their annual fees up to 2022. Some haven't paid for 2 years or more!*

*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 [zupan@zrc-sazu.si](mailto:zupan@zrc-sazu.si).*

*We do not know who to contact in some countries or we do not have their proper address.*

**PAYMENT VIA UIS WEBSITE**

Now the payment of the annual fees can be done directly via UIS Web Page through PayPal service.

[http://www.uis-speleo.org/index.php?option=com\\_content&view=article&id=67&Itemid=383](http://www.uis-speleo.org/index.php?option=com_content&view=article&id=67&Itemid=383)

*Have not found your country in this list?*

[Ask the UIS Treasurer](#)

**UPDATE your status now!**

**CONTACT UIS**

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# FINANCE

## ANNUAL CONTRIBUTIONS

By Nadja ZUPAN HAJNA (Slovenia), *UIS Treasurer* - [zupan@zrc-sazu.si](mailto:zupan@zrc-sazu.si)



Prof. Dr. Nadja ZUPAN HAJNA (Slovenia)  
in United Arab Emirates



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.

### ANNUAL CONTRIBUTIONS

The UIS General Assembly at the 17<sup>th</sup> International Congress of Speleology (Sydney, Australia, 2017), approved the amended of fee categories of member countries, which will be considered according to the number of speleologists in the national organization or organizations that represent the country to the UIS.

The new annual contributions will be as follows, starting after the 17<sup>th</sup> ICS, Sydney, Australia:

- 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 100 but fewer than 1,000 ..... 240 Euros
- Category D: 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

<b>Account name</b> Mednarodna speleološka zveza-UIS Titov trg 2 6230 Postojna - Slovenia	<b>Account No.</b> IBAN SI56 1010 0003 7861 520
<b>Bank (name and address)</b> Intesa Sanpaolo Bank d.d. Traška 2 6230 Postojna - Slovenia	<b>SWIFT Code:</b> BAKOSI2X
	<b>Accepted Currencies:</b> EUR (Euros)

### STATE OF UIS BANK ACCOUNT ON JULY 31, 2017

**30.748,75 EUR**  
**50.131,26 USD**

## 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:

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